Monmouth County State Route 79 Corridor Study FINAL REPORT

Prepared for the:
Monmouth County Planning Board

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In Association with:
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Route 79 Corridor Improvement Project

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Executive Summary

Transportation corridor planning studies often focus primarily on identifying safety and operational deficiencies within the studied corridor and then recommending transportation improvements to mitigate these deficiencies. While land use is examined as part of these traditional studies, its use in the analysis is typically secondary in nature. This study of the Route 79 Corridor endeavored to make a closer correlation between the land use within the corridor and its potential impact on the transportation system. Through the course of this study, several core findings became apparent:

- The existing corridor contains a number of locations where safety and operational deficiencies currently exist.
- Under current municipal land use plans, there is the potential to generate traffic volumes that could necessitate significant expansion of the roadway infrastructure, inconsistent with the nature of the Route 79 Corridor.
- The municipalities within the corridor have a desire for non-residential growth.
- The communities along the Route 79 corridor have expressed a desire to maintain the overall design and character of Route 79.

Based on the development of the travel demand model and the realization of the potential significant impacts of development in the area of Route 79, the focus of this study became land use recommendations and the review of existing operations and the identification of operational hot spots within the transportation corridor.

Current Conditions

The findings were identified as part of the initial efforts to establish a baseline for the following analysis:

Land Use

- Based on 2002 NJDEP data, approximately 28% of the study area has the potential for new development.

Environmental

- Based on 2002 NJDEP data, approximately 20% of the study area is designated as wetlands and 1% is covered by water bodies.
- Five (5) historical landmarks were identified within the study area.
- The locations of potentially contaminated sites were identified. None appear to be a deterrent to future development.

Public Transportation

- Both local and regional transportation services are available in the more densely populated sections of the corridor: Freehold Borough, Aberdeen Township and Matawan Borough. Public transportation services in other sections of the corridor are extremely limited. The NJ Transit Route 135 bus provides peak period service between the Freehold Bus Terminal, Route 34 in Matawan, and the Port Authority Bus Terminal in New York City.

Pedestrian and Bicycle

- Sidewalks are present on only 3.9 miles (33%) of the 12 mile NJ Route 79 Corridor. These vary in their degree of connectivity and continuity. Sidewalks are located on approximately 64% of the side street approaches in the NJ Route 79 Corridor.

- Signalized intersections within the corridor were evaluated to determine which intersections were lacking pedestrian amenities including pedestrian signals, crosswalks and/or ADA compliant ramps.
  - Four (4) intersections lacked one amenity
    Ryan Road, School Road, Mill Road/Wilson Avenue and New Brunswick Avenue
  - Two (2) intersections lacked two amenities:
    E Freehold Road and Newman Springs Road (CR 520)
  - Three (3) intersections lacked all three amenities:
    Wyncrest Road, Tennent Road, and Lloyd Road
- The Henry Hudson Historic Trail extension is currently under construction along the entire length of the corridor on former railroad rights-of-way. Currently, the trail runs from Atlantic Highlands to Station Road in Marlboro Township, and from Stevenson Drive in Marlboro Township to Freehold Borough, and is frequented by walkers, bicyclists, in-line skaters, and equestrians.

Corridor Operations

- The weekday peak hours for the corridor were determined to be from 8:15 AM to 9:15 AM and from 4:45 PM to 5:45 PM. The Saturday mid-day peak hour was determined to be from 12:00 PM to 1:00 PM.
- The NJ Route 79 Corridor is above the statewide crash rate for a two lane road without shoulders in 2001, 2003 and 2004.
- With the exception of NJ Route 79 & Euretta Way, all signalized intersections along the NJ Route 79 Corridor have movements on at least one approach that operate at a Level of Service 'E' or 'F' during one or more peak time periods. In particular, three intersections (NJ Route 79 & E. Main St./Center St./Spring St.; NJ Route 79 & School Rd.; and NJ Route 79 & Wilson Ave.) experience Level of Service F and significant queues during the AM and PM peaks. These delays are typically caused by inefficient signal timings and significant left-turn movements.
- Many intersections have operational concerns in addition to Level of Service Delays. Some of these concerns include:
  - Lack of dedicated left turn lanes on NJ Route 79 at the intersections with NJ Business Route 33 (Park Ave), Dutch Lane, School Road, Tennent Road and Lloyd Road
  - Lack of left turn phasing at Newman Springs Road (CR 520) and New Brunswick Avenue
  - Offset intersection geometry at Wilson Avenue / Mill Road
  - NJ Route 79 southbound 'choke point' at the NJ Route 33 overpass
  - Pedestrian/Vehicle conflicts at the intersections of NJ Route 79 with Court Street and Center Street/Spring Street
  - Signal timings at the intersections of NJ Route 79 with East Freehold Road and NJ Route 34 were found to be inconsistent with demand

Future Travel Demand

The County projection values reflect a theoretical build-out of all developable land assuming current development, zoning, and projections using recent development trends to 2015 and 2030. The land use and travel demand forecast methodologies reflect these projections without making any judgment regarding how realistic the projected development densities might be given other constraints such as roadway capacity and municipal growth visions.

It is important to note that the development density suggested by the forecasts may not be immediately attainable for the Route 79 corridor without a drastic change in the character of the

communities and roadway. The largest municipalities in the corridor, Marlboro and Freehold Townships, agree with this assessment. According to Marlboro Township officials, developers are already showing a slowing of interest in development in the corridor because of traffic constraints. Based on the projected unconstrained growth in traffic, development could slow significantly due to congestion well before developable land is built-out.

After analyzing the results of the travel demand model and identifying growth, the consultant team and the County met with representatives from Marlboro Township, where the largest proportion of the growth is projected to occur. Township representatives were concerned about the magnitude of the projected employment growth allowed by their zoning and the associated projected traffic effects. They indicated that much less growth is actually occurring in their Township despite the zoning and the cross accepted projections. They also discussed the land use and traffic goals of the Township, including the desire to maintain the existing rural character of the roadway.

As a result of this meeting, the County and consultant team decided that it would not be prudent to base improvement strategies on the unconstrained travel demand forecast output values. Instead, the consultant team focused on maintaining the character of the existing roadway and has developed smaller-scale roadway improvements, transit strategies, and land use recommendations to assist each municipality in reaching their land use and transportation goals. The appropriateness of improvement alternatives in terms of community character was a central consideration in the evaluation of the strategies.

Solution Strategies

In order to address the significant potential for growth in the corridor and the existing deficiencies within the corridor, a number of problems and potential solutions were identified.

Land Use

Problem: Master Plan Documents that do not address the needs of the Corridor
Solution: Update Master Plans to Include Land Use and Transportation Goals on Route 79

Problem: Zoning and Subdivision Regulations Do Not Reflect the Desired Character of Route 79
Solution: Develop Zoning and Subdivision Strategies to Guide Desired Growth and Character of Route 79

Problem: Lack of Consistency with the NJ State Plan
Solution: Examine Growth with NJ State Plan Goal Statements and Densities

Problem: Potential for Extreme Increase in Commercial Development
Solution: Develop Center-based Development Strategies

Transportation

Problem: Incomplete Bicycle and Pedestrian Networks
Solution: Identify Priority Expansion Areas for Sidewalk and Interim Trail Connection Routes/Signage

Problem: Lack of Transit Options in the Corridor
Solution: Increase Transit Service and Connection within the Corridor

Location: Main Street in Downtown Freehold
Problem: Volume of Traffic where Route 79 and Main Street come together
Solution: Consider Alternate Roadway / Future Study

Location: Intersection of Route 79 and Mill Road / Wilson Road
Problem: Closely spaced traffic signals
Volume of left turning traffic on Route 79
Solution: Future Study

Location: Intersection of Route 79 and Ryan Road
Problem: High volume of left turns from Ryan Road onto NB Route 79
Volume of through traffic on Route 79 / "Choke Point"
Solution: Add a Double Left Turn Lane and Receiving Lane (Short Term)
Add a Second Northbound and Southbound Thru Lane (Long Term)

Location: Intersection of Route 79 and School Road
Problem: Volume of left turns on the WB School Road approach
Volume of through traffic on Route 79
Solution: Add Minor Street Left Turn Lanes (Short Term)
Add a Second Northbound Thru Lane (Long Term)

Location: Intersection of Route 79 and Marlboro High School
Problem: Significant volume of busses, students and faculty entering and exiting the school
Solution: Provide a Traffic Signal (Immediate)

Location: Intersection of Route 79 and Newman Springs Road
Problem: Heavy volume of traffic on both of the Newman Springs Road (CR 520) approaches to the intersection
Solution: Add Additional Lanes (Long Term)

Project Packages

Finally, the implementation of the recommended improvements will help to maintain the character and viability of the Route 79 corridor in the future if implemented in conjunction with the land use solutions. In order to better define specific project concepts for the transportations strategies listed above, the report includes a Project Packages section containing an outline of project issues, objectives and approaches, and sketch planning concepts for improvement configuration. The intention is that these project packages may be advanced into further planning, design and funding phases through the auspices of the regional Metropolitan Planning Organization and/or appropriate sponsor agencies.

Section 1: Introduction

The *Monmouth County State Route 79 Corridor Study* was jointly funded by the North Jersey Transportation Planning Authority (NJTPA) and Monmouth County to develop a 'character vision' for the Route 79 Corridor, identify transportation deficiencies along the Corridor, and make recommendations to correct these deficiencies through a combination of planning and engineering solutions. The project was designed with the following goals in mind:

- Identifying the current role of NJ Route 79 and the ideal future role that NJ Route 79 will play in supporting the vision.
- Establishing a land use vision for the NJ Route 79 Corridor based on input obtained from community stakeholders, local officials, and the public.
- Identifying transportation issues and solution strategies for the NJ Route 79 Corridor using planning and transportation engineering analysis techniques.
- Developing a prioritized and phased series of recommended locally acceptable project concepts that can be advanced to preliminary design and/or implementation by appropriate local, county, state, regional and/or private entities.
- Maintaining community involvement throughout the project to ensure that the concerns, desires, and interests of local participants, elected officials, and affected agencies are considered and addressed appropriately.

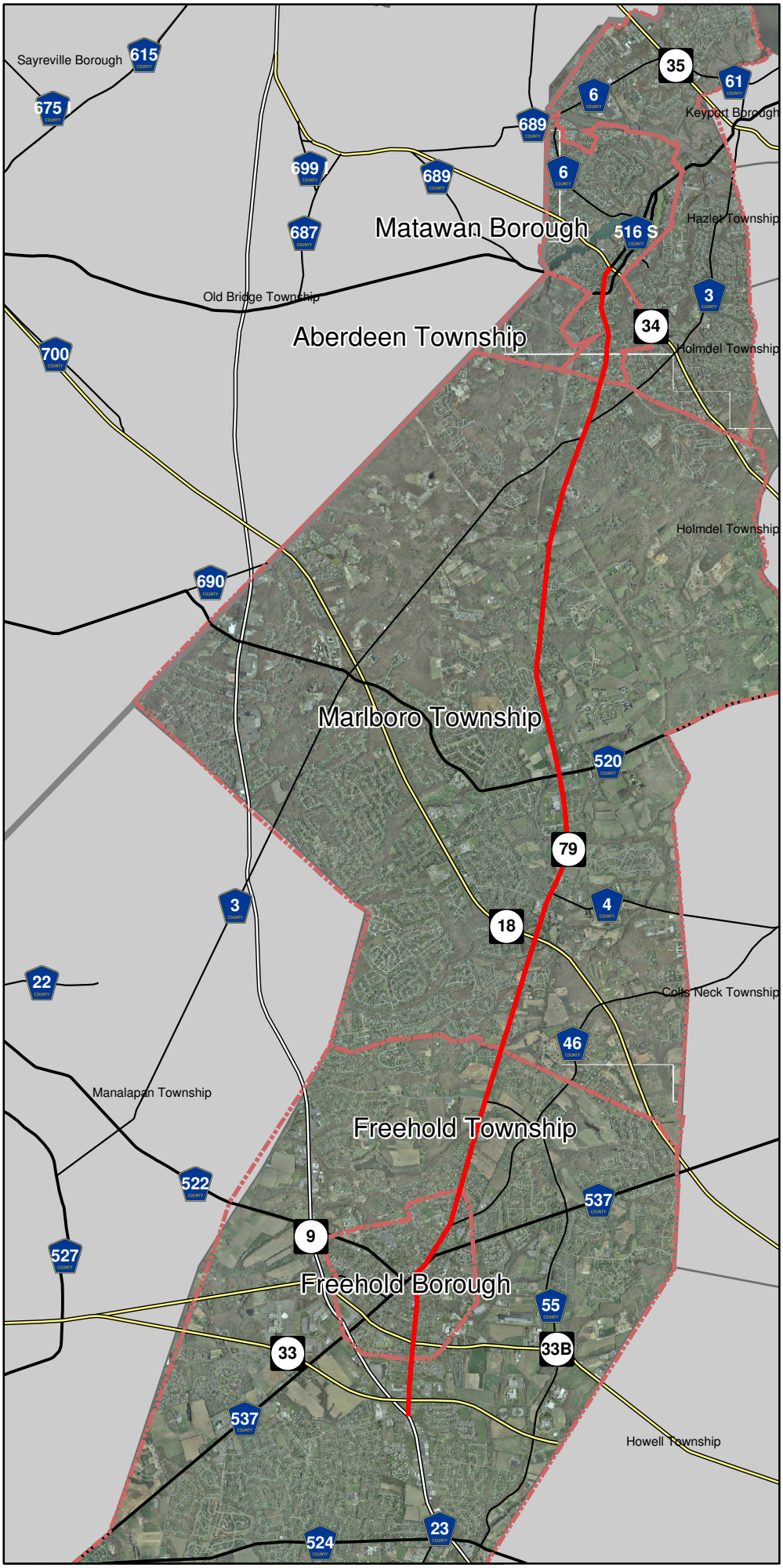
Stantec Consulting Services Inc. (formerly Vollmer Associates LLP), with the assistance of Stump/Hausman, Inc., was commissioned by the Monmouth County Planning Board to prepare the Monmouth County State Route 79 Corridor Study in an effort to further the goals listed above. The project used a combination of existing resources and a comprehensive data collection effort to identify existing opportunities and constraints along the corridor. The team then analyzed future conditions, including anticipated developments and traffic forecasts, to identify future deficiencies throughout the corridor for the 2015 and 2030 build years. Through a collaborative process with the municipalities, major stakeholders and public, this study has proposed solutions to the identified problems with appropriate recommendations described in detail to facilitate possible further scoping, funding and/or implementation.

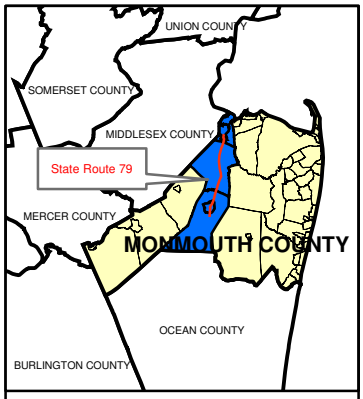
The NJ Route 79 Corridor

The NJ Route 79 Corridor is approximately 12 miles long and connects Route 34 in Matawan Township to Route 9 in Freehold Township. The NJ Route 79 Corridor study area includes five municipalities: the Townships of Aberdeen, Matawan, Marlboro, Freehold, and the Borough of Freehold.

New Jersey State Route 79 (NJ Route 79) is classified by the New Jersey Department of Transportation (NJDOT) as an Urban Principal Arterial state roadway. NJ Route 79 has a general north/south orientation and connects US Route 9 to NJ Route 34. The roadway serves a combination of local trips and commuter traffic. **EXHIBIT 1** illustrates NJ Route 79 and other major connecting roadways in the area.

EXHIBIT 2 shows the study area including each of the study area municipalities. In total, the study area consists of approximately 68 square miles and, according to the 2000 census, approximately 105,000 residents.





Legend

Municipal Boundary

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 1

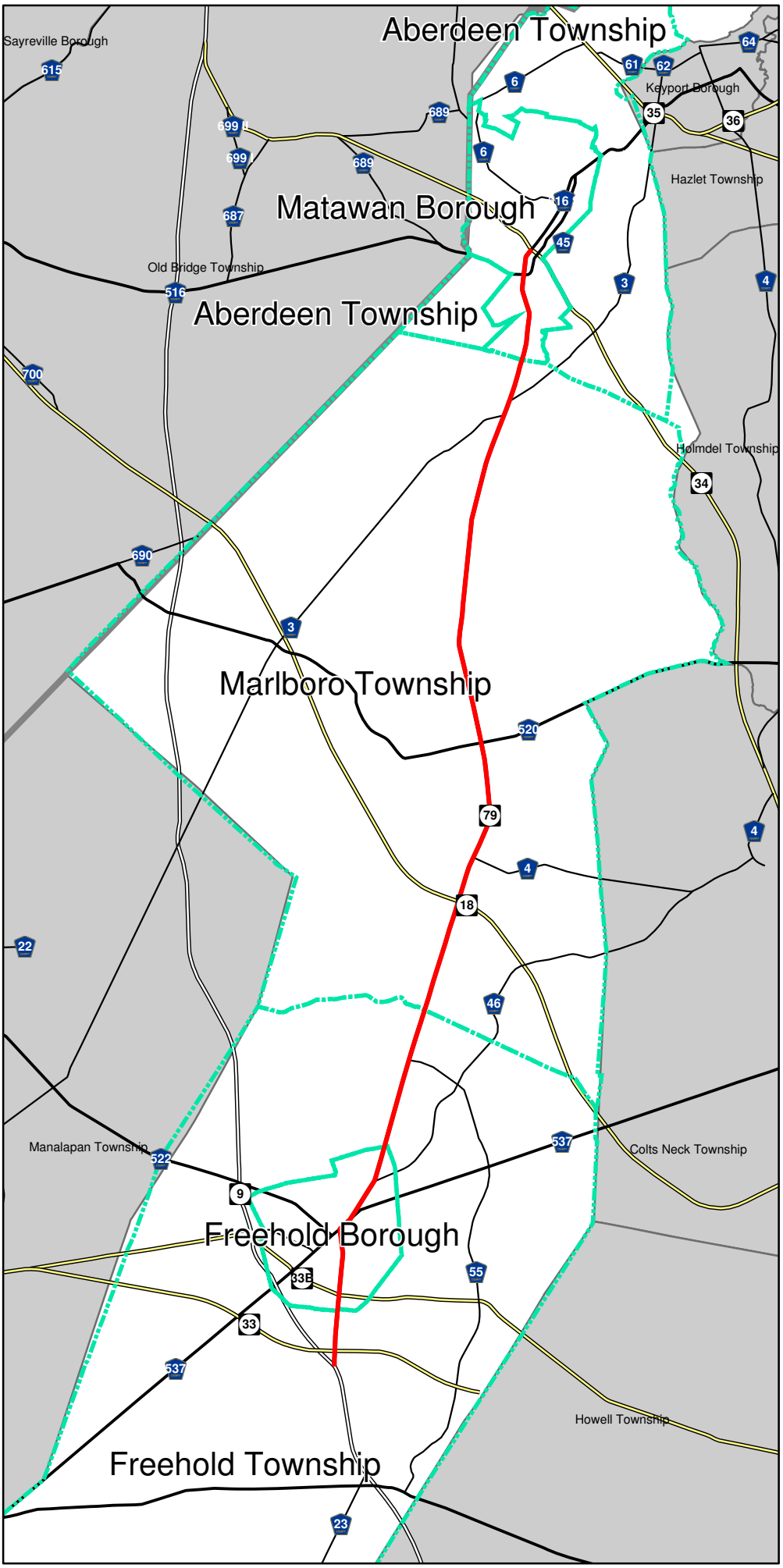
Corridor Location

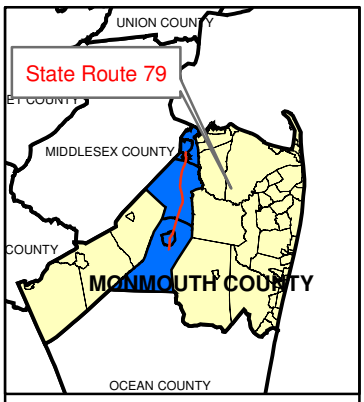
0 0.5 1 Miles

N

Source: Road geometry and subtype from NJDOT 2004 Roads

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Municipal Boundary

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 2

Study Area

0 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads

MONMOUTH COUNTY
State Route 79 Corridor Study

In 1953, Route 4A was designated Route 79. Route 4A was a spur of Route 4, which now exists only in Bergen and Passaic Counties. US Route 9, which now spans from Delaware to the Canadian border, was also part of Routes 4 and 4A until 1953.

A major traffic draw and destination in the northern part of the study area is the Aberdeen-Matawan Train Station on the NJ Transit North Jersey Coast Line. A large portion of Monmouth County residents commute to and from New York City metropolitan work locations through the train station. Associated bus stops and park and ride lots are lined to the station to accommodate commuter traffic.

Public Outreach and Community Involvement

Public outreach was a major priority in this project. A Technical Advisory Committee (TAC) advised the project team throughout the process. The TAC was comprised of members of the Monmouth County Planning Department, Monmouth County Engineering Department, North Jersey Transportation Planning Agency, NJ Department of Community Affairs: Office of Smart Growth, NJ Department of Transportation and NJ TRANSIT.

The Stakeholder Advisory Committee (SAC) provided detailed local knowledge of the project area as well as assistance in making specific project recommendations throughout the study area. Stakeholder committee members included representatives from the five municipalities within the study area including municipal engineers and planners, business administrators, township attorneys, police officers, public works and school district representatives.

There were two public meetings as part of the planning process for the Route 79 Corridor project. At each meeting, problems and recommendations were presented to the public. Public input was an important part of the planning process and data from the public was used to verify existing conditions and guide recommendation strategies.

The following is a listing of the meetings and workshops that were part of this project.

July 6, 2006	Project Team Kick-Off Meeting
July 26, 2007	Technical Advisory Committee Meeting
August 29, 2006	Stakeholder Advisory Committee Meeting
October 6, 2006	Project Team Meeting
November 17, 2006	Project Team Meeting
November 20, 2006	Technical Advisory Committee Meeting
December 12, 2006	Stakeholder Advisory Committee Meeting
January 12, 2007	Meeting with Aberdeen and Matawan Township Representatives
January 30, 2007	Project Team Meeting (Conference Call)

February 13, 2007	Project Team Meeting
February 26, 2007	Project Team Meeting
May 18, 2007	Project Team Meeting (Conference Call)
June 7, 2007	Meeting with Marlboro Township Representatives
June 7, 2007	Project Team Meeting
June 11, 2007	Technical Advisory Committee Meeting
June 14, 2007	Stakeholder Advisory Committee Meeting
June 21, 2007	Public Workshop
June 26, 2007	Technical Advisory Committee Meeting
June 26, 2007	Stakeholder Advisory Committee Meeting
July 16, 2007	Technical Advisory Committee Meeting
July 16, 2007	Stakeholder Advisory Committee Meeting
July 19, 2007	Public Meeting

Minutes from appropriate meetings and documentation of feedback received from the stakeholders and public are included in **APPENDIX A**. The public comments included a number recommendations for potential improvements and planning strategies within the corridor. Suggested improvements that were feasible and in line with the vision established for the corridor were incorporated into the recommended solution strategies.

Section 2: Existing Conditions

Existing Land Uses and Development Constraints

Existing land uses within the study area include a mixture of developed lands with residences, industries, and commercial stores and offices and undeveloped lands such as farms, woodlands, wetlands, and water bodies. Understanding the land use patterns and development trends is critical to determining how and where future growth will occur in the Route 79 corridor. Although the Boroughs of Freehold and Matawan are largely built-out and will generate few new trips in the future, Route 79 is the Boroughs' main commercial street in these boroughs and changes to the roadway are very important to traffic flow throughout the entire corridor. Marlboro Township, alternatively, has roughly 5,600 undeveloped acres where future growth will likely occur and, as a result, traffic is likely to increase on Route 79. Developable land maps in this project also show large amounts of developable land in Freehold Township. It should be noted that several areas in the Township have already been approved for residential or municipal projects that were not reflected in our analysis. A recent build-out analysis, Freehold Township Residential Build-Out Analysis, prepared by Thomas Planning Associates, LLC, determined that the Township is 93.6% built-out.

TABLE 1 below provides a breakdown of land uses in each municipality based on 2002 NJDEP land use and land cover data. Land uses were mapped by NJDEP. Agriculture describes land used predominately for farming purposes; Barren Land consists of vacant land with no observed land use; Forest consists of heavily grown areas; Urban consists of areas with impervious coverage and structures; Water includes lakes and streams; and Wetlands includes wetland areas.

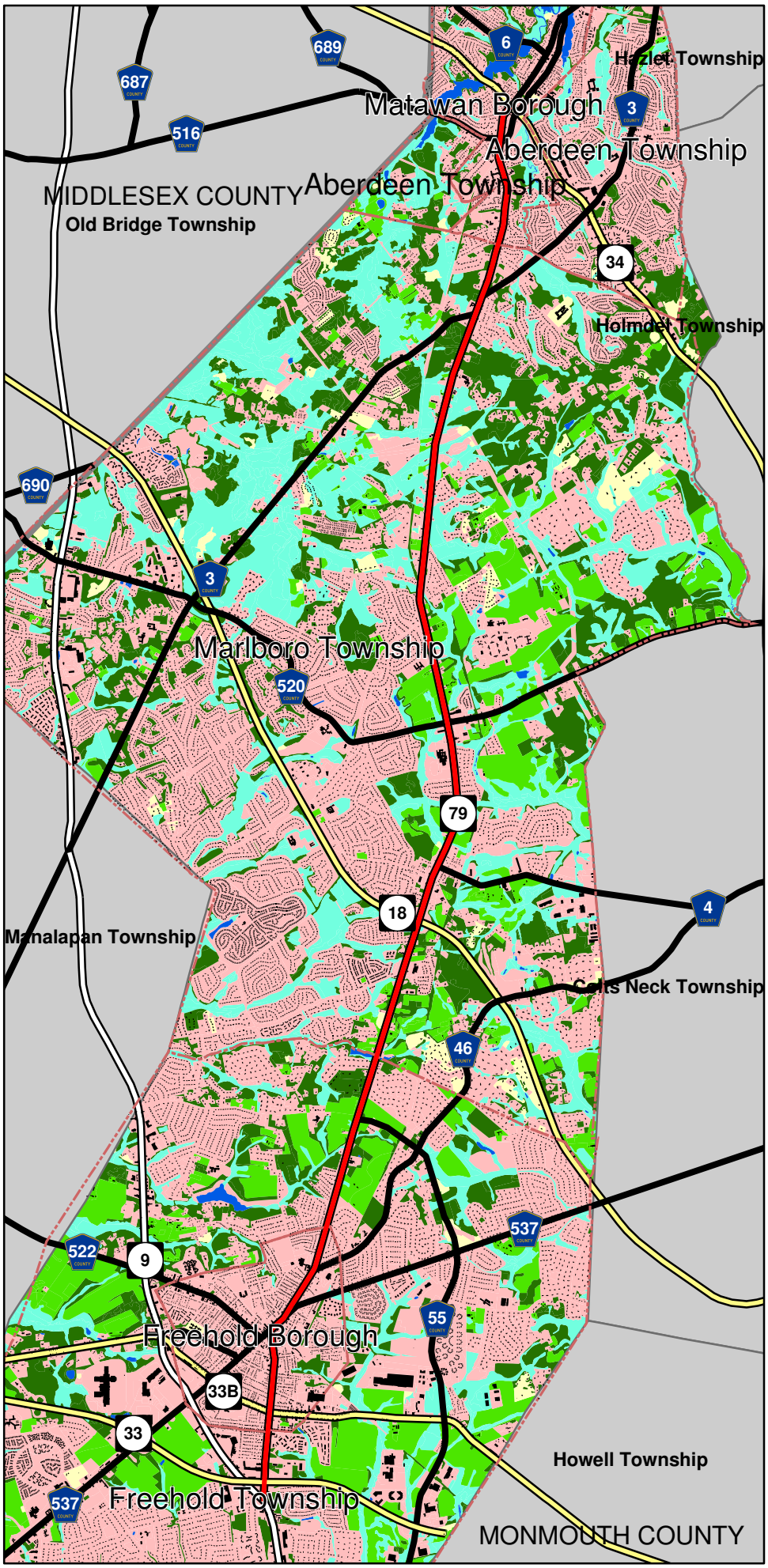
TABLE 1 – 2002 NJDEP LAND USE BREAKDOWN BY MUNICIPALITY

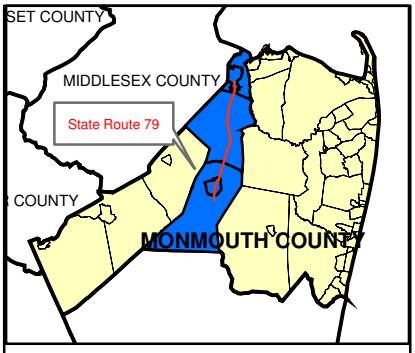
	TOTAL	AGRICULTURE		BARREN LAND		FOREST		URBAN		WATER		WETLANDS	
	AC	AC	%	AC	%	AC	%	AC	%	AC	%	AC	%
Aberdeen Township	3,616	32	1	44	1	501	14	2,306	64	83	2	650	18
Freehold Borough	1,242	2	0	10	1	42	3	1,175	95	0	0	13	1
Freehold Township*	17,554	2,494	14	360	2	2,877	16	8,371	48	104	1	3,348	19
Marlboro Township	19,518	1,592	8	473	2	3,650	19	9,096	47	41	0	4,666	24
Matawan Borough	1,547	0	0	6	0	188	12	1,119	72	104	7	130	8
Study Area Total	43,476*	4,120	9	893	2	7,258	17	22,067	51	332	1	8,807	20

* No land use areas are provided for the Barnegat Bay WMA, in the southern section of Freehold Township.

Based on **TABLE 1**, approximately 12,271 acres of land, consisting of approximately 28% of the study area (Agricultural + Barren Land + Forest), could be developed in the future. The ability of this land to develop will be limited by a variety of constraints such as environmental concerns, historic sites and potentially contaminated sites. In addition, land use measures such as buffers and setbacks may further reduce developable land acreage. While it is unreasonable to assume all of the vacant land will ever be developed, there is still a large potential for new growth within the study area in addition to the possible redevelopment of existing parcels. **EXHIBIT 3** illustrates how the various land classifications from **TABLE 1** are distributed throughout the study area. Undeveloped land was used in the build-out calculations to estimate future travel demand.

Monmouth County and study area municipalities provided all data used in the analysis for this project except consultant-generated traffic analysis and research. All data reflected the most current data available at the start of this project, and therefore does not include recent zoning changes, land development, or changes in traffic patterns since the onset of the project.





Legend

Building Footprints

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 3

Existing Land Use

0 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

State Planning Areas

EXHIBIT 4 indicates the NJ State Planning Areas for the study area per the latest NJ State Development and Redevelopment Plan, adopted in 2001. The State Plan designated areas appropriate to development at varying densities throughout the state. These areas include Metropolitan (PA1), Suburban (PA2), Fringe (PA3), Rural (PA4), and Environmentally Sensitive (PA 5), and state and federal parkland (PA 6 and above) planning areas. Most of Aberdeen Township, Matawan Borough and Freehold Borough are designated Metropolitan. The majority of Freehold Township and Marlboro Township are considered either Fringe or Suburban, indicating that they are appropriate for limited growth and conservation, respectively.

There is one State Plan designated center in the study area: Freehold Borough. There is another existing center in the study area, Marlboro Village, though it is not yet officially designated. Land use patterns and the State Planning Areas will be discussed in more detail later in this report.

Land Use Profiles

Area Land Use Profiles are included in the following pages. The profiles detail the existing conditions of land use, transportation, curb cuts, and pedestrian facilities of nine (9) Land Use Areas along the corridor. The location and size of the land use area sections were dictated by the level of detail necessary to effectively show the detail of land use. Denser land use areas require a map with a smaller scale and less dense development areas allow for a larger scale. **EXHIBITS 5 and 5A – 5I** show land use section locations.

Water Features / Wetlands Constraints

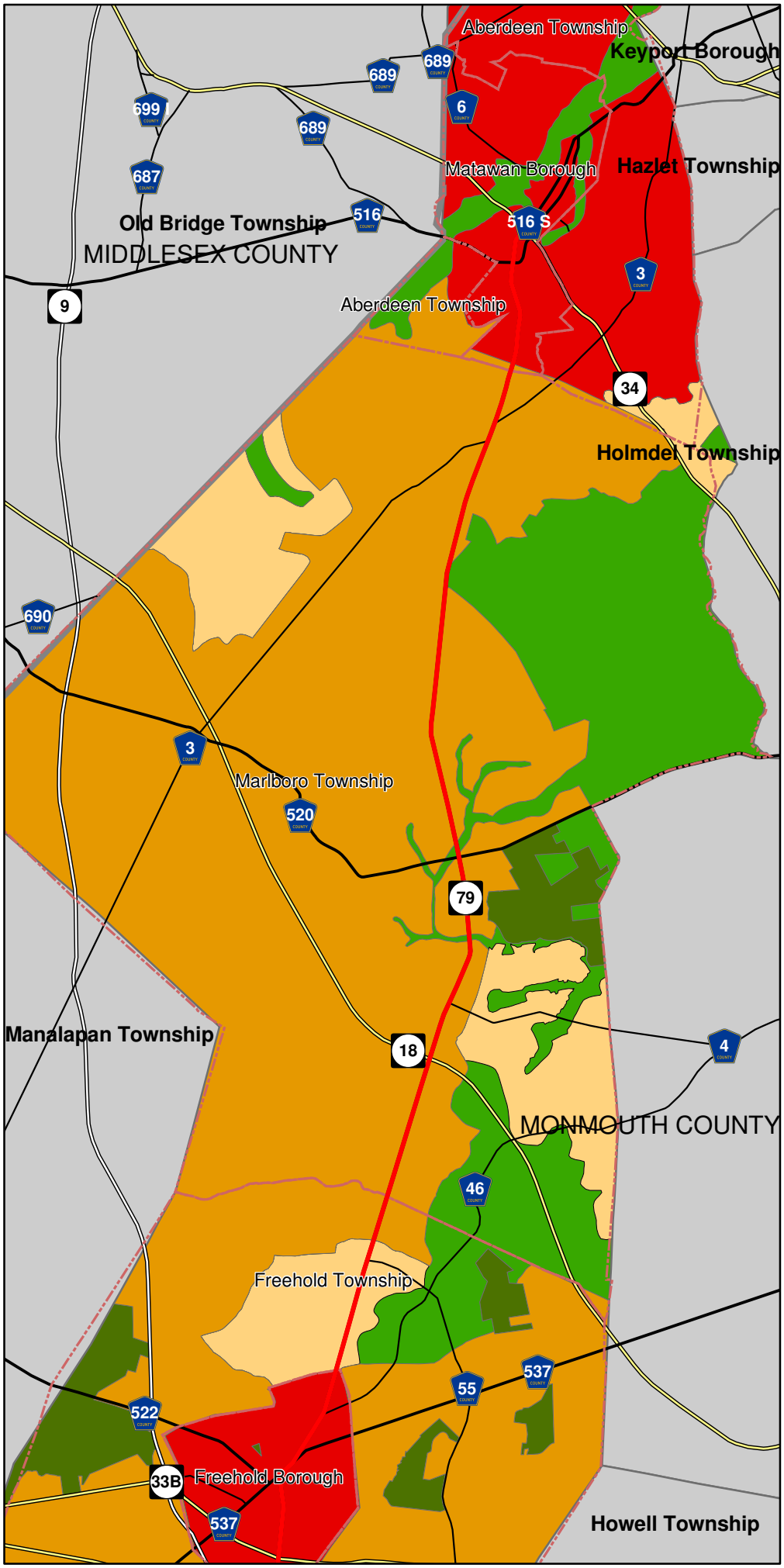
EXHIBIT 6 shows several environmental constraints to development throughout the study area. As shown, there are numerous water bodies, streams, and wetland areas in the study area in each municipality, with the exception of Freehold Borough. This constrained land totals approximately 9,139 acres, or 21% percent, of the total study area.

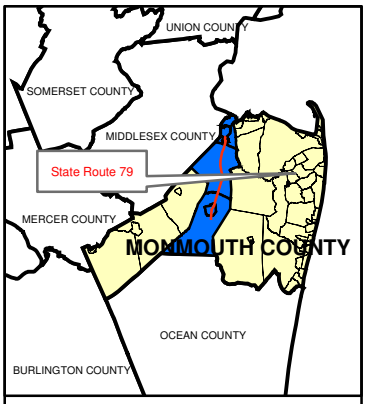
Historic Constraints

Within the study area, there are a number of historical landmarks recognized by the National Register of Historic Places. These include:

- John Burrows House
- Marlboro and Matawan Railroad Depots
- Van Kirk Farm
- Court Street School
- Uriah Smock House

A detailed listing of the landmark names, types, and locations are shown in **Appendix B**, an inventory of historical sites in Monmouth County done by the Monmouth County Park System in 2003. There was no determination of historic eligibility of additional sites conducted as part of this project. An updated inventory is not available from the Park System at this time.





Legend

State Planning Areas

- PA 1- Metropolitan
- PA 2- Suburban
- PA 3- Fringe
- PA 4- Rural
- PA 5: Env. Sensitive
- PA 6, above: Parkland

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 4

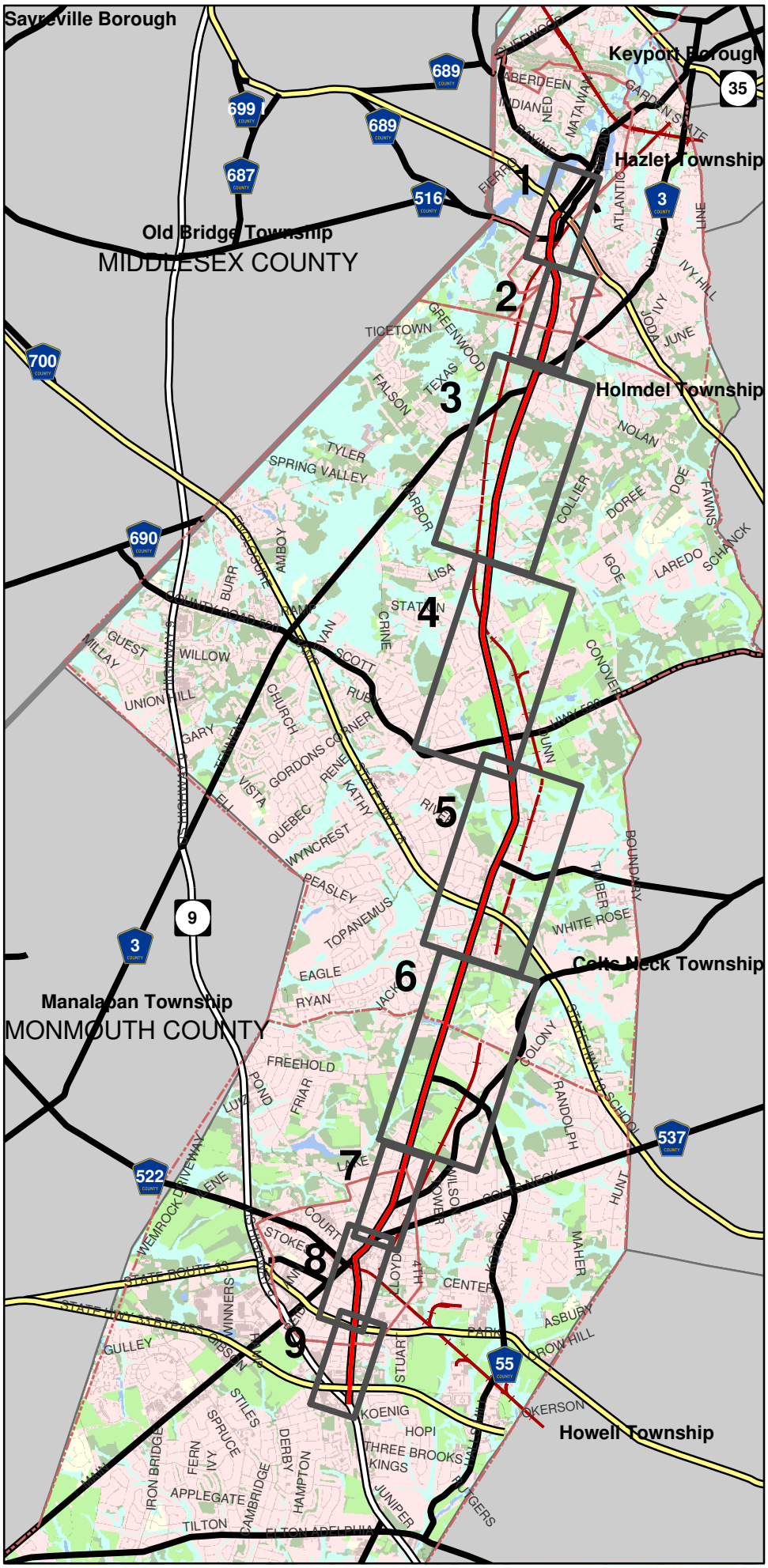
State Planning Areas

0 0.5 1 Miles

N

Source: Road geometry and subtype from NJDOT 2004 Roads. State Planning Areas from NJDEP and NJDCA.

MONMOUTH COUNTY
State Route 79 Corridor Study



Legend

Route 79

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Railroad Trail Right-of-Way

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5

Land Use Section Location Map

0 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 1- Route 34 to Scenic Road

The boundaries of Land Use Area 1 are Route 34 to the north and Scenic Road to the South. The area includes Matawan and most of Aberdeen Township.

Land Use
Land Use in the area is characterized by dense residential and strip commercial development along Matawan's main street. Most residential properties front the roadway and commercial uses primarily feature roadside commercial parking lots. Several large commercial front parking lots are located on each side of Route 516. All land is classified as urban by NJDEP Land Use/Land Cover 2002 data, with the exception of a small area of forested land at the southern end of the snapshot area, as shown on the corresponding map.

Curb Cuts
As a result of the dense residential and commercial development, curb cuts are frequent. Speed limits range from 30 to 40 mph.

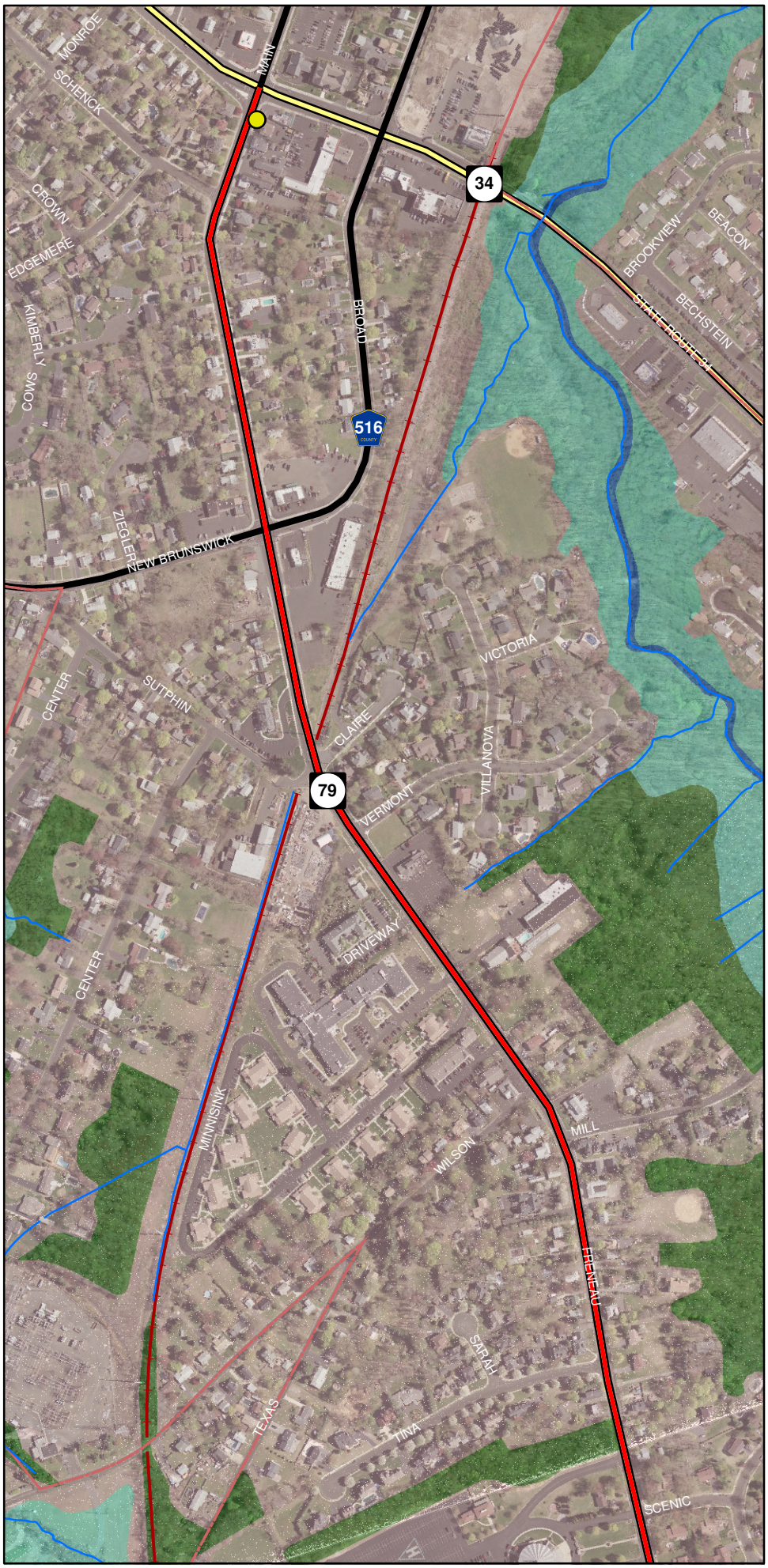
Pedestrians
Sidewalks exist along the corridor on both sides of the street from Route 34 until directly south of Vermont Road. At this point, sidewalks exist only on the west side of Route 79 until Wilson Road. From Wilson Road south to the end of the land use area there are no sidewalks. Sidewalks vary in width, condition, and connectivity. Crosswalks are not consistently marked at intersections throughout the corridor.

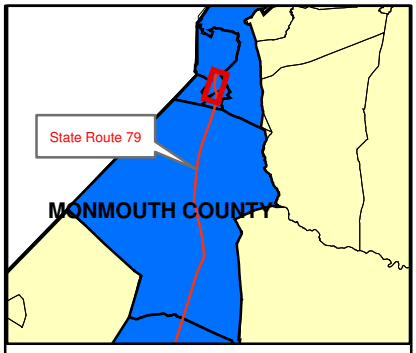
Transit
The NJ TRANSIT Bus Routes 133/135 stop at the intersection of Route 34 and Route 79. The 135 Route continues south along Route 79 to the end of the land use area. On weekdays, only peak period service is provided.

Route 79 at Route 34

Route 79 near Route 516

Route 79 at Wilson Road





Legend

- Bus Stop
- Route 79
- Streams
- Lakes
- Municipalities

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Railroad Trail Right-of-Way

Land Use

- URBAN
- BARREN LAND
- AGRICULTURE
- FOREST
- WATER
- WETLANDS

EXHIBIT 5A

Land Use Area 1

0 150 300 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 2-Ryers Road to Church Road

The boundaries of Land Use Area 2 are Ryers Road to the north and Church Road to the south. The area includes the southern section of Matawan Borough and the northern section of Marlboro Township.

Land Use
Land Use in the area is characterized by dense residential and scattered commercial development. Most residential properties front the roadway and several larger housing developments connect to Route 79 in this area. The few commercial sites are zoned C-2 and feature large surrounding or strip parking lots, namely on the west side of Route 79 north of Lloyd Road and between Lloyd and Tennent Roads and on the east side of Route 79 just north of Loia Road. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as urban with several areas of forest and wetlands land cover along stream corridors and within residential development, as shown on the corresponding map.

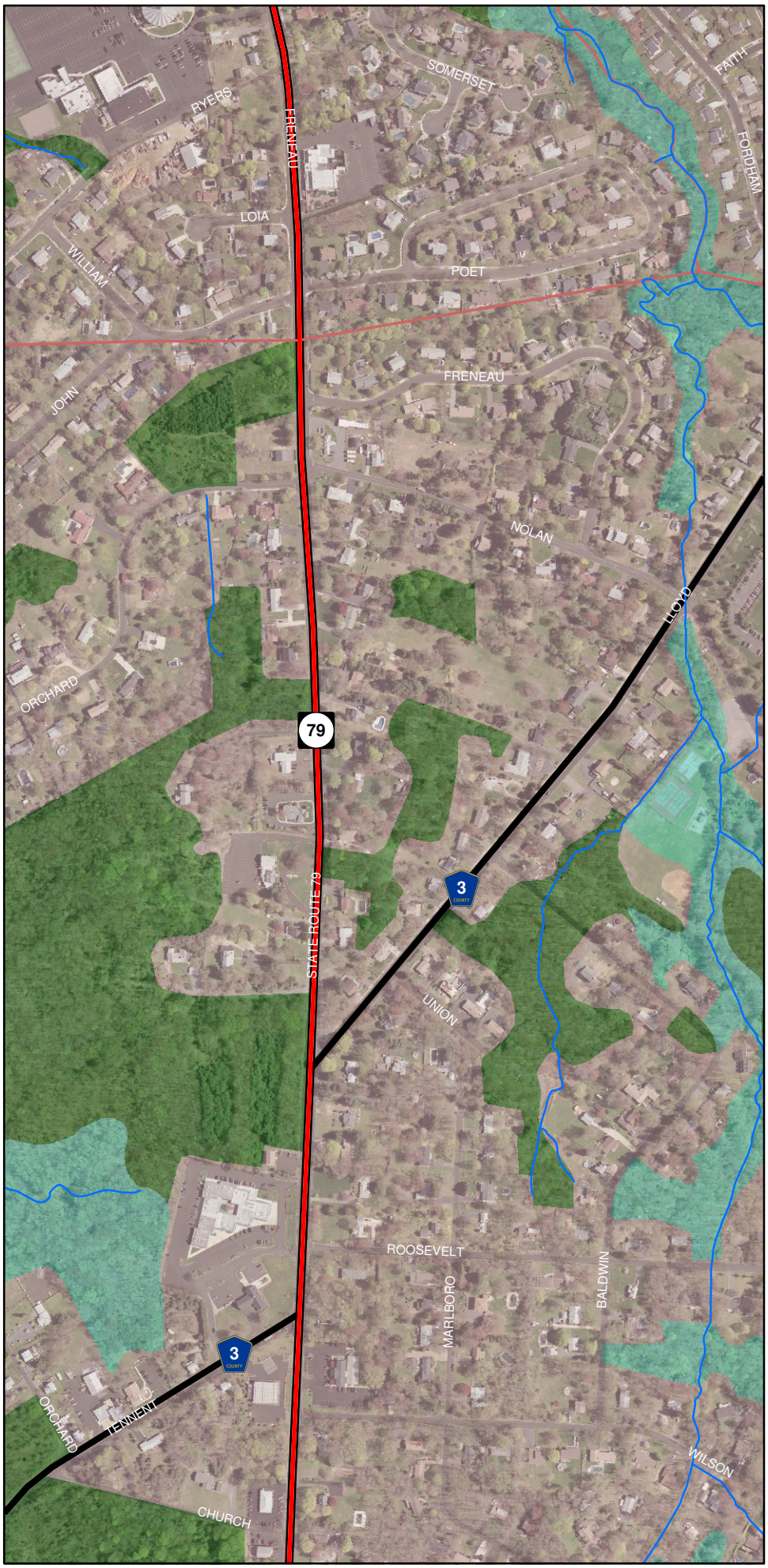
Curb Cuts
As a result of the dense residential and commercial development, curb cuts are frequent in the northern half of the land use area but less frequent in the southern half due to wooded parcels and developments of less density. Speed limits range from 40 to 45 mph.

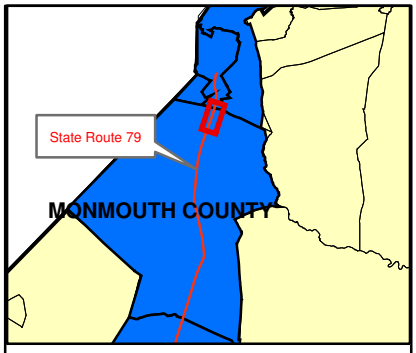
Pedestrians
There are no sidewalks on this area of Route 79 and therefore pedestrian traffic must use the road shoulder.

Transit
NJ TRANSIT Bus Route 135 operates along Route 79 through this area. Weekday peak period, peak direction only service is provided and no stops are within this land use area.

Route 79 at Tennent Road

Route 79 at Lloyd Road





Legend

Route 79

Streams

Lakes

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Railroad Trail Right-of-Way

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5B

Land Use Area 2

0 150 300 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 3-Church Road to Harbor Road

The boundaries of Land Use Area 3 are Church Road to the north and Harbor Road to the south. The area is entirely within Marlboro Township.

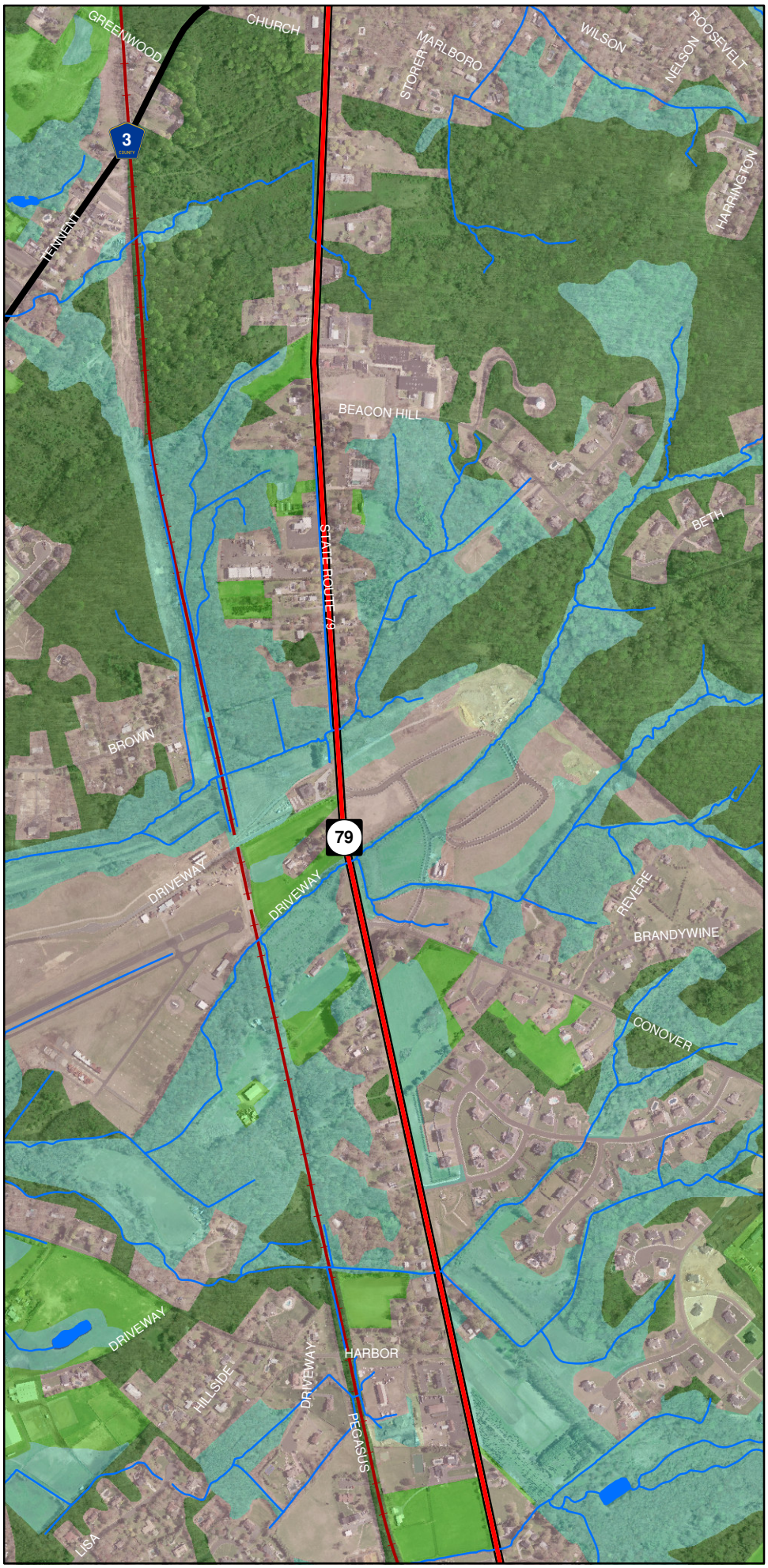
Land Use
Land Use in the area is characterized by scattered residential, commercial, and agricultural areas. Residential properties front the roadway although some are set back with long driveways. Several larger housing developments connect to Route 79 in this area. There are a few small strip commercial sites with front or side parking lots. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as wetlands, agriculture, and forest, with scattered urban land uses, as shown on the corresponding map.

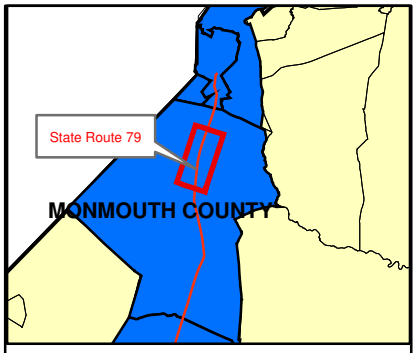
Curb Cuts
Because of the forest and wetlands areas, there are less curb cuts in this area than in the northern sections of Route 79. Curb cuts are primarily for residential development and strip centers. The speed limit on this section is 50 mph.

Pedestrians
There are no sidewalks on this area of Route 79 and therefore pedestrians must use the roadway shoulder.

Transit
NJ TRANSIT Bus Route 135 operates along Route 79 through this area. Weekday peak period, peak direction only service is provided and no stops are within this land use area.

Route 79 near Church Road





Legend

Route 79

Streams

Lakes

Railroad Trail Right-of-Way

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5C

Land Use Area 3

0 500 1,000 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 4-Harbor Road to Girard Road

The boundaries of Land Use Area 4 are Harbor Road to the north and Girard Road to the south. The area is entirely within Marlboro Township.

Land Use
Land Use in the area is characterized by dense residential development, school sites, scattered commercial, and agriculture uses. Few residential properties front the roadway; most are set back in densely clustered housing developments. There are a few small strip commercial sites with front or side parking lots. Two school sites front Route 79 to the north and south of State Highway 520. There is a large swath of agriculture, forest, and wetlands in the center of the area. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as agriculture, wetlands, and forest, with scattered urban land uses, as shown on the corresponding map.

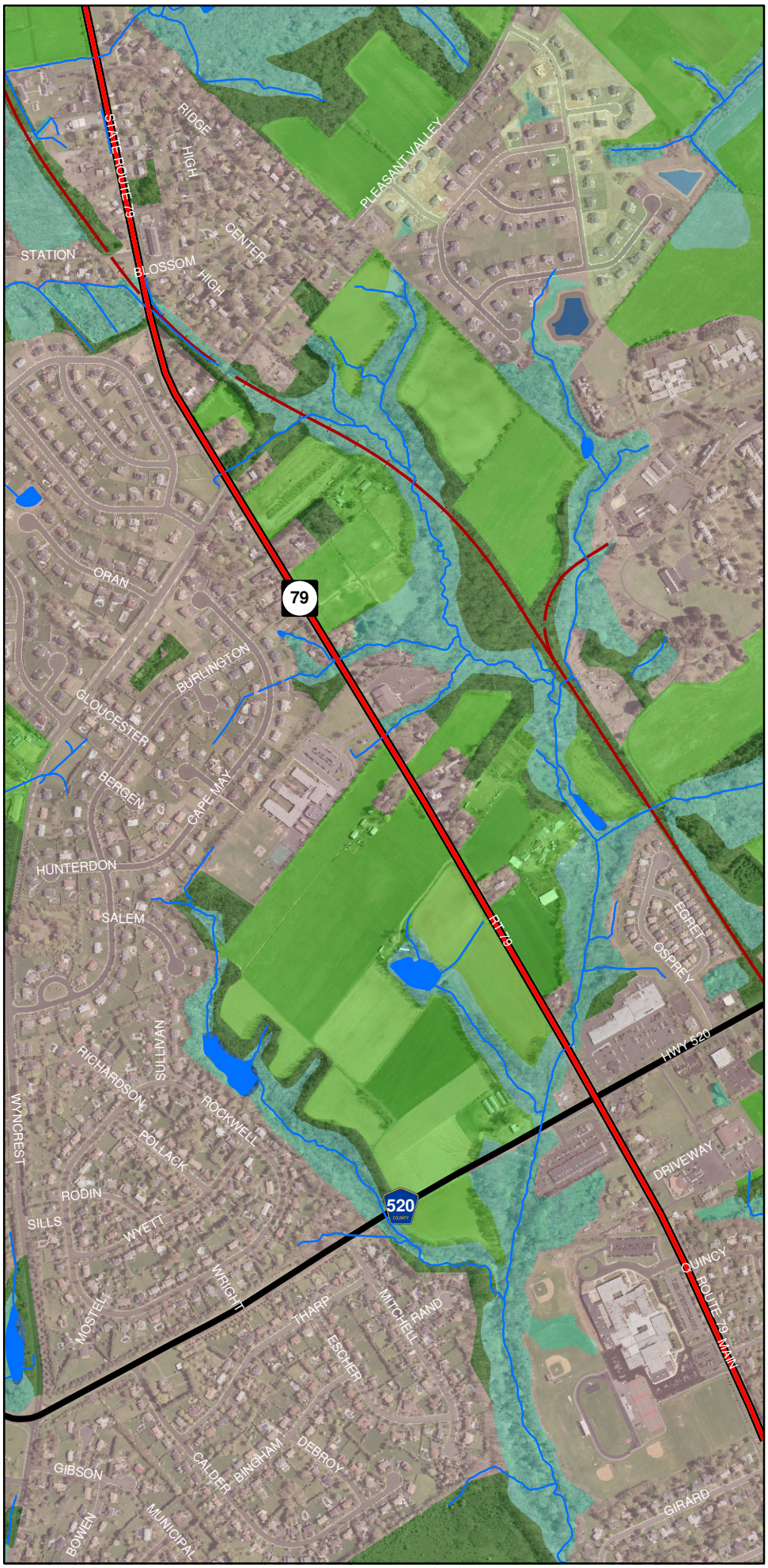
Curb Cuts
Because of the forest and wetlands areas, there are less curb cuts in this area than in the northern sections of Route 79. Curb cuts are primarily for residential development and strip centers. The speed limit is 50 mph through this area.

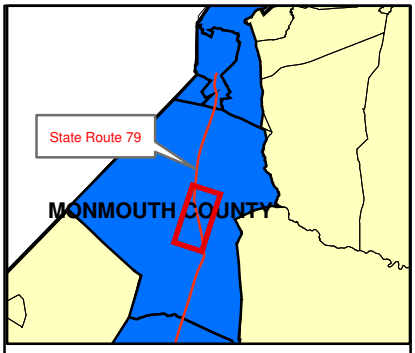
Pedestrians
There are sidewalks only at one intersection in the area, on the corners of Route 520 and Route 79.

Transit
NJ TRANSIT Bus Route 135 operates along Route 79 through this area. Weekday peak period, peak direction only service is provided and no stops are within this land use area.

Route 79 at Wyncrest Road

Route 79 at Highway 520/Newman Springs Road





Legend

Route 79

Streams

Lakes

Railroad Trail Right-of-Way

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5D

Land Use Area 4

0 500 1,000 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 5- Girard Road to Butchers Rd

The boundaries of Land Use Area 5 are Girard Road to the north and Butchers Road to the south. The area is entirely within Marlboro Township.

Land Use
Land Use in the area is characterized by dense residential development, school sites, scattered commercial, and agriculture uses. Few residential properties front the roadway; most are set back in densely clustered housing developments. There are a few small strip commercial sites with front or side parking lots. There are large swaths of agriculture, forest, and wetlands to the northwest and southeast of the area. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as wetlands, forest, and agricultural with scattered urban land uses, as shown on the corresponding map.

Curb Cuts
Because of the forest and wetlands areas, there are less curb cuts in this area than in the northern sections of Route 79. Curb cuts are primarily for residential development, and strip centers. The speed limit is 50 mph through this area.

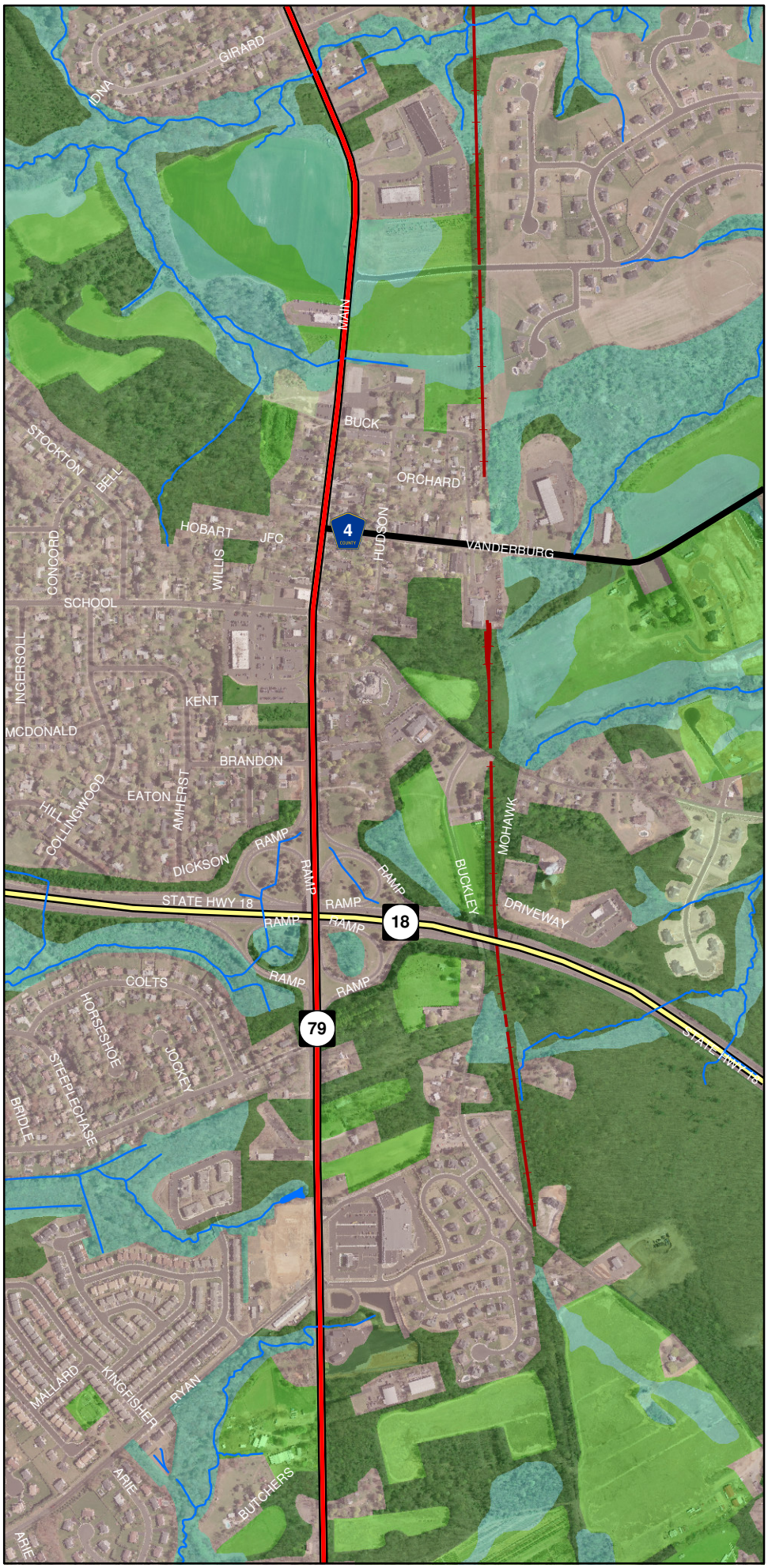
Pedestrians
There are several segments of sidewalk along this area of Route 79, though they are fragmented. Sidewalks exist on the corner of Ryan Road, between Route 18 and Bucks Road, on the southeast corner of Stevenson Drive, and at all corners of Girard and Route 79. Several of the sidewalk sections connect to larger networks in residential subdivisions but do not connect to other developments along the Route 79 corridor. Crosswalks exist at several locations, even in areas with no sidewalks.

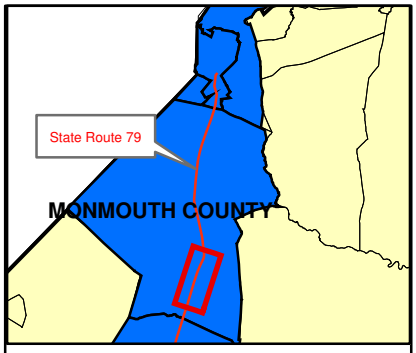
Transit
NJ TRANSIT Bus Route 135 stops at the School Road Park and Ride Lot at Route 79 and School Road. A bus shelter is located near Newton Street. Weekday peak period, peak direction only service, is provided and no stops are within this land use are within this land use area.

Route 79 at Ryan Road

Route 79 north of Ryan Road

Route 79 at School Road





Legend

Bus Stop

Route 79

Streams

Lakes

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Railroad Trail Right-of-Way

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5E

Land Use Area 5

0 500 1,000 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 6- Butchers Rd to Hance Boulevard

The boundaries of Land Use Area 6 are Butchers Road to the north and Hance Boulevard to the south. The area is includes portions of Marlboro and Freehold Townships.

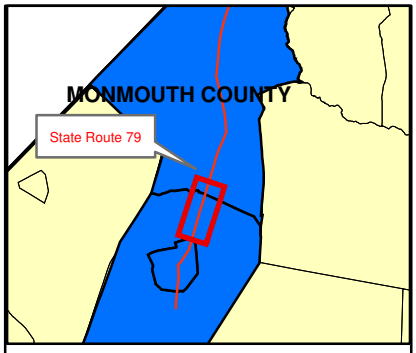
Land Use
Land Use in the area is characterized by existing and in-construction residential developments, scattered commercial and light industrial sites and agriculture uses. Few residential properties front the roadway; most are set back in clustered housing developments. There are a few small strip commercial sites with front or side parking lots. There are large swaths of agriculture, forest, and wetlands throughout the area. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as forest, urban and agricultural with scattered barren land uses, as shown on the corresponding map.

Curb Cuts
Because of the forest and wetlands areas, there are less curb cuts in this area than in the primarily urban sections of Route 79. Curb cuts are primarily for residential development and connecting roads. The speed limit ranges between 40 and 50 mph through this area.

Pedestrians
There are several segments of sidewalk along this area of Route 79, though they are fragmented. Sidewalks exist on the corner of Kirwin Court, on the east side Route 79 from Rustic Way south to Rustic Way South, on each corner of East Freehold Road and at the corner of Hance Boulevard. Several sidewalk sections connect to larger networks in residential subdivisions but do not connect to other developments along the Route 79 corridor.

Transit
NJ TRANSIT Bus Route 135 stops at the School Road Park and Ride Lot at Route 79 and School Road. A bus shelter is located near Newton Street. Weekday peak period, peak direction only service is provided and no stops are within this land use are within this land use area.

Route 79 at East Freehold Road



Legend

Route 79

Streams

Lakes

Railroad Trail Right-of-Way

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

EXHIBIT 5F

Land Use Area 6

0 500 1,000 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 7- Hance Boulevard to Sheriff Street

The boundaries of Land Use Area 7 are Hance Boulevard to the north and Sheriff Street to the south. The area is entirely within Freehold Boro.

Land Use
Land Use in the area is characterized by dense residential developments, an urban storefront commercial and office corridor to the south of the area, a large school site, and the borough and county municipal complex at the southern end of the area. Residential properties front the roadway and the adjacent grid street network. The commercial district includes side or front parking as well as sites that front the sidewalk directly. Shared parking is provided to the rear of the district near the government complex. There are strips of forest and wetlands on the eastern side of Route 79 along former the railroad right-of-way. NJDEP Land Use/Land Cover 2002 data classifies the area primarily as urban, as shown on the corresponding map.

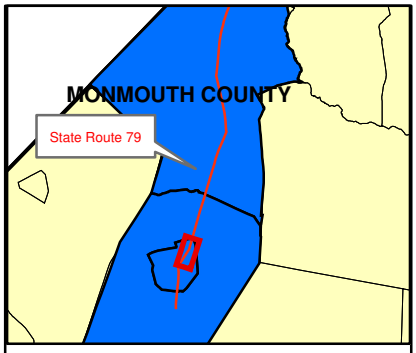
Curb Cuts
Curb cuts are plentiful due to the dense residential and commercial development. The speed limit ranges between 30 and 40 mph through this area.

Pedestrians
There are sidewalks along the entire stretch of this segment of Route 79. Crosswalks and crossing signals exist at several intersections. Most intersections have marked pedestrian crossings. Street furniture and pedestrian oriented pocket parks enhance the user experience of this section of Route 79.

Transit
NJ TRANSIT Bus Routes 135 and 833 stop operate along Route 79in this section. Bus Route 135 provides weekday peak period, peak direction service only. Bus Route 833 operates weekdays only via Route 79 north along CR 537 to Red Bank and south to the Freehold Centre transportation hub at Throckmorton Street and thence to Freehold Raceway Mall.

Route 79 at Dutch Lane

Route 79 at Route 537/East Main Street



Legend

- Route 79
- Streams
- Lakes
- Municipalities

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Railroad Trail Right-of-Way

Land Use

- URBAN
- BARREN LAND
- AGRICULTURE
- FOREST
- WATER
- WETLANDS

EXHIBIT 5G

Land Use Area 7

0 260 520 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 8- Court Street to Irwin Avenue

The boundaries of Land Use Area 8 are Court Street to the north and Irwin Avenue to the south. The area is includes Freehold Boro and Freehold Township.

Land Use
Land Use in the area is characterized by dense residential developments, a dense commercial corridor and a large church site to the north of the area, and light industry in the southeast section of the area. Residential properties front Route 79 and the adjacent grid street network. The commercial district includes side or front parking as well as sites that front the sidewalk directly. There is a small section of forest and wetlands on the eastern side of Route 79 along the railroad. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as urban, as shown on the corresponding map.

Curb Cuts
Curb cuts are plentiful due to the dense residential and commercial development. The speed limit ranges between 30 and 35 mph through this area.

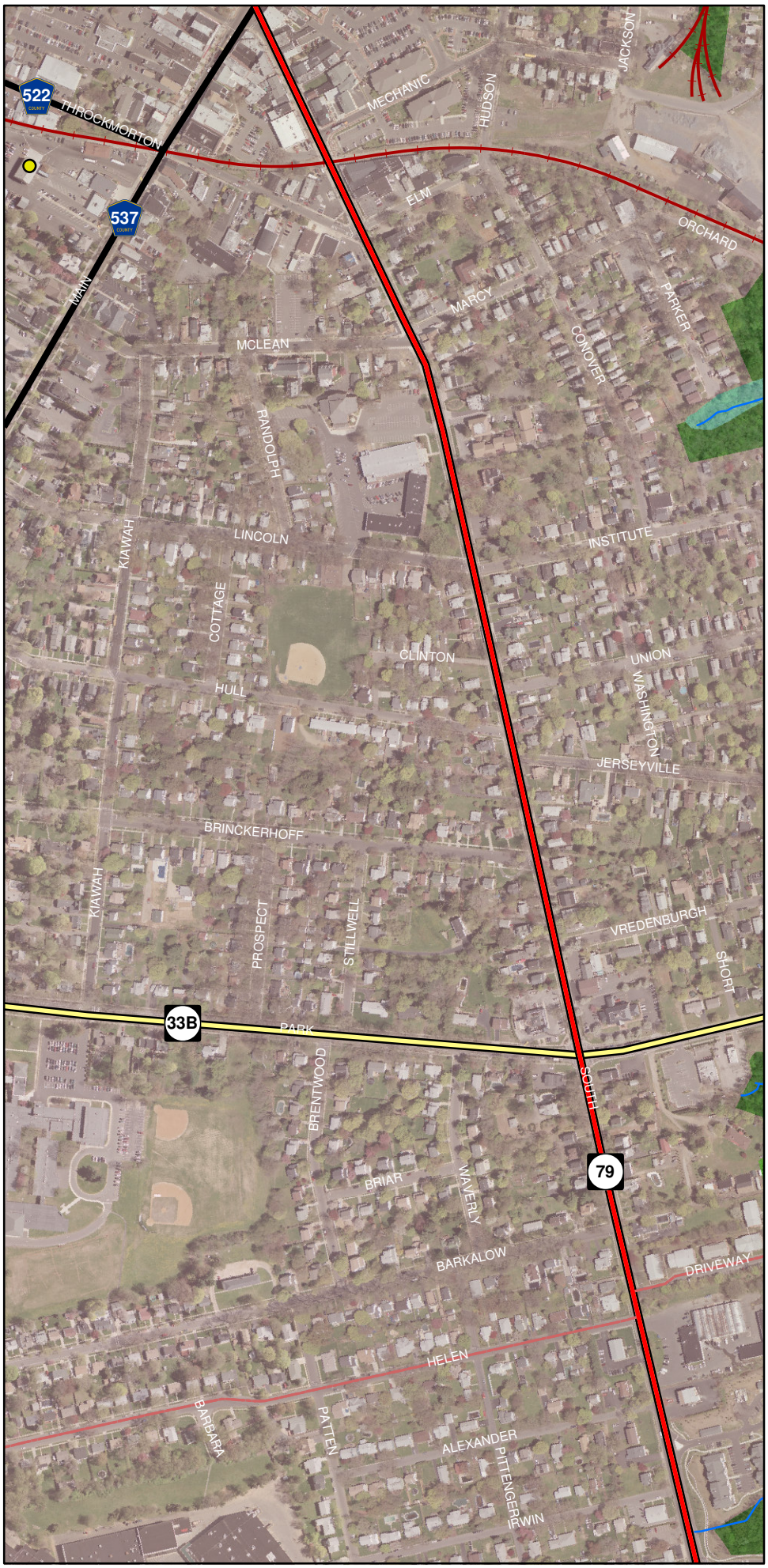
Pedestrians
There are sidewalks along the entire stretch of this segment of Route 79 with the exception of a three parcels on the east side of Route 79 to the very south of the area in Freehold Township. Crosswalks and crossing signals exist at several intersections. Crosswalks are marked at almost every intersection.

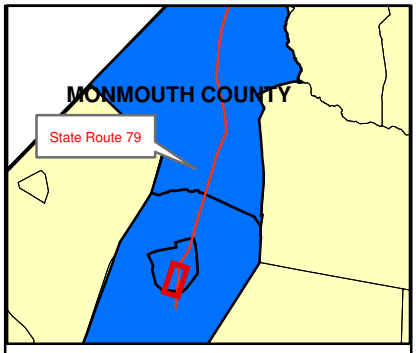
Transit
The Freehold Transportation Center is located just off the Route 79 corridor on West Main Street, as shown in the corresponding map. Several bus routes connect at this point, including the 64, 65, 135, 317 (seasonal), 139, 833, 836, and the Monmouth County Shuttle.

Route 79 at Route 537/West Main Street

Route 79 at Route Daniels Way

Route 79 at Business Route 33B





Legend

- Bus Stop
- Route 79
- Streams
- Lakes
- Municipalities

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Railroad Trail Right-of-Way

Land Use

- URBAN
- BARREN LAND
- AGRICULTURE
- FOREST
- WATER
- WETLANDS

EXHIBIT 5H

Land Use Area 8

0 260 520 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study

Land Use Area 9- Route 33B to State Route 9

The boundaries of Land Use Area 9 are Business Route 33B to the north and State Route 9 to the south. The area is includes Freehold Boro and Freehold Township and is the southernmost segment of Route 79.

Land Use
Land Use in the area is characterized by dense residential developments, light industrial sites, and office/business uses. Residential properties front on the roadway and are also organized in a grid street network and in distinct housing developments. The office/business zoning districts on each side of Route 79 south of Daniels Way include side or front parking set back from the street. There are small areas of forest and wetlands to the east and south of Route 79 along stream corridors. NJDEP Land Use/Land Cover 2002 data shows area land use classified primarily as urban, as shown on the corresponding map.

Curb Cuts
Curb cuts are plentiful due to the dense residential and business development. The speed limit ranges between 35 and 40 mph through this area.

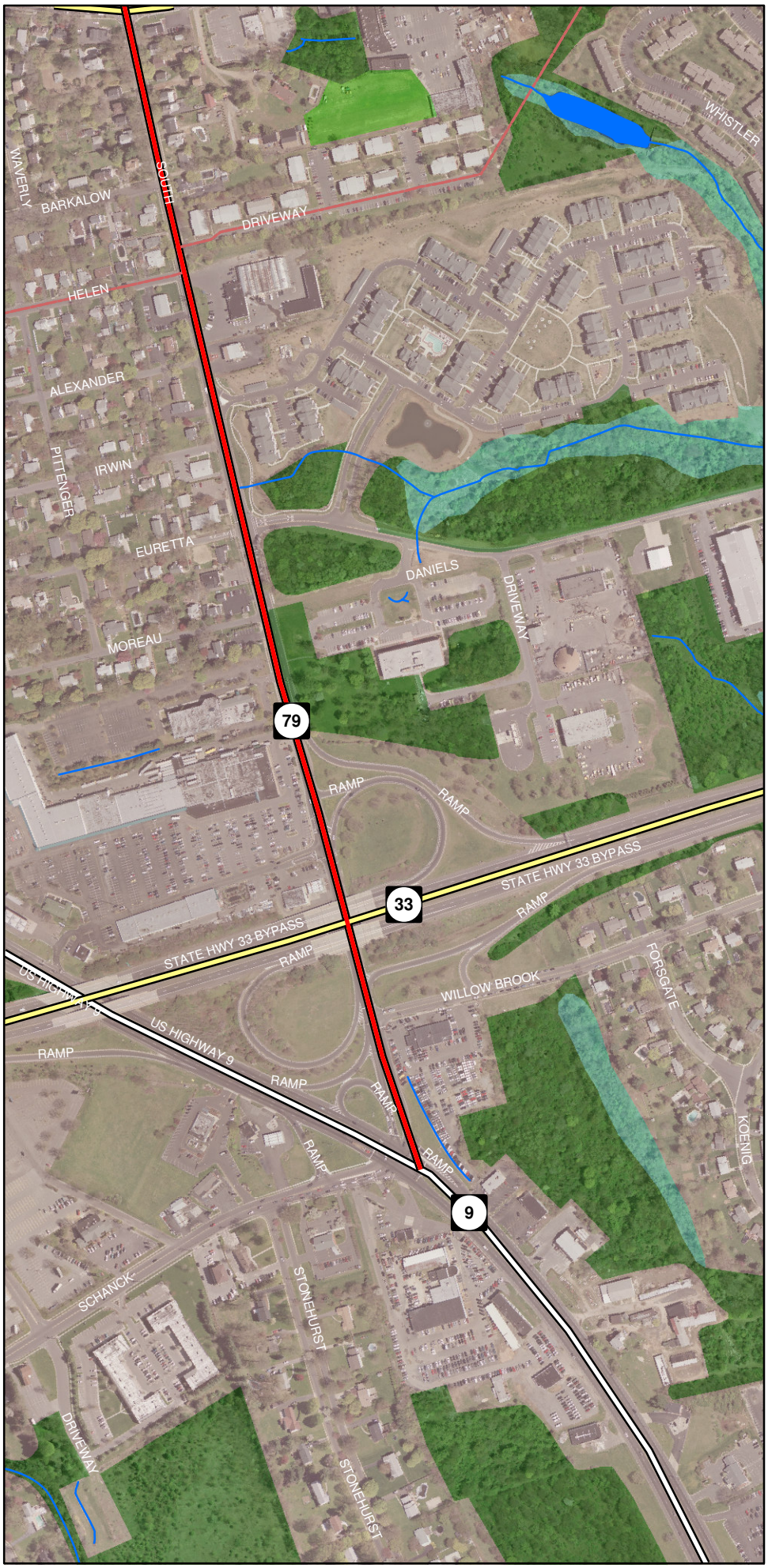
Pedestrians
Sidewalks are not consistent along this stretch of Route 79. On the west side of the route, the sidewalk terminates at Alexander Avenue, resumes between Moreau Avenue and the shopping center just north of the intersection of Route 33, and continues through the underpass of Route 33, after which it ends. On the east side of the route, the sidewalk terminates at Moreau. There are several crosswalks and crossing signals on this section of Route 79, however they are not consistently marked at each intersection.
Worn pathways along Route 79 show heavy pedestrian and bicycle demand where sidewalks are not available.

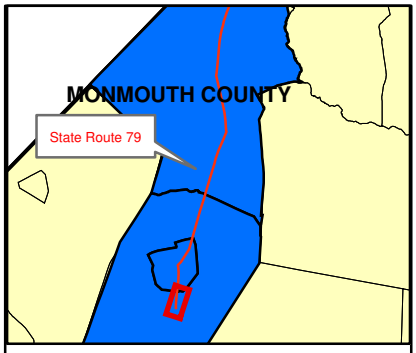
Transit
NJ TRANSIT bus routes 836 and 139 serve Route 79 south of Route 33 Business/Park Avenue. Both routes provide service seven days a week during most hours.

Route 79 at just north of Route 33

Route 79 at Route 33 underpass

Route 79 north of Route 9





Legend

Route 79

Streams

Lakes

Municipalities

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Land Use

URBAN

BARREN LAND

AGRICULTURE

FOREST

WATER

WETLANDS

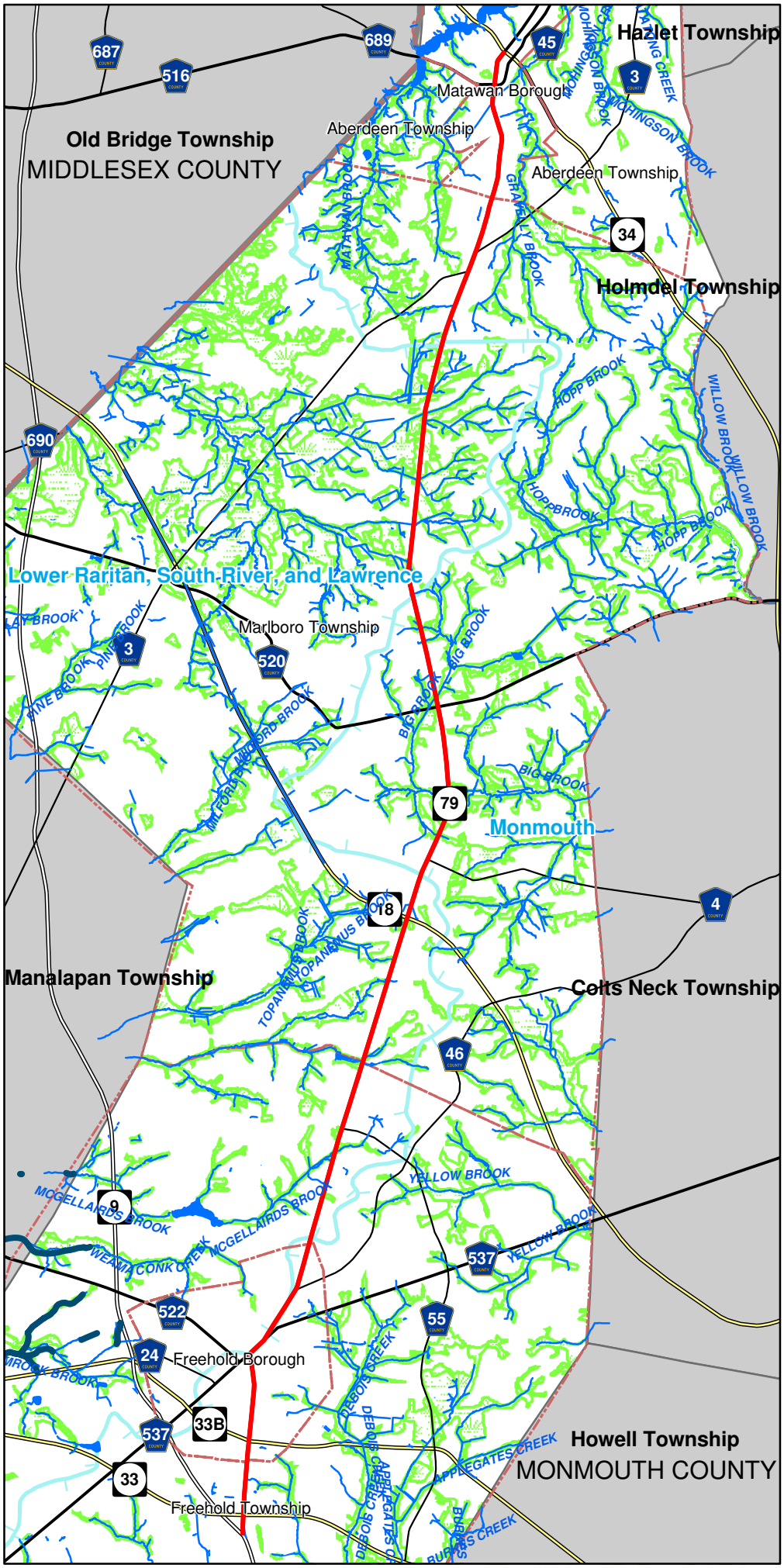
EXHIBIT 5I

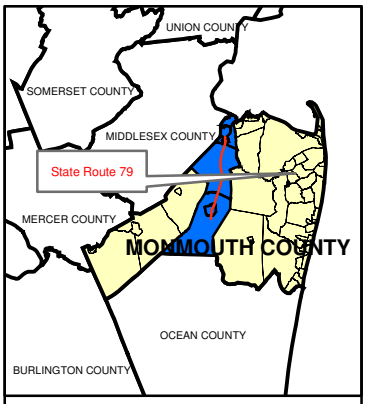
Land Use Area 9

0 260 520 Feet

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

- Route 79
- C1 Streams
- Streams
- Lakes

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Watersheds
- Freshwater Wetlands

EXHIBIT 6

Environmental Constraints

0 0.5 1 Miles

N

Source: Road geometry and subtype from NJDOT 2004 Roads. Streams, Watersheds, and Fresh Water Wetlands from NJDEP.

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The consultant team did not conduct an examination for potential important archeological sites in the corridor. The presence of and affect on key archeological sites from pre- or post-European settlement must be inventoried and reported if any federally-funded project is initiated within the corridor.

Potentially Contaminated Sites

Potentially contaminated sites are locations with known or possible environmental contamination. While these locations may be developed or redeveloped in the future, there will likely be additional costs associated with cleanup in order to make land suitable for development. These locations are identified in **EXHIBIT 7**. The following table includes the type of contaminants located in a half-mile buffer on each side of Route 79. The types of contaminants are defined by NJDEP as:

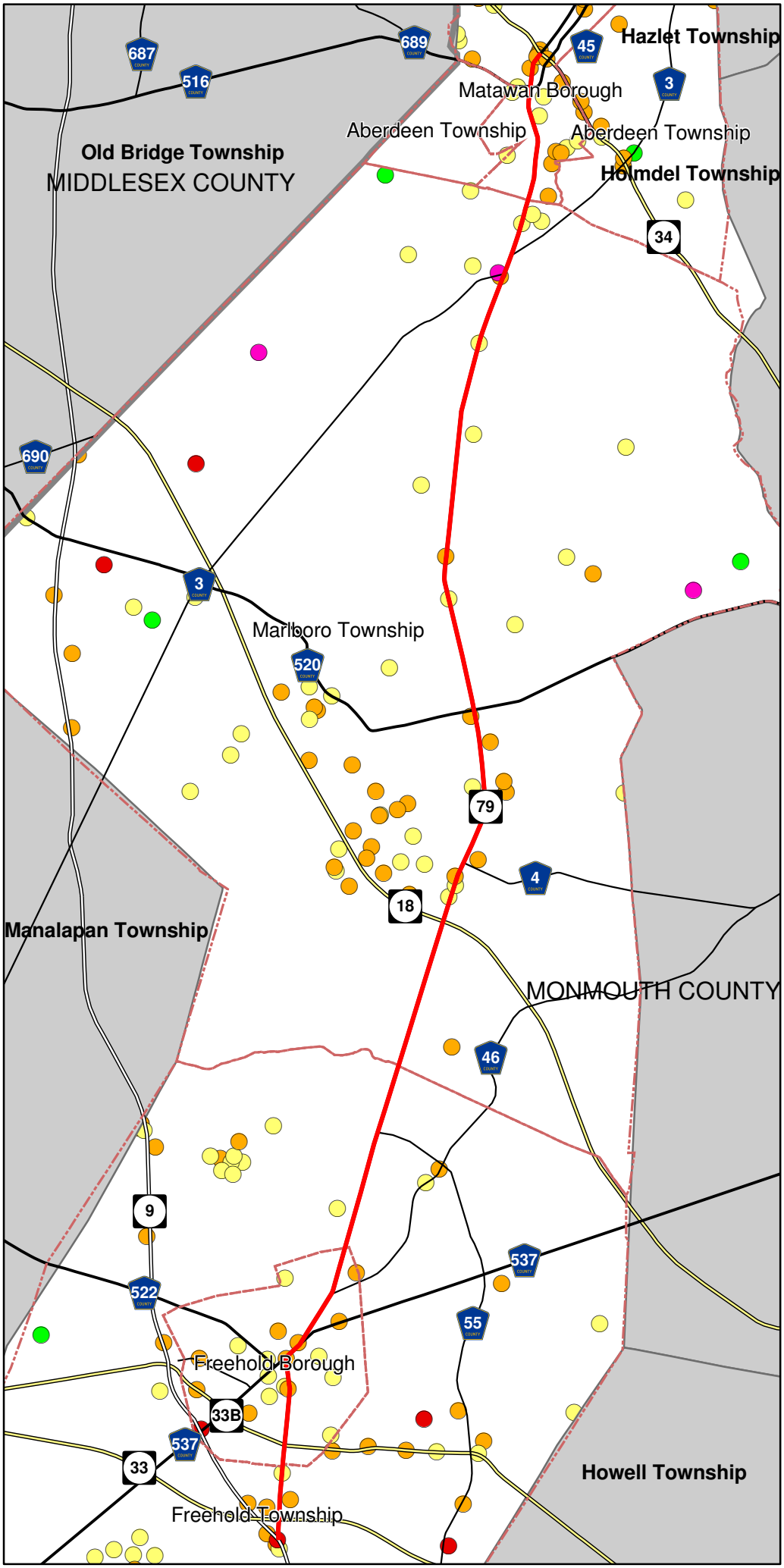
C1: Source Known or Identified-Potential Groundwater Contamination
C2: Known Source or Release with Groundwater Contamination
D: Multiple Source/Release to Multi-Media Including Groundwater

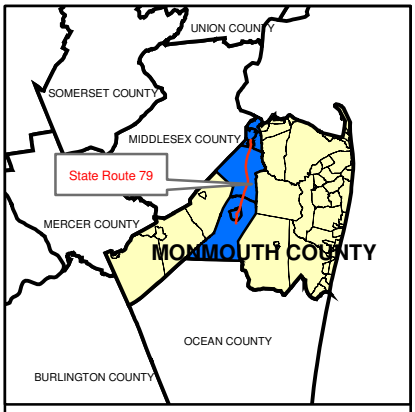
TABLE 2- LOCATION OF CONTAMINATED SITES

Municipality	Contaminant Type	Number
Freehold Boro	C1	8
Freehold Boro	C2	6
Freehold Twp	C1	4
Freehold Twp	C2	9
Freehold Twp	C3	1
Marlboro Twp	C1	16
Marlboro Twp	C2	10
Marlboro Twp	D	1
Matawan Boro	C1	7
Matawan Boro	C2	12

Composite Zoning

The municipalities within the study area have a variety of developable areas with varying zoning requirements. To show the distribution of zoning districts presented throughout the study area, **EXHIBIT 8** was prepared utilizing composite zoning classifications prepared by the Monmouth County Planning Board. Composite zoning classifications generalize several similar zoning classifications so that multi-community zoning controls can be assessed. Based on the composite zoning scheme, **TABLE 3** was prepared to indicate the amount of land zoned for various uses within a half-mile buffer of Route 79 in the study area. This study reflects a time-sensitive snapshot of zoning in the Corridor. The consultant team realizes that zoning is likely to change in the study area over time or even within the length of the study. Local zoning classifications and densities were not included for calculation in the traffic or land use analysis in this study, except as related to growth areas in Section 4.





Legend

Known Contaminated Sites

- B- No Impact to Soil or Ground Water
- C1- Localized Contamination
- C2- Multiple Site Spills and more than One Contaminant
- C3 -Multiple Conaminants and High Concentrations
- D- Same as C3, Usually Superfund Site

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 7

Potentially Contaminated Sites

0 0.5 1 Miles

N

Source: Road geometry and subtype from NJDOT 2004 Roads. Known Contaminated Sites is a list of sites where contamination of soil and/or ground water is confirmed at levels greater than applicable cleanup criteria or environmental standards.

MONMOUTH COUNTY
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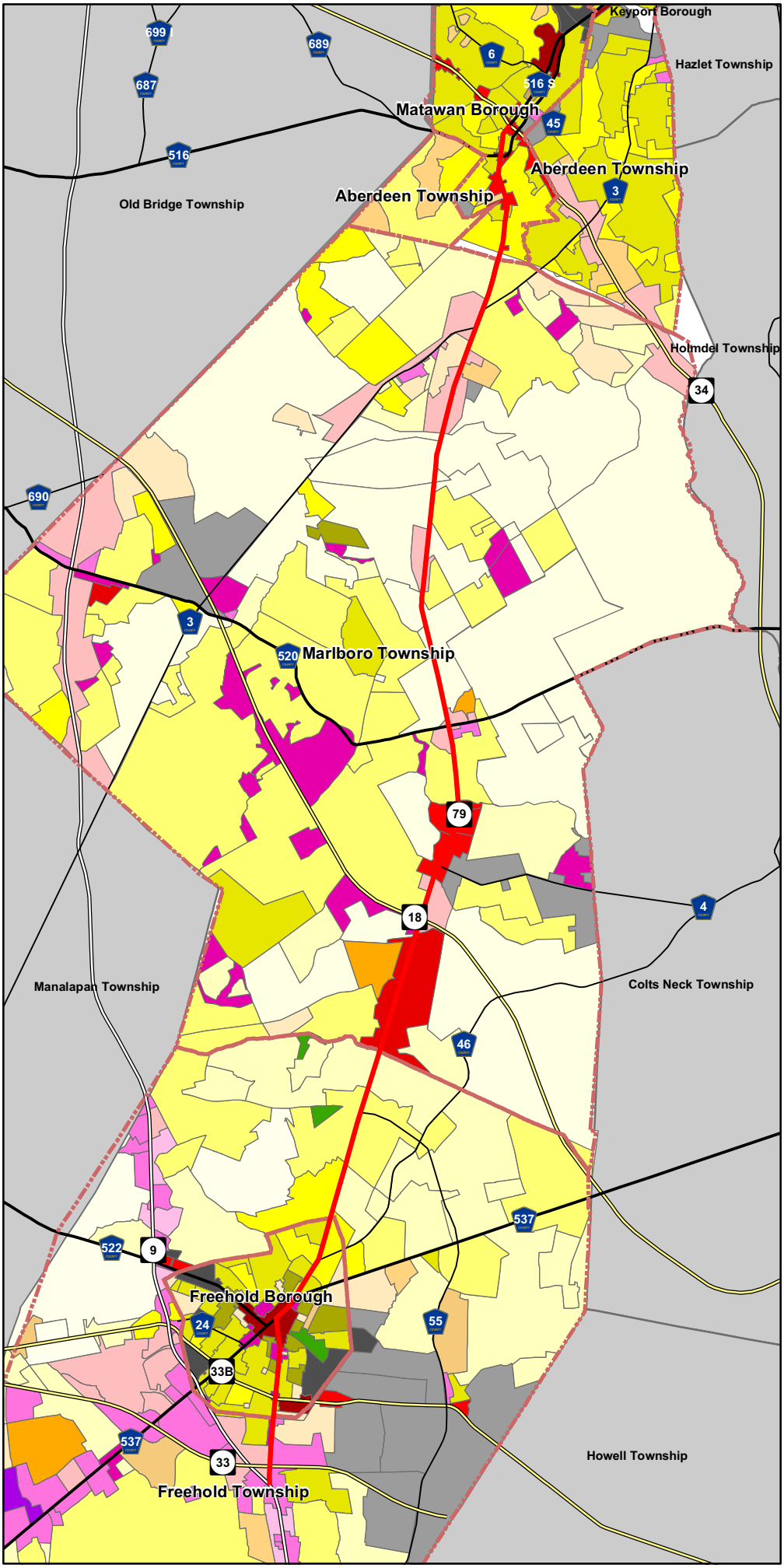

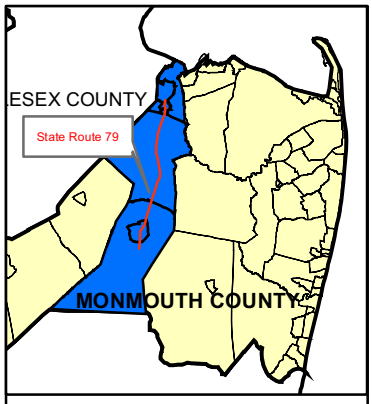

Legend

Composite Zoning

Residential
- SF-0
- SF-05
- SF-10
- SF-20
- SF-40
- SF-80

Multi-Family
- MF-0
- MF-08
- MF-15

Mixed-Use
- MU-0
- MU-08

Commercial
- C-0
- C-12.5
- C-50

Office Business
- OB-0
- OB-01
- OB-10

Industrial
- ROWL-10
- I-0
- I-01

Conservation Recreation
- Con/Rec
- CON/REC

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 8

Composite Zoning

0 0.5 1 Miles

N

Source: State Planning Areas from NJDCA, NJDOT 2004 Roads, Zoning from Monmouth County Planning Dept.

MONMOUTH COUNTY
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TABLE 3 – COMPOSITE ZONING BREAKDOWN

	TOTAL	Single-Family RESIDENTIAL		MULITFAMILY		MIXED-USE		COMMERCIAL		OFFICE/ BUSINESS		INDUSTRIAL		CONSV/REC	
	AC	AC	%	AC	%	AC	%	AC	%	AC	%	AC	%	AC	%
Aberdeen Township	303	229.23	75.6	15.79	5.20	1.71	0.56	22.12	7.29	0.00	0.00	34.53	11.38	0.00	0.00
Freehold Borough	969	665.74	68.7	77.31	7.98	8.52	0.88	92.28	9.52	40.84	4.21	59.62	6.15	24.77	2.56
Freehold Township	1,767	1,271.84	72.0	141.73	8.02	0.00	0.00	109.56	6.20	217.69	12.32	8.69	0.49	0.00	0.00
Marlboro Township	4,501	3,209.80	71.3	240.68	5.35	22.57	0.50	395.91	8.80	43.93	0.98	588.44	13.07	0.00	0.00
Matawan Borough	678	547.75	80.8	10.53	1.55	14.48	2.14	76.19	11.24	7.39	1.09	21.47	3.17	0.00	0.00
Corridor Total	8,219	5,924	72.1	486	5.91	47	0.58	696	8.47	310	3.77	713	8.67	25	0.30

TABLE 4 – COMPREHENSIVE ZONING CLASSIFICATIONS

District	Density
Residential (Minimum Lot Size)	
SF-0	<5,000 SF
SF-05	5,000-9,999 SF
SF-10	10,000 - 19,999 SF
SF-20	20,000-39,999 SF
SF-40	40,000-79,999 SF
SF-80	>80,000 SF
Multi-Family (Units per Gross Acre)	
MF-0	< 8 d.u./acre
MF-08	8-14 d.u./acre
MF-15	15-23 d.u./acre
MU-24	>24 d.u. acre
Mixed-Use (Units per Gross Acre)	
MU-0	< 8 d.u./acre
MU-08	8-14 d.u./acre
MU-15	15-23 d.u./acre
MU-24	>24 d.u. acre

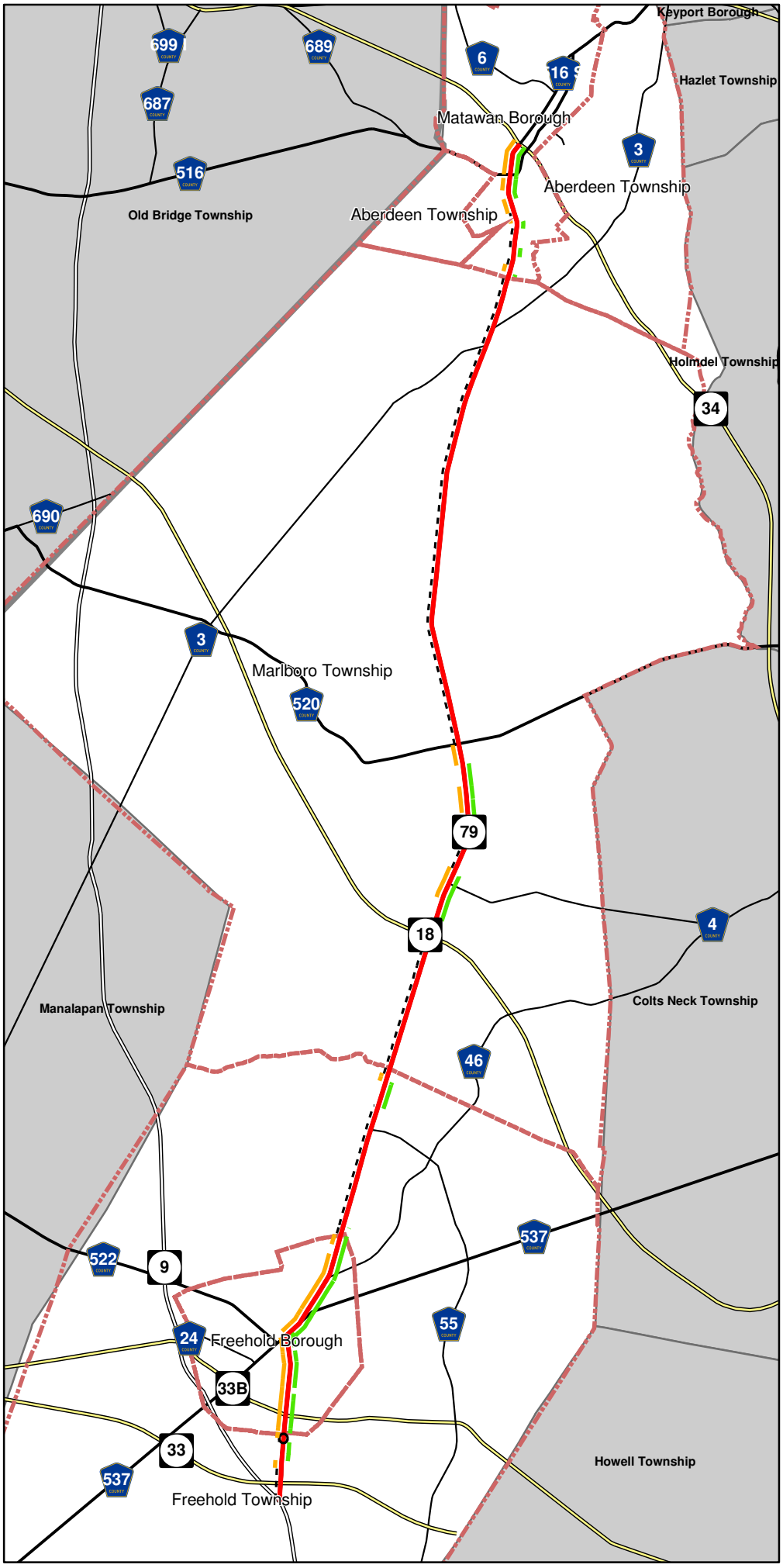
District	Density
Commercial (Min. Lot Area)	
C-0	<12,500 SF
C-12.5	12,500-49,999 SF
C-50	>50,000 SF
Office-Business (Min. Lot Area)	
OB-0	<1 acre
OB-01	1-9 acres
OB-10	>10 acres
Research Office Warehousing Laboratory	
ROWL-10	>10 acres
Industrial (Min. Lot Area)	
I-0	<1 acre
I-01	1-10 acres
I-10	>10 acres
Conservation/Recreation	
CR	N/A

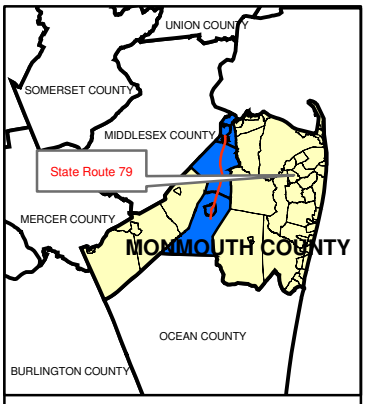
Existing Transportation Facilities

Pedestrian / Bicycle Facilities

Within the 12 miles of the study corridor sidewalks are provided along approximately 3.9 miles (33%) of NJ Route 79. Sidewalks are located on approximately 64% of the side street approaches to the highway within the corridor. The sidewalks are found mostly along the northern and southern portions of the corridor in Matawan Borough and Marlboro Township, between Newman Springs Road (CR 520) and NJ Route 18, and in Freehold Borough. The locations of existing sidewalks throughout the corridor are shown on **EXHIBIT 9**.

All of the signalized intersections were reviewed for compliance with the American Disabilities Act. Particular attention was given to the availability of pedestrian signal indications and ADA compliant ramps. **TABLE 5** below indicates a summary of this review.





Legend

Sidewalks

- None
- East Side
- West Side
- Both Sides
- Bike Facility

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 9

Existing Pedestrian & Bicycle Facilities

0 0.5 1 Miles

N

Source:
Road geometry and subtype from NJDOT 2004 Roads. Bicylce lanes from Monmouth Co. Sidewalks interpreted from aerial photography.

MONMOUTH COUNTY
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TABLE 5– SIGNALIZED INTERSECTION ADA COMPLIANCE SUMMARY

Intersection of NJ Route 79 &	Crosswalks	Pedestrian Signal Heads	ADA Compliant Ramps
Route 9	•	•	•
Willowbrook Road	•	•	•
Freehold Shopping Center Driveway	•	•	•
Euretta Way	•	•	•
Park Avenue	•	•	•
E Main Street / Court Street	•	•	•
E Main Street / Center Street / Spring Street	•	•	•
Dutch Lane	•	•	•
E Freehold Road			•
Ryan Road	•		•
School Road	•		•
Newman Springs Road (CR 520)	•		
Wyncrest Road			
Tennent Road			
Lloyd Road			
Mill Road / Wilson Avenue	•	•	
New Brunswick Avenue	•		•
Route 34	•	•	•

• - Indicates feature is present at the intersection.

Most signalized intersections along the corridor have crosswalks, pedestrian signal heads or ADA compliant ramps with the notable exceptions of Wyncrest Road, Tennent Road and Lloyd Road.

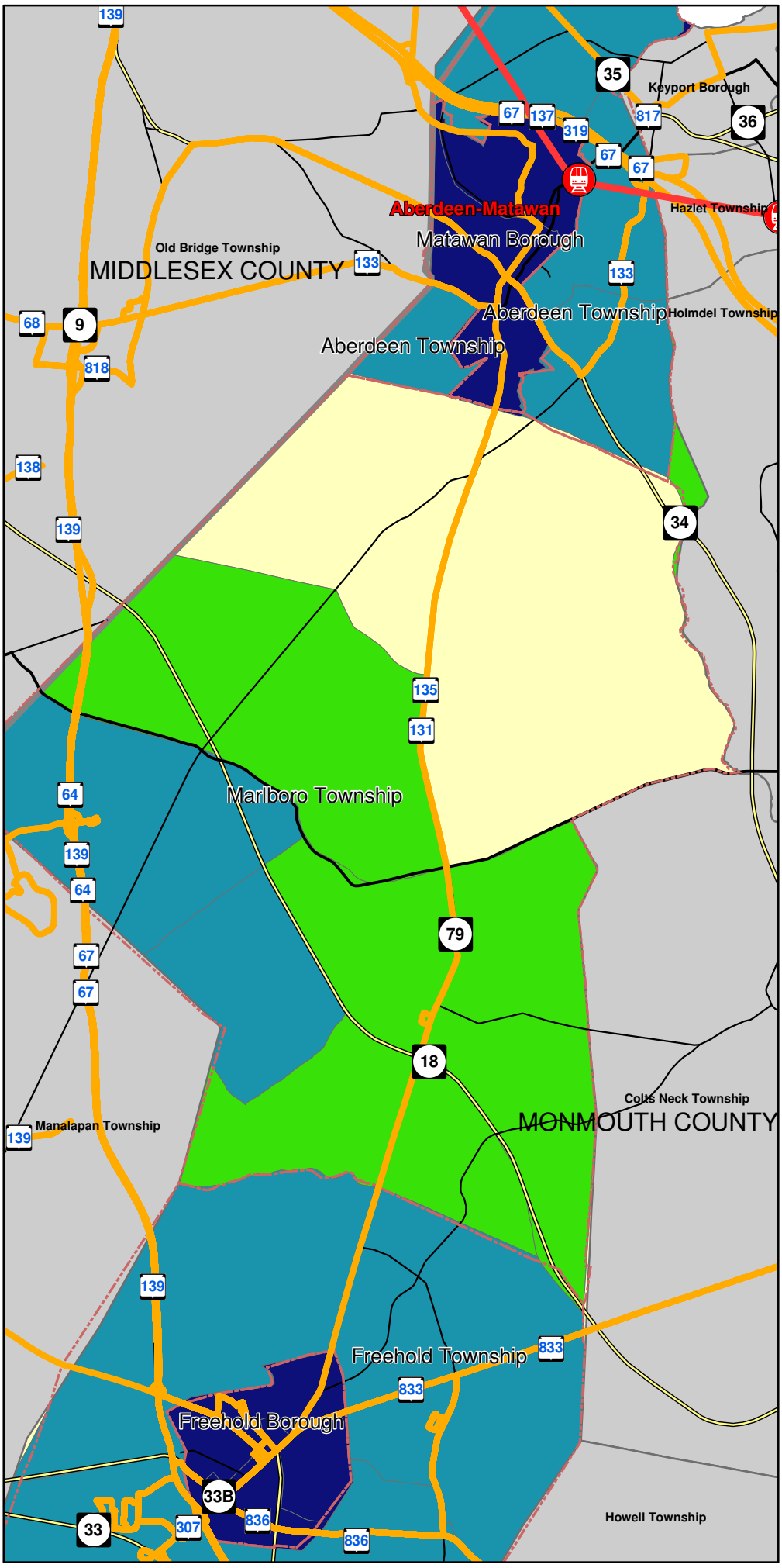
The 2003 Monmouth County Bicycling Map rates NJ Route 79 as 'Fair.' Although the roadway has shoulders in some sections, traffic congestion, high speed auto traffic, and cross streets make bicycle travel difficult and unsafe.

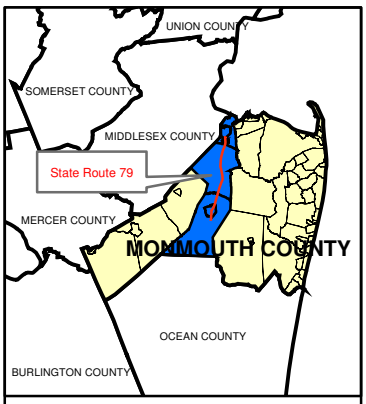
The Henry Hudson Trail Southerly Extension, when complete, may offer a safe, scenic alternative to bicycling in the vicinity of the NJ Route 79 Corridor. **EXHIBIT 9** also shows existing and proposed bicycling facilities. The Henry Hudson Historic Trail, a paved recreation trail run by Monmouth County Parks Department, now runs from Atlantic Highlands to Aberdeen, from Church Street in Matawan to Station Road in Marlboro Township, and from Stevenson Drive in Marlboro to Freehold Borough. There are plans to link these three sections to form a 21-mile long trail network.

Public Transportation Facilities

EXHIBIT 10 also illustrates public transportation facilities within the study area which consist primarily of NJ TRANSIT Bus Service (NJ TRANSIT Routes #64, #67, #133/135 and #139 buses serve portions of the corridor) and the Aberdeen-Matawan train station on the North Jersey Coast Rail Line of NJ TRANSIT. NJ TRANSIT buses stop at the School Road Park & Ride location, the Freehold Transportation Center, and the intersection of Route 34 and Route 79.

Also shown on **EXHIBIT 10** is the 'transit score' for the study area. 'Transit Score' is a concept created by NJ TRANSIT which rates various areas in New Jersey based on the projected demand for public transportation in the area. The Transit Score examines four different factors that influence the potential for transit ridership: household density, population density, employment density, number of zero and one-car households. The Transit Scores are based on year 2020 forecasts for each factor.





Legend

Municipal Boundary

NJ Transit Score

- Low
- Marginal
- Medium
- Medium High

North Jersey Coast Line

Rail Stops

NJ Transit Bus Lines

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)

EXHIBIT 10

Public Transportation Facilities/Transit Score

0 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads. Bus and rail line data provided by NJ Transit. The Transit Score examines four different factors that influence the potential for transit ridership. The Transit Scores are based on 2000 Census values for Household Density, Population Density, Employment Density, and Zero and One-Car Household Density.

MONMOUTH COUNTY
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The Transit Score is intended to be used as a planning tool to determine what changes in land use may be required in order to increase the anticipated demand and justify additional service. As the transit score values indicate, the northern and southern portions of the study area have a medium to medium-high transit score where the central part of the study area has a marginal to low transit score.

Roadway Facilities

Existing Lane Geometry

NJ Route 79 is predominately a two lane roadway with ancillary lanes at key intersections. Shoulders are provided sporadically along the corridor.

Desirable Typical Sections (DTS)

As part of the New Jersey State Highway Access Management Code, NJDOT lists a Desirable Typical Section (DTS) for each of the roadways under its jurisdiction, including NJ Route 79. The DTS is the preferred ultimate cross section of the roadway for a given segment, and represents the roadway width and features which should be considered when developing a property with frontage to a state roadway. It is important to note that the DTS represents a 'desirable' cross section, and does not infer that NJDOT has committed to any plans to widen a roadway. **EXHIBIT 11** indicates the DTS for NJ Route 79 throughout the study area.

The DTS varies from 1A (existing roadway) to 2A (2-lane roadway with shoulder or parking) and 4C (4-lane undivided with shoulders or parking) through the majority of the corridor. Four-lane classifications vary significantly from the existing 2-lane roadway and widening of this scale would change the character of the corridor.

NJDOT Access Level

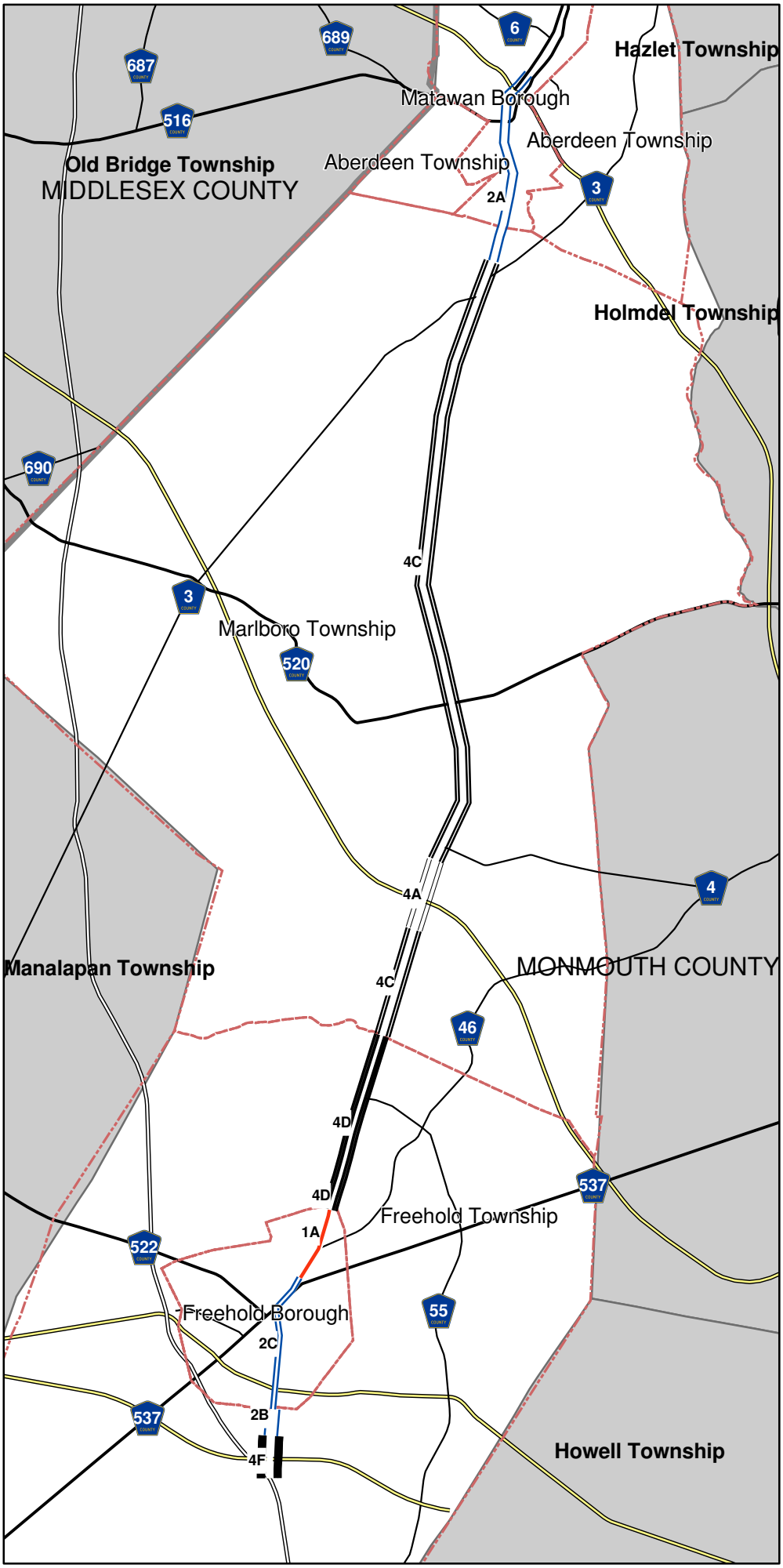
Similar to the DTS, under the State Access Management Code, NJDOT has defined a concept known as Access Level to identify the preferred type of access point and left turn treatments for each state roadway. Access Levels range from 1 to 6, with 1 referring to no access except at grade separated interchanges, and 6 referring to properties without any restrictions other than to provide a safe access. NJ Route 79 is classified as Access Level 4 or 5 depending on the segment, as illustrated in **EXHIBIT 12**. Access Level 4 permits full movement driveways with the provision for left turns off the main roadway via left turn lanes. Access Level 5 permits full movement driveways with provisions for left turns off the main highway without the need for left turn lanes provided adequate spacing and a safe condition is provided.

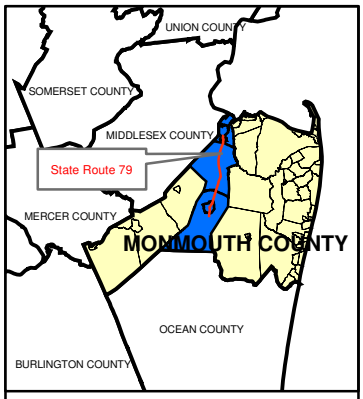
Posted Speed Limits

The posted speed limits for the NJ Route 79 Corridor are illustrated on **EXHIBIT 13** and range from 30 to 50 miles per hour along the corridor.

Intersection Locations

As previously mentioned, there are 18 signalized intersections, the Route 18 interchange and approximately 75 unsignalized intersections along the NJ Route 79 Corridor. These locations are shown graphically on **EXHIBIT 14**.





Legend

Municipal Boundary

DTS

1A - Existing ROW
2A - 78' ROW
2B - 92' ROW
2C - 68' ROW
4A - 114' ROW
4C - 102' ROW
4D - 78' ROW
4F - 116' ROW

Roadways

State Highway
Highway
County Roads (500)
County Roads (600)

1A Existing
2A – 2 LANES, WITH SHOULDERS OR PARKING
2B – 2 LANES, WITH SHOULDERS OR PARKING, WITH 14' TWOWAY LEFT-TURN LANE
2C – 2 LANES, WITHOUT SHOULDERS, WITH 14' TWO-WAY LEFTTURN LANE
4A – 4 LANES, DIVIDED, WITH SHOULDERS OR PARKING
4C – 4 LANES, UNDIVIDED, WITH SHOULDERS OR PARKING
4D – 4 LANES, UNDIVIDED, WITHOUT SHOULDERS
4F – 4 LANES, UNDIVIDED, WITH SHOULDERS OR PARKING , WITH 14' TWO-WAY LEFT-TURN LANE

EXHIBIT 11

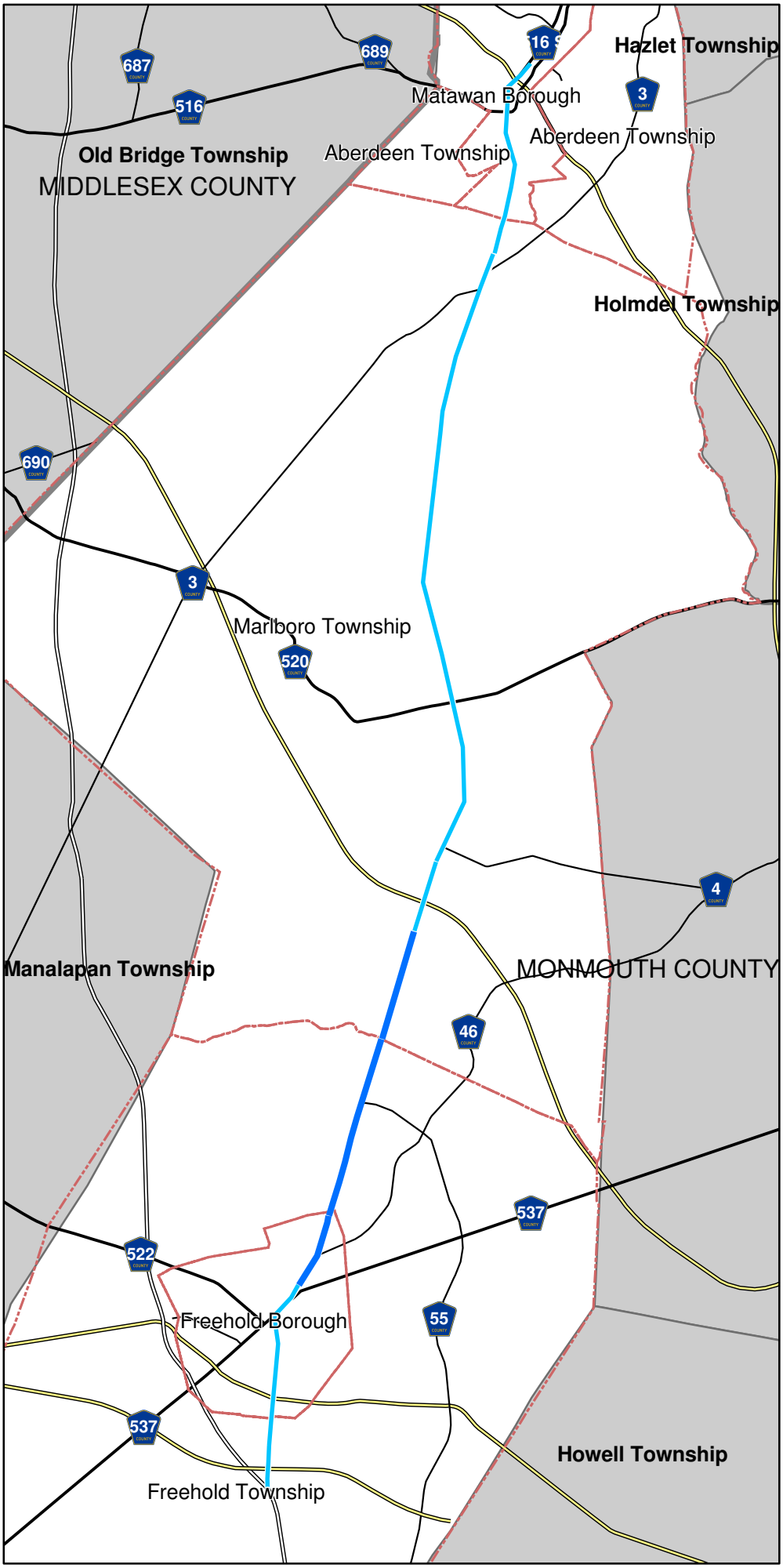
Desirable Typical Sections

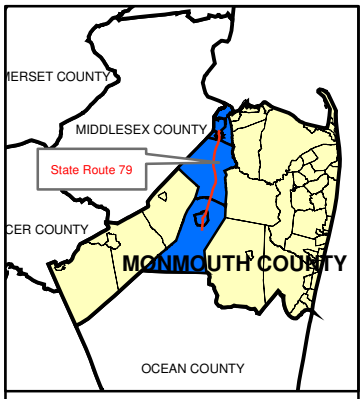
0 0.5 1 Miles

N

Source: DTS from NJDOT State Highway Access Levels by Route and Milepost

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Access Level

4

5

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

EXHIBIT 12

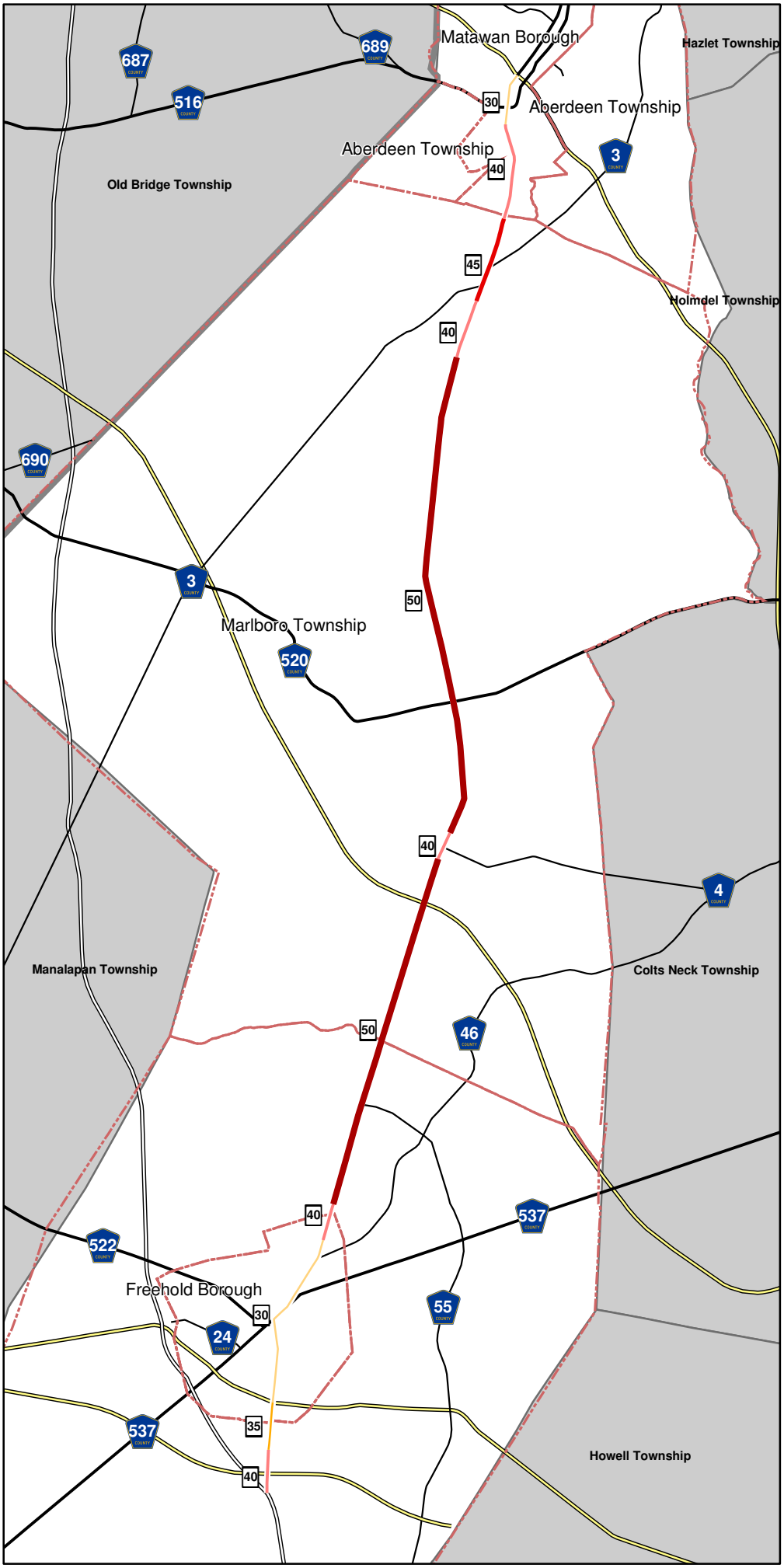
NJDOT Access Level

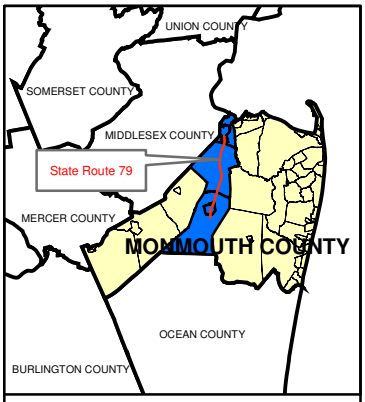
0 0.5 1 Miles

N

Source: NJDOT State Highway Access Levels by Route and Milepost

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

SpeedLimit

- 30 MPH
- 35 MPH
- 40 MPH
- 45 MPH
- 50 MPH

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)

EXHIBIT 13

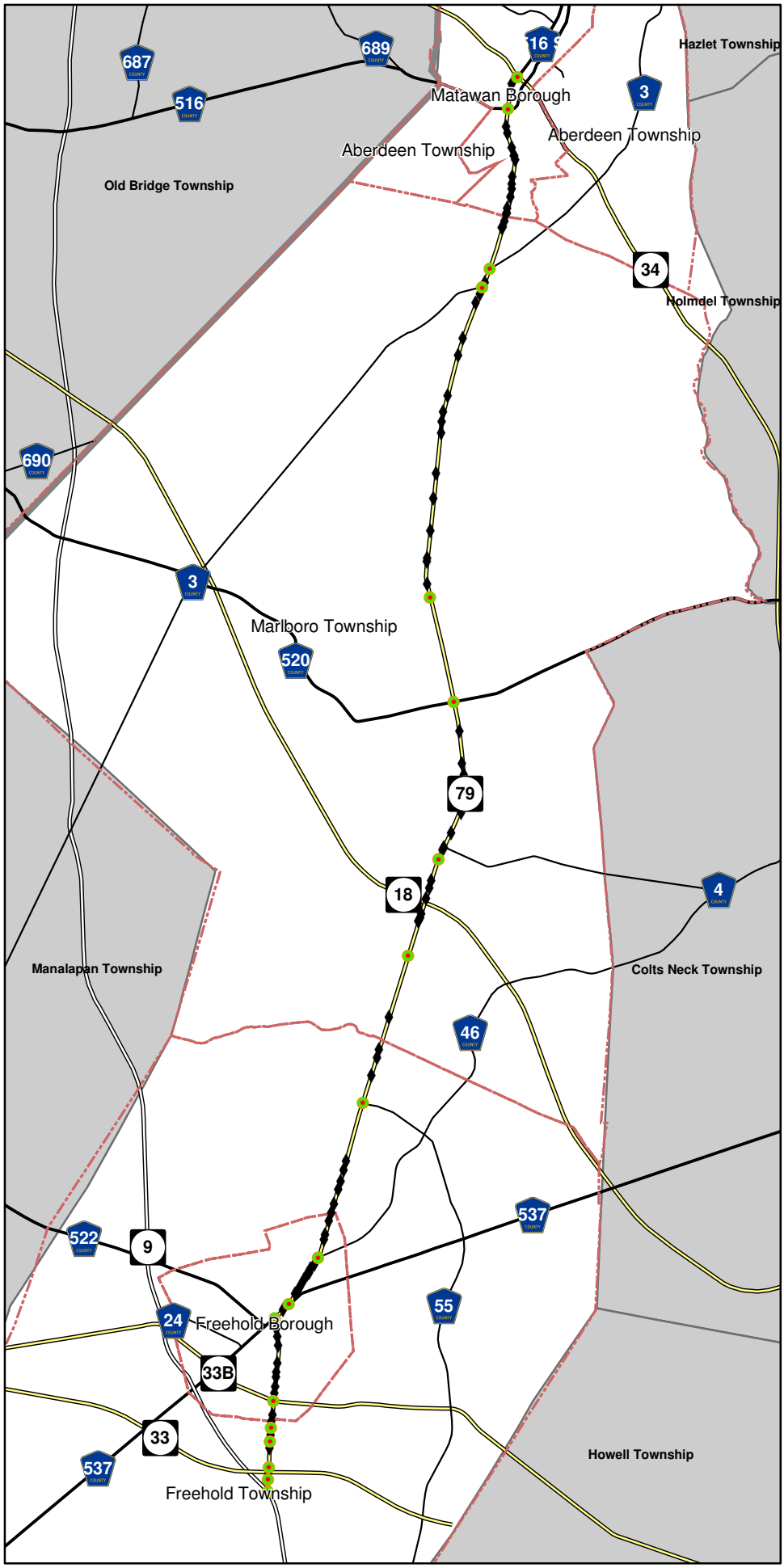
Posted Speed Limits

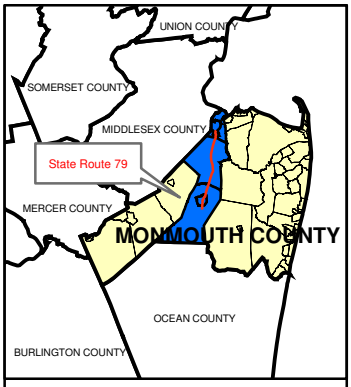
0 0.5 1 Miles

N

Source: Intersection locations from NJDOT SR 79 Straight Line Diagram

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Traffic Signals

Intersections

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

EXHIBIT 14

Intersection Locations

0 0.5 1 Miles

N

Source: Intersection locations from NJDOT SR 79 Straight Line Diagram

MONMOUTH COUNTY
State Route 79 Corridor Study

2006 Existing Traffic / Pedestrian Crossing Volumes

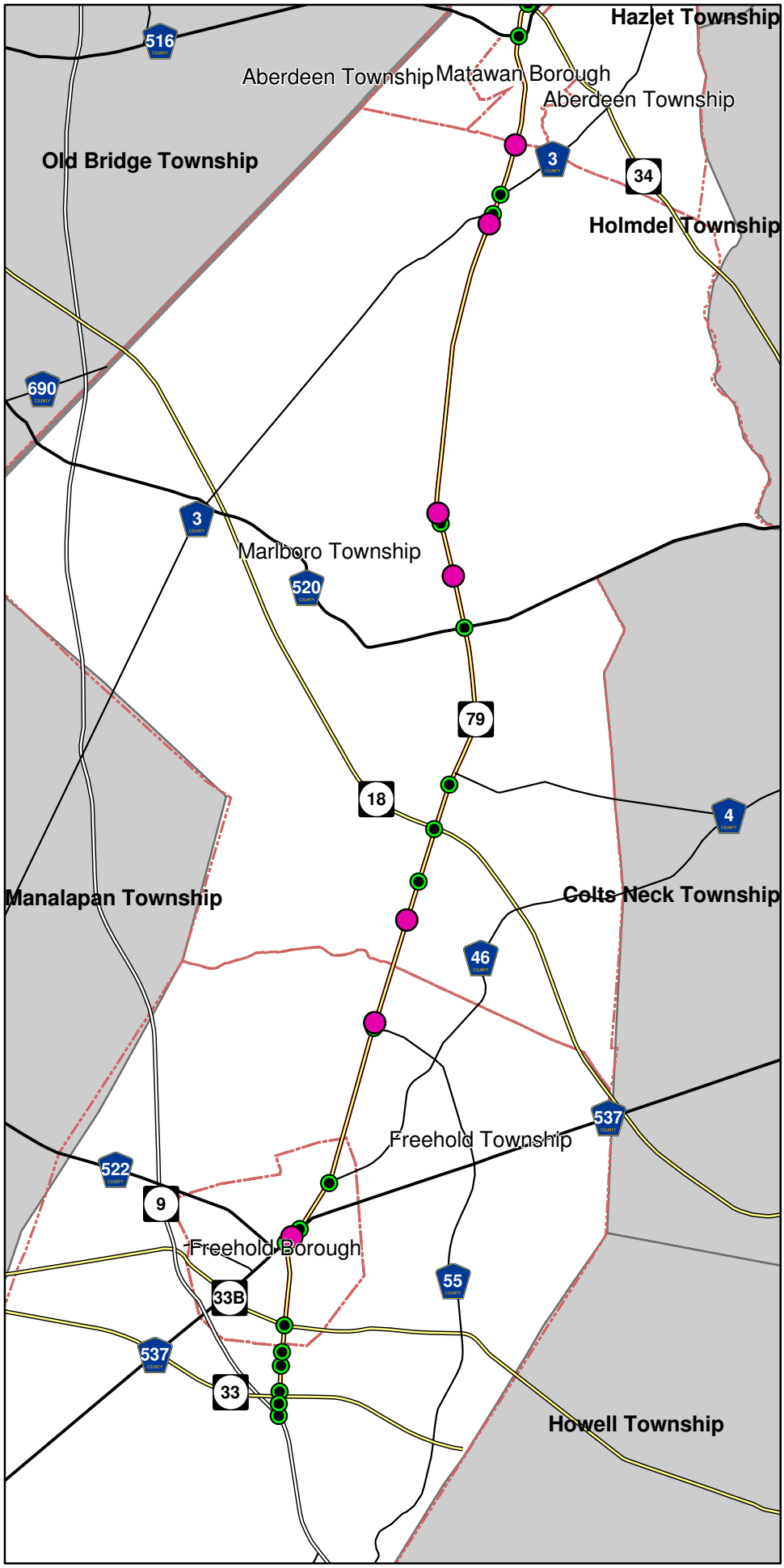
As part of the data collection process, intersection turning movement counts including pedestrians by crossing were conducted at each of the 18 signalized intersections along the NJ Route 79 Corridor as well as at the ramps of the NJ Route 18 / NJ Route 79 interchange (SEE **APPENDIX C**). Automatic Traffic Recorders (ATRs) were also placed at key locations throughout the corridor to determine daily variations in traffic volumes and to determine the weekday morning, weekday evening, and Saturday mid-day peak hours for the corridor (SEE **APPENDIX D**). Specifically, bidirectional ATRs were located at the following locations along NJ Route 79:

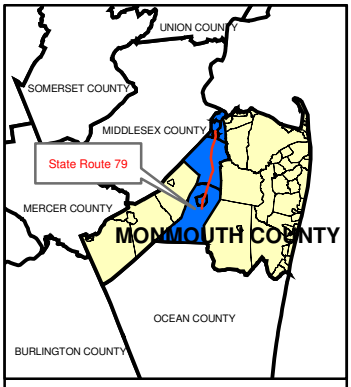
1. Between Park Avenue (NJ Route 33B) and Main Street (CR 537)
2. Between Dutch Lane and E. Freehold Road / Kozloski Road
3. Between E. Freehold Road / Kozloski Road and Ryan Road / Inverness Drive
4. Between School Road and Newman Springs Road (CR 520)
5. Between Newman Springs Road (CR 520) and Wyncrest Road
6. Between Wyncrest Road and Tennent Road (CR 3), near Wyncrest Road
7. Between Wyncrest Road and Tennent Road (CR 3), near Tennent Road
8. Between Lloyd Road and Wilson Avenue/Mill Road

Based on the results of the ATRs, the peak hours for the corridor were determined to be from 8:15 AM to 9:15 AM and 4:45 PM to 5:45 PM on weekdays and from 12:00 PM to 1:00 PM on Saturday. Based on this information, intersection counts were conducted at each of the following intersections / interchanges:

1. NJ Route 79 / Schanck Road & US Route 9
2. NJ Route 79 & Willowbrook Road
3. NJ Route 79 & Freehold Mall Driveway
4. NJ Route 79 & Euretta Avenue / Daniels Way
5. NJ Route 79 & Park Avenue (Business NJ Route 33)
6. NJ Route 79 & Main Street (CR 537) / Court Street
7. NJ Route 79 & East Main Street (CR 537) / Spring Street / Center Street
8. NJ Route 79 & Dutch Lane (CR 46)
9. NJ Route 79 & East Freehold Road / Kozloski Road
10. NJ Route 79 & Ryan Road / Inverness Drive
11. NJ Route 79 & NJ Route 18 Interchange
12. NJ Route 79 & School Road
13. NJ Route 79 & Newman Springs Road (CR 520)
14. NJ Route 79 & Wyncrest Road
15. NJ Route 79 & Tennent Road (CR 3)
16. NJ Route 79 & Lloyd Road (CR 3)
17. NJ Route 79 & Mill Road / Wilson Avenue
18. NJ Route 79 & New Brunswick Avenue / Broad Street (CR 516)
19. NJ Route 79/Main Street & Middlesex Street (NJ Route 34)

The locations of the manual counts and Automatic Traffic Recorders are shown in **EXHIBIT 15**. A summary of the resulting volumes for each of the three (3) determined peak hours are shown on **EXHIBIT 16.** Detailed turning movement counts can be found in **EXHIBITS 17, 18 and 19**. It should be noted that based on discussions with the Township of Aberdeen and the Borough of Matawan, information was provided that demonstrated that the intersection of NJ Route 79/Main to





Legend

Turning Count Locations

ATR Locations

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 15

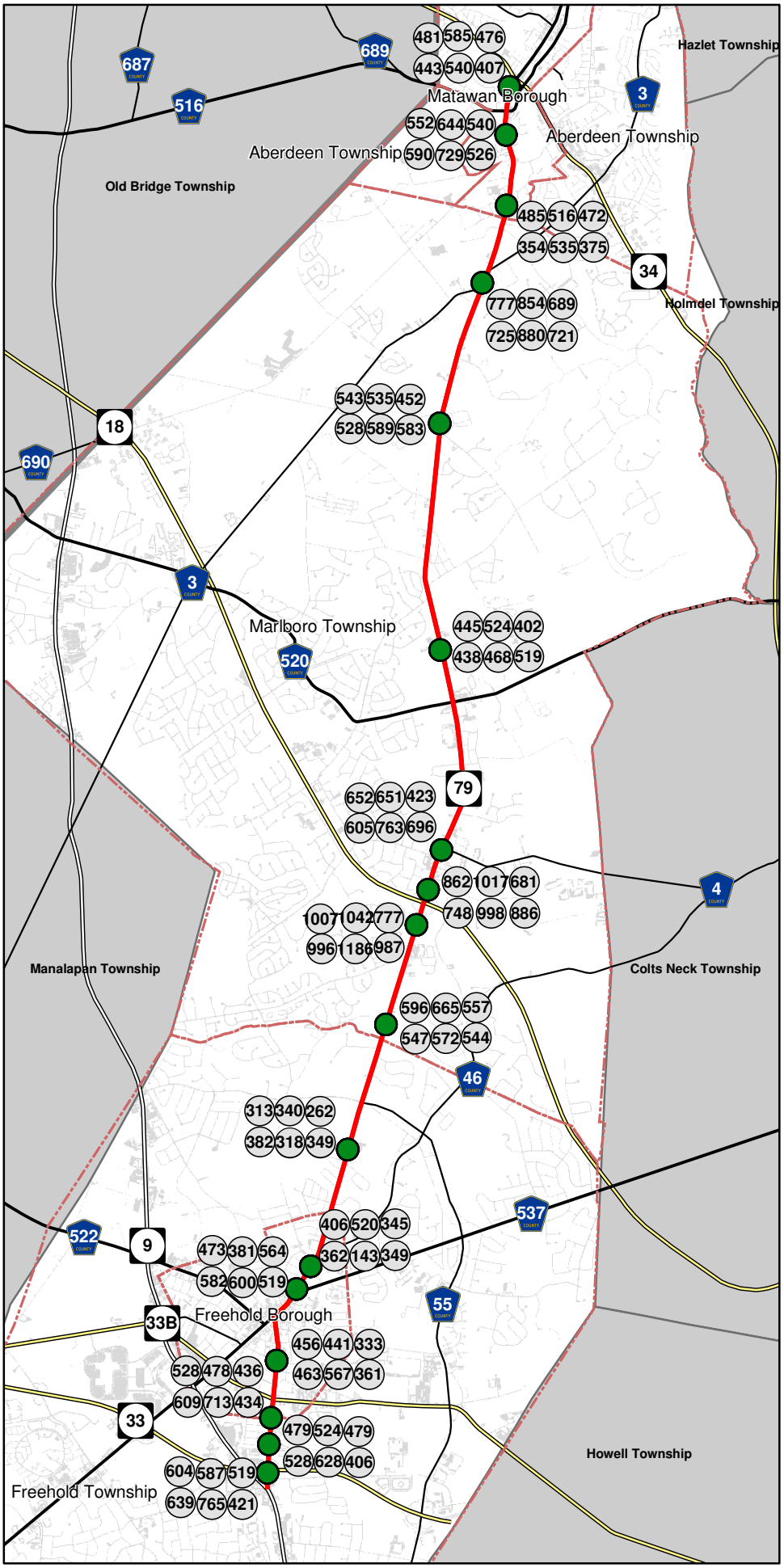
Count Locations

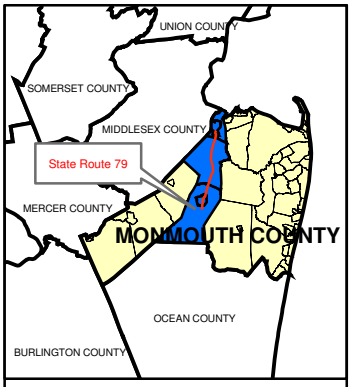
0 0.5 1 Miles

N

Source: Intersection locations from NJDOT SR 79 Straight Line Diagram

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Northbound

AM PM SAT

000 000 000

Southbound

AM PM SAT

000 000 000

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 16

2006 Existing ATR Peak Hour Volumes

0 0.5 1 Miles

N

Source: Traffic counts recorded 2006

MONMOUTH COUNTY
State Route 79 Corridor Study

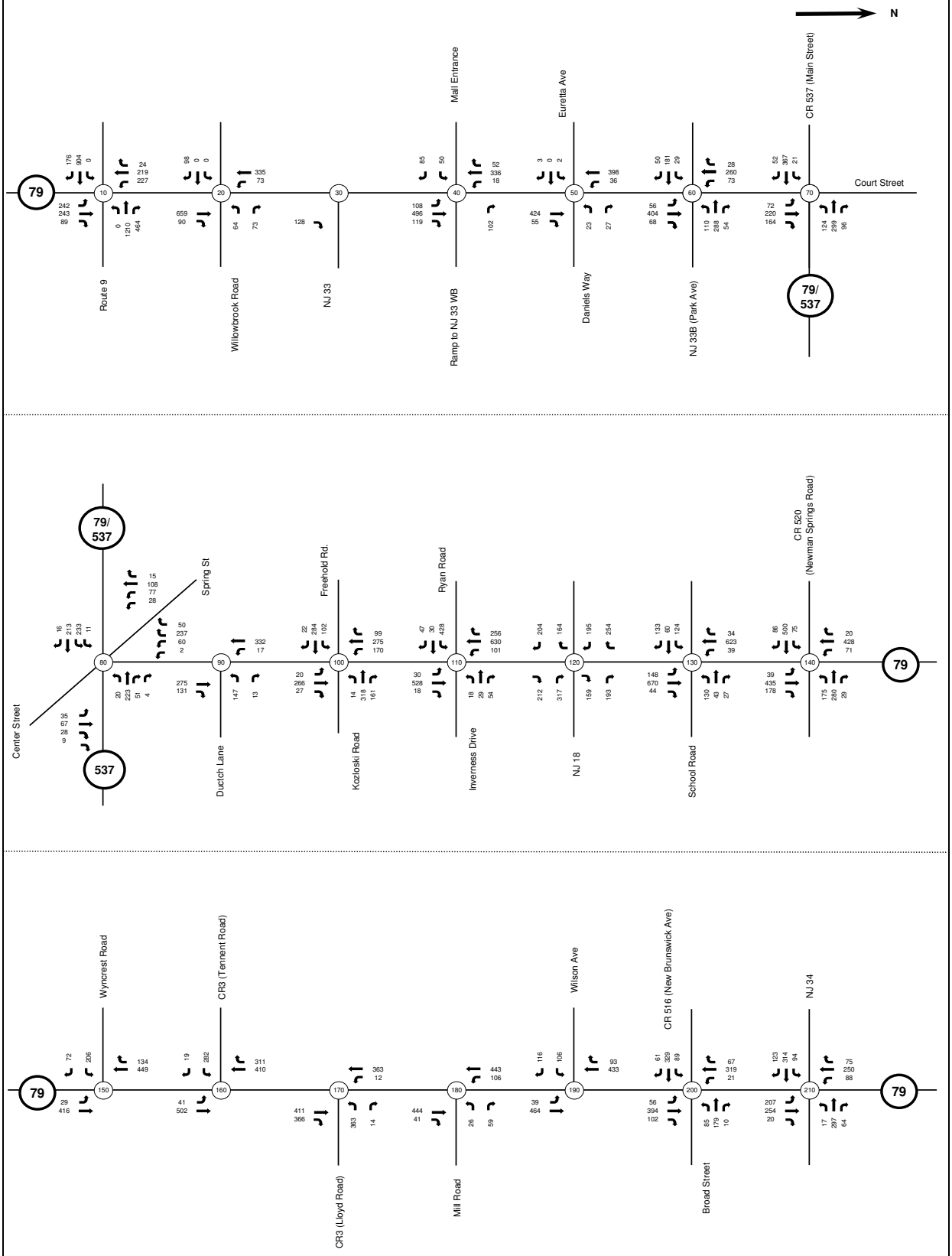


EXHIBIT 17
2006 Existing AM Traffic Volumes

Not to Scale

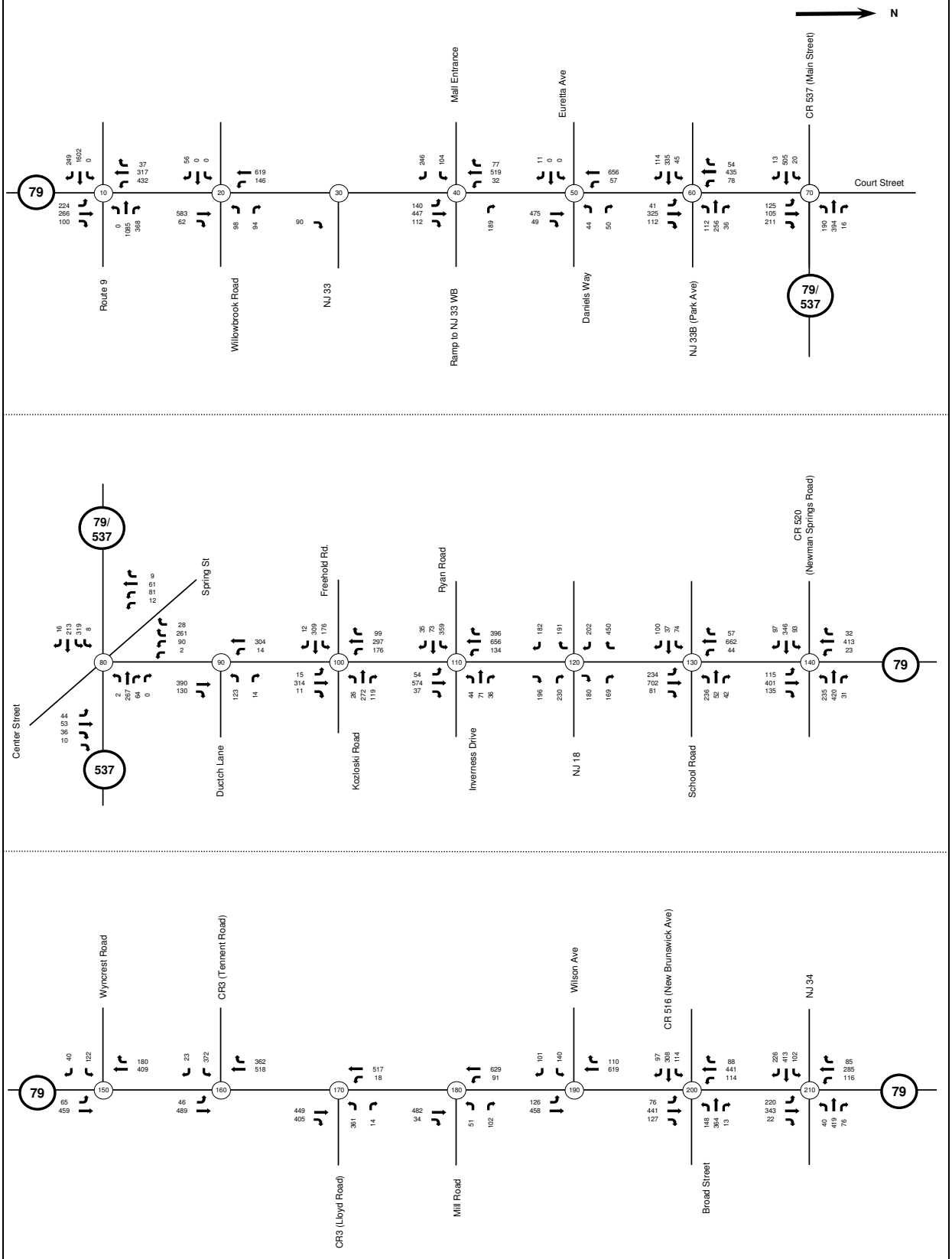


EXHIBIT 18
2006 Existing PM Traffic Volumes

Not to Scale

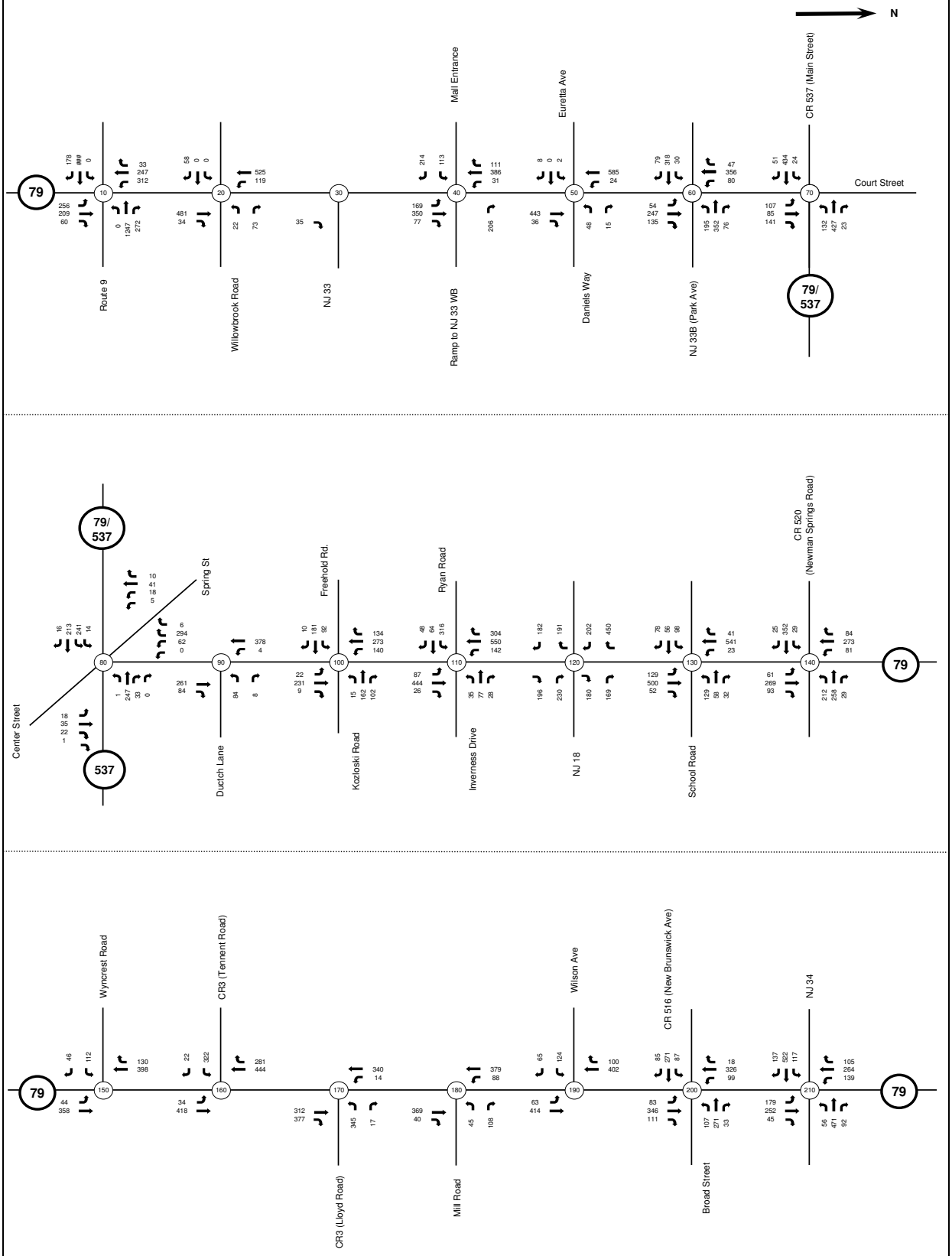


EXHIBIT 19
2006 Existing Saturday Traffic Volumes

Not to Scale

Street and NJ Route 34 (Middlesex Street) has a different peaking characteristic than the remainder of the corridor. Data from the March 2003 report, "Conceptual Study for Access Improvements the Aberdeen/Matawan Train Station Redevelopment Zones," prepared by CME Associates has been included in **APPENDIX C** to confirm this assertion.

2006 Existing Peak Hour Truck Percentages

Based on the traffic counts performed throughout the corridor, heavy vehicle percentages were determined for each movement throughout the study area. A summary of the truck percentages for each of the counted movements is illustrated in **APPENDIX E**.

2006 Existing Peak Hour Levels of Service

Capacity analysis is a procedure used to estimate the traffic-carrying ability of roadway facilities over a range of defined operating conditions. The concept of Level of Service, as presented in the 2000 Highway Capacity Manual, is a method of categorizing a capacity analysis based on assigning a letter 'grade' A through F for a given operation. At signalized intersections, operating conditions are determined by average control delay, which represents the average amount of delay a motorist can expect to experience due to the signalized intersection. An average delay of less than 10 seconds is considered Level of Service 'A,' and an average delay of over 80 seconds is considered Level of Service 'F.' **TABLE 6** below indicates the thresholds for each of the categories for signalized and unsignalized intersections.

TABLE 6– HCM INTERSECTION LEVEL OF SERVICE STANDARDS

Level of Service	Average Control Delay (seconds/vehicle)	
	Signalized	Unsignalized
A	Less than or equal to 10.0	Less than or equal to 10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	Greater than 80.0	Greater than 50.0
Source: *2000 Highway Capacity Manual*		

The traffic analysis package known as Synchro, Version 7, was utilized to determine the average delays and Levels of Service for each of the 18 signalized intersections identified previously considering the existing 2006 traffic data collected and the existing signal timings (SEE **APPENDIX F** and **APPENDIX G**). The resulting peak hour Levels of Service (LOS) are detailed in **Table 7** and **APPENDIX H** and are summarized in **EXHIBIT 20**.

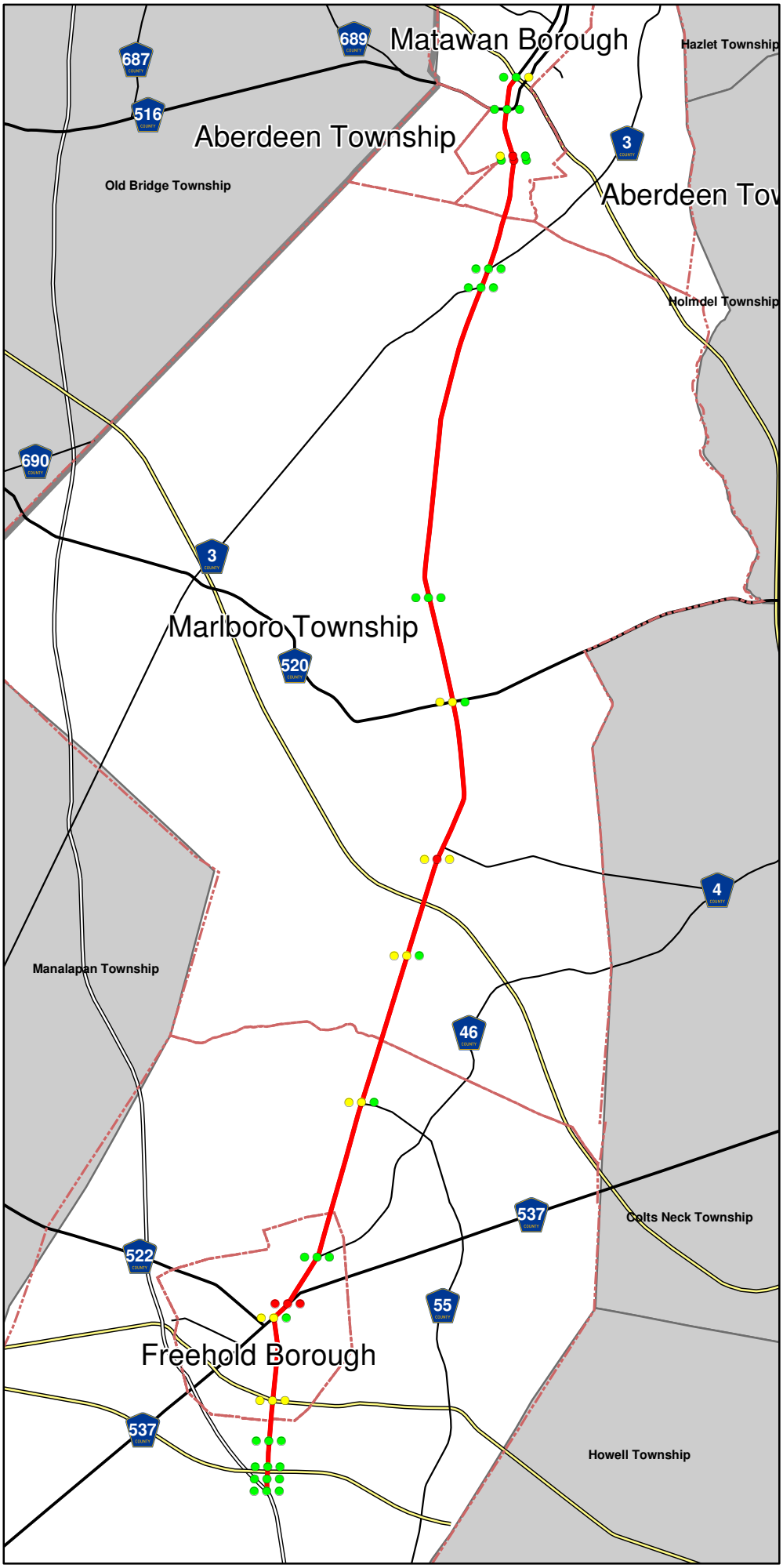
With the exception of NJ Route 79 & Euretta Way, all signalized intersections along the NJ Route 79 Corridor have movements on at least one approach that operate at a Level of Service 'E' or 'F' during one or more peak time periods. In particular, three intersections (NJ Route 79 & E. Main St./Center St./Spring St.; NJ Route 79 & School Rd.; and NJ Route 79 & Wilson Ave.) experience Level of Service F and significant queues during the AM and PM peaks. See **EXHIBITS 21, 21A and 21B** for intersection "hot spot" locations. These delays are typically caused by inefficient signal timings and significant left-turn movements. These intersections are discussed in more detail in the following section.

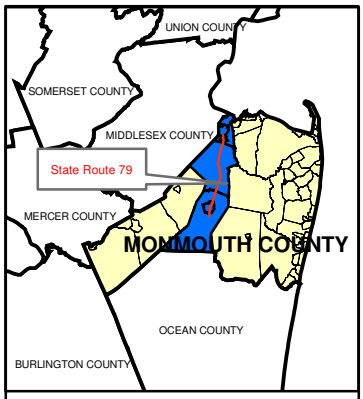
TABLE 7 – EXISTING CONDITIONS SIGNALIZED LEVEL OF SERVICE ANALYSIS

					2006 EXISTING PEAK HOUR					
			MODEL	ACTUAL	AM PEAK		PM PEAK		SAT PEAK	
Node #	MP	Intersection	MOVEMENT	MOVEMENT	Delay	LOS	Delay	LOS	Delay	LOS
201	0.00	ROUTE 79 & ROUTE 9	WBL	SBL	35.9	D	37.3	D	35.1	D
			WBT	SBT	53.4	D	59.9	E	51.6	D
			WBR	SBR	10.2	B	9.6	A	9.6	A
			EBL	NBL	33.5	C	36.8	D	35.9	D
			EBT	NBT	60.1	E	58.6	E	52.5	D
			EBR	NBR	7.6	A	24.8	C	8.3	A
			NBT	WBT	28.2	C	30.0	C	26.9	C
			NBR	WBR	4.7	A	4.6	A	4.0	A
			SBTR	EBTR	24.4	C	34.1	C	26.2	C
			OVERALL	OVERALL	28.4	C	34.2	C	28.9	C
73	0.1	ROUTE 79 & WILLOWBROOK ROAD	EBTR	NBTR	4.5	A	2.9	A	1.6	A
			WBLT	SBLT	4.1	A	4.0	A	2.1	A
			NBL	WBL	65.8	E	106.2	F	57.5	E
			NBR	WBR	10.1	B	5.2	A	15.7	B
			SBLTR	EBLTR	0.6	A	4.8	A	0.9	A
			OVERALL	OVERALL	8.0	A	12.5	B	4.1	A
253	0.2	ROUTE 79 & S FREEHOLD SHOPPING CENTER DRIVEWAY	EBL	NBL	2.0	A	3.9	A	4.1	A
			EBT	NBT	3.7	A	4.9	A	3.7	A
			WBT	SBT	5.1	A	8.5	A	8.2	A
			WBR	SBR	1.1	A	1.4	A	1.5	A
			SBL	EBL	56.3	E	60.3	E	61.2	E
			SBR	EBR	16.0	B	12.3	B	11.6	B
			OVERALL	OVERALL	7.2	A	11.2	B	12.1	B
211	0.41	ROUTE 79 & EURETTA WAY	EBT	NBT	5.2	A	6.0	A	5.4	A
			EBR	NBR	1.1	A	1.2	A	1.6	A
			WBL	SBL	2.1	A	2.4	A	2.8	A
			WBT	SBT	2.5	A	3.9	A	4.0	A
			NBL	WBL	51.0	D	51.2	D	53.3	D
			NBR	WBR	16.7	B	13.3	B	15.5	B
			SBL	EBL	40.0	D	0.0	A	38.5	D
			SBTR	EBTR	0.0	A	0.2	A	0.1	A
			OVERALL	OVERALL	6.2	A	6.6	A	7.8	A
224	0.74	ROUTE 79 & PARK AVENUE	EBLTR	NBLTR	55.4	E	39.7	D	36.2	D
			WBLTR	SBLTR	27.7	C	65.0	E	49.2	D
			NBL	WBL	26.9	C	51.8	D	85.3	F
			NBTR	WBTR	27.9	C	24.5	C	25.7	C
			SBL	EBL	30.6	C	29.2	C	28.8	C
			SBTR	EBTR	43.6	D	56.4	E	49.2	D
			OVERALL	OVERALL	39.7	D	48.9	D	45.2	D
180	1.43	ROUTE 79 & E MAIN STREET / COURT STREET	NBLT	WBLT	66.5	E	57.7	E	55.2	E
			NBR	WBR	9.1	A	8.7	A	9.0	A
			EBL	NBL	28.9	C	33.5	C	28.4	C
			EBTR	NBTR	57.1	E	85.8	F	53.7	D
			WBL	SBL	18.2	B	17.1	B	16.4	B
			WBTR	SBR	25.4	C	20.5	C	23.6	C
			OVERALL	OVERALL	40.5	D	44.5	D	35.0	C
165	1.59	ROUTE 79 & E MAIN STREET / CENTER ST / SPRING STREET	WBL	NBL	30.0	C	31.5	C	29.0	C
			WBR	NBR	44.3	D	23.7	C	43.3	D
			SEL	NEL	35.5	D	23.8	C	33.4	C
			SETR	NETR	25.6	C	27.4	C	25.7	C
			NWLT	SWLT	1147.0	F	853.2	F	286.6	F
			NWR	SWR	39.0	D	111.0	F	40.6	D
			NELTR	NWLTR	219.1	F	100.2	F	84.2	F
			SWLTR	SELTR	204.1	F	362.6	F	57.8	E
			OVERALL	OVERALL	253.0	F	267.3	F	80.3	F
142	2.05	ROUTE 79 & DUTCH LANE	EBTR	NBTR	6.6	A	4.2	A	2.7	A
			WBLT	SBLT	6.1	A	3.8	A	3.2	A
			NBLR	WBLR	48.7	D	36.0	D	26.4	C
			OVERALL	OVERALL	14.9	B	9.1	A	6.0	A

					2006 EXISTING PEAK HOUR					
			MODEL	ACTUAL	AM PEAK		PM PEAK		SAT PEAK	
Node #	MP	Intersection	MOVEMENT	MOVEMENT	Delay	LOS	Delay	LOS	Delay	LOS
126	3.39	ROUTE 79 & E FREEHOLD ROAD	EBL	NBL	7.4	A	7.7	A	6.8	A
			EBT	NBT	15.0	B	18.9	B	12.0	B
			EBR	NBR	3.5	A	8.1	A	5.6	A
			WBL	SBL	8.9	A	11.9	B	7.1	A
			WBT	SBT	11.8	B	10.8	B	10.6	B
			WBR	SBR	2.1	A	2.1	A	2.0	A
			NBL	WBL	30.1	C	35.7	D	28.7	C
			NBTR	WBTR	68.0	E	59.0	E	28.5	C
			SBL	EBL	62.5	E	134.8	F	41.9	D
			SBT	EBT	59.8	E	78.6	E	46.6	D
			SBR	EBR	12.7	B	14.8	B	14.9	B
			OVERALL	OVERALL	37.8	D	42.7	D	20.5	C
113	4.64	ROUTE 79 & RYAN ROAD	EBL	NBL	11.3	B	12.4	B	12.9	B
			EBTR	NBTR	24.2	C	26.7	C	21.2	C
			WBL	SBL	13.0	B	17.0	B	13.8	B
			WBT	SBT	26.2	C	26.1	C	22.5	C
			WBR	SBR	6.7	A	7.2	A	4.6	A
			NBL	WBL	37.5	D	38.3	D	37.5	D
			NBTR	WBTR	56.0	E	97.1	F	83.9	F
			SBL	EBL	193.8	F	92.3	F	67.9	E
			SBTR	EBTR	28.7	C	39.5	D	37.6	D
			OVERALL	OVERALL	58.6	E	37.3	D	29.4	C
9	5.47	ROUTE 79 & SCHOOL ROAD	EBL	NBL	12.1	B	14.2	B	8.5	A
			EBTR	NBTR	16.5	B	18.8	B	11.3	B
			WBL	SBL	6.6	A	7.1	A	5.6	A
			WBTR	SBTR	21.3	C	20.1	C	16.0	B
			NBLTR	WBLTR	173.7	F	669.9	F	118.1	F
			SBLTR	EBLTR	174.6	F	39.6	D	85.8	F
			OVERALL	OVERALL	59.4	E	141.4	F	37.2	D
21	6.82	ROUTE 79 & NEWMAN SPRINGS ROAD (CR 520)	EBL	NBL	24.5	C	26.9	C	20.6	C
			EBTR	NBTR	49.8	D	28.9	C	22.6	C
			WBL	SBL	152.5	F	21.5	C	23.0	C
			WBTR	SBTR	30.4	C	25.3	C	21.6	C
			NBL	WBL	59.3	E	160.0	F	41.6	D
			NBTR	WBTR	30.5	C	44.0	D	29.0	C
			SBL	EBL	17.9	B	27.8	C	17.4	B
			SBT	EBT	53.1	D	46.3	D	45.0	D
			SBR	EBR	10.7	B	8.4	A	9.8	A
			OVERALL	OVERALL	45.7	D	49.1	D	29.4	C
39	7.71	ROUTE 79 & WYNCREST ROAD	EBLT	NBLT	5.3	A	6.4	A	5.4	A
			WBTR	SBTR	6.5	A	5.7	A	5.4	A
			SBLR	EBLR	94.4	F	39.1	D	36.8	D
			OVERALL	OVERALL	25.8	C	10.6	B	10.1	B
86	10.32	ROUTE 79 & TENNENT ROAD	EBLT	NBLT	10.9	B	12.1	B	10.0	A
			WBT	SBT	8.5	A	10.6	B	8.8	A
			WBTR	SBTR	0.4	A	0.4	A	0.3	A
			SBLR	EBLR	50.4	D	74.8	E	53.1	D
			OVERALL	OVERALL	15.8	B	22.3	C	17.3	B
83	10.48	ROUTE 79 & LLOYD ROAD	EBT	NBT	8.4	A	8.2	A	7.7	A
			EBR	NBR	1.5	A	1.5	A	1.3	A
			WBLT	SBLT	8.8	A	10.0	A	7.9	A
			NBLR	WBLR	96.9	F	86.1	F	80.3	F
			OVERALL	OVERALL	26.8	C	23.2	C	24.0	C
65	11.41	ROUTE 79 & MILL ROAD	EBTR	NBTR	29.3	C	44.3	D	29.2	C
			WBL	SBL	2.2	A	2.7	A	1.5	A
			WBT	SBT	4.2	A	17.8	B	2.5	A
			NBLR	WBLR	21.7	C	715.2	F	30.5	C
			OVERALL	OVERALL	15.1	B	120.3	F	17.2	B
93	11.45	ROUTE 79 & WILSON AVENUE	EBL	NBL	21.4	C	794.5	F	23.6	C
			EBT	NBT	4.3	A	5.1	A	4.8	A
			WBTR	SBTR	43.7	D	93.9	F	35.9	D
			SBLR	EBLR	98.6	F	126.0	F	73.6	E
			OVERALL	OVERALL	41.5	D	141.2	F	29.3	C

					2006 EXISTING PEAK HOUR					
			MODEL	ACTUAL	AM PEAK		PM PEAK		SAT PEAK	
Node #	MP	Intersection	MOVEMENT	MOVEMENT	Delay	LOS	Delay	LOS	Delay	LOS
102	11.84	ROUTE 79 & NEW BRUNSWICK AVENUE (CR 516)	EBL	NBL	13.5	B	16.9	B	13.8	B
			EBTR	NBTR	16.7	B	24.3	C	16.6	B
			WBL	SBL	13.3	B	15.0	B	16.3	B
			WBTR	SBTR	14.6	B	19.9	B	14.4	B
			NBL	WBL	65.6	E	122.9	F	89.9	F
			NBTR	WBTR	19.5	B	22.6	C	26.4	C
			SBL	EBL	23.0	C	29.7	C	46.5	D
			SBTR	EBTR	30.5	C	23.5	C	27.3	C
			OVERALL	OVERALL	22.3	C	31.4	C	25.5	C
108	12.13	ROUTE 79 & ROUTE 34	EBL	NBL	50.9	D	70.7	E	81.1	F
			EBTR	NBTR	38.3	D	45.2	D	78.3	E
			WBL	SBL	24.9	C	29.3	C	59.1	E
			WBTR	SBTR	59.8	E	62.0	E	182.5	F
			NBL	WBL	23.5	C	26.0	C	14.7	B
			NBTR	WBTR	22.1	C	26.0	C	5.0	A
			SBL	EBL	16.5	B	18.7	B	8.7	A
			SBT	EBT	15.3	B	16.6	B	9.0	A
			SBR	EBR	3.0	A	2.7	A	1.5	A
			OVERALL	OVERALL	31.6	C	34.5	C	62.2	E





Legend

Level of Service

Green: Levels A to C

Yellow: Levels D, E

Red: Level F

AM PM SAT

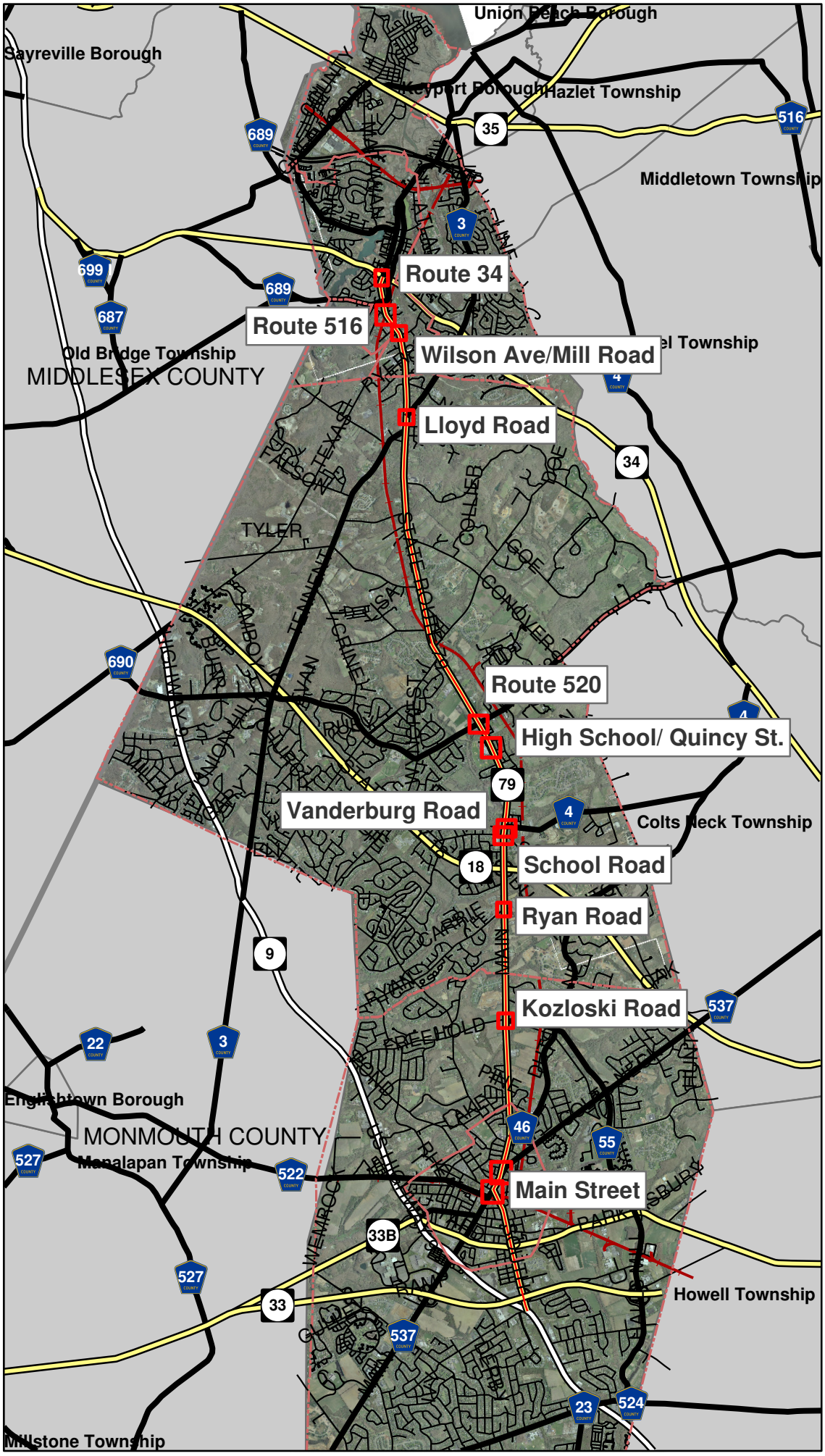
EXHIBIT 20

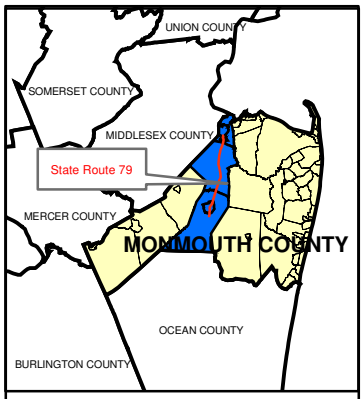
Overall Intersection Peak Hour Level of Service

0 0.5 1 Miles

Source: Traffic counts recorded 2006

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Route 79

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Municipalities

Railroad ROW

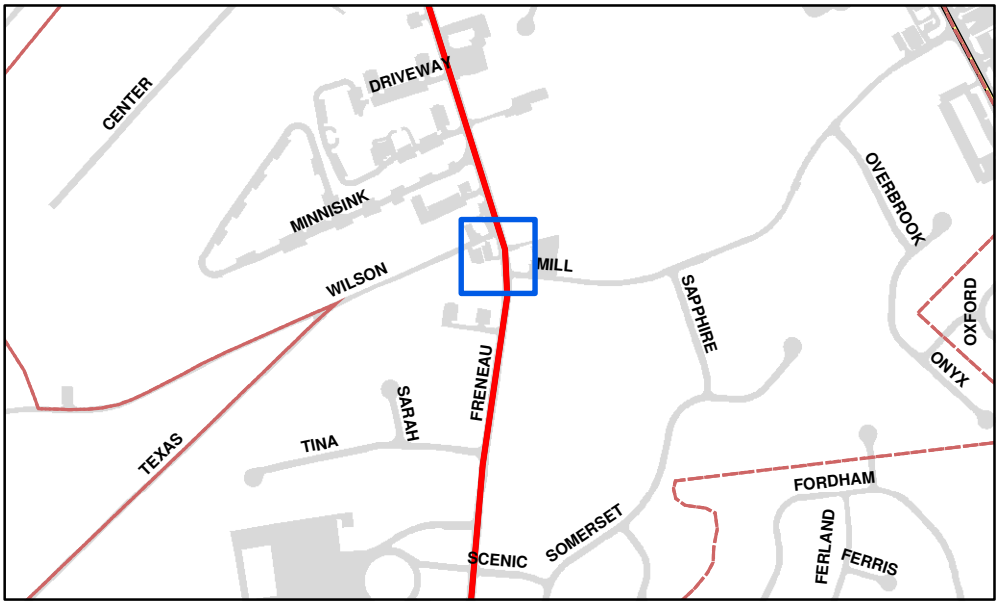
EXHIBIT 21

Congestion Hot Spot Locations

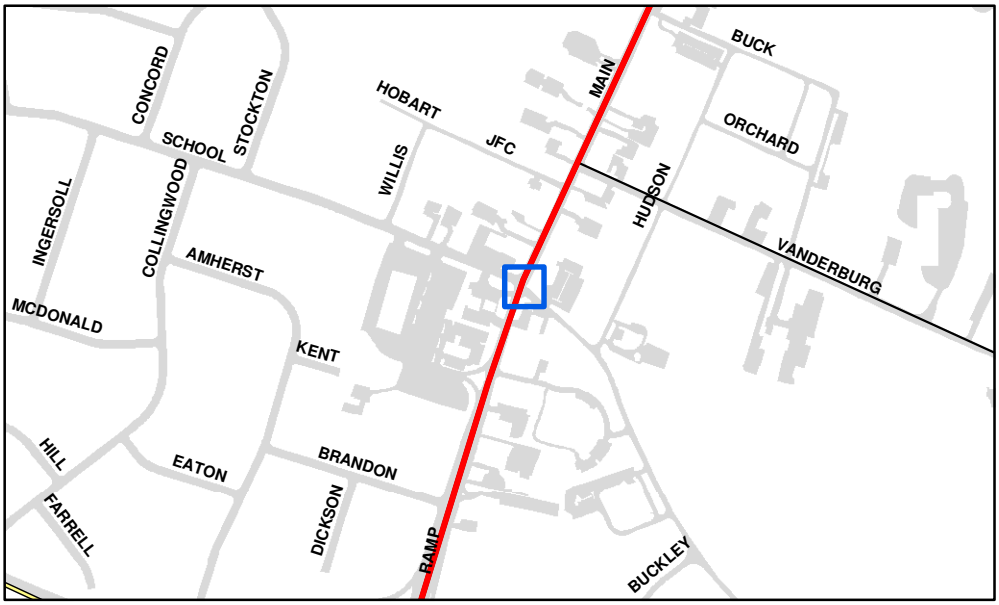
0 0.25 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

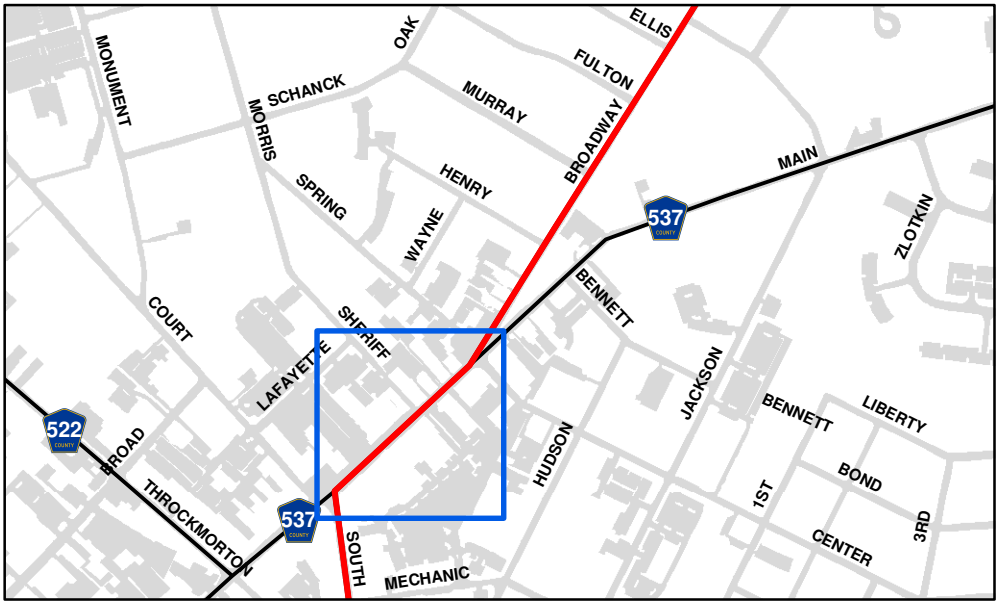
MONMOUTH COUNTY
State Route 79 Corridor Study



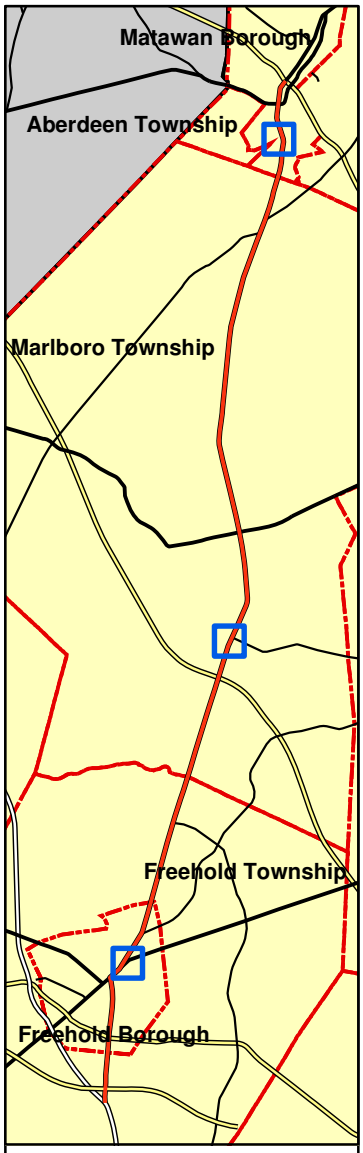
NJ Route 79 & Wilson Ave. and Mills Rd in Aberdeen Township



NJ Route 79 & School Rd. in Marlboro Township



NJ Route 79 & E. Main St./Center St./Spring St in Freehold Borough



Legend

Congestion Hot Spots

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 21A

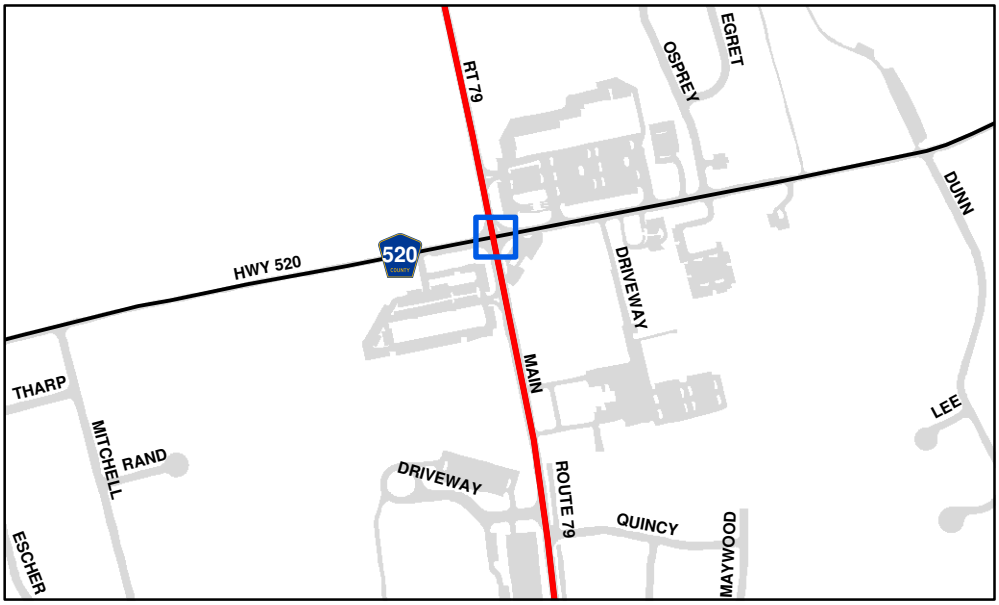
Congestion Hot Spots

0 0.05 0.1 Miles

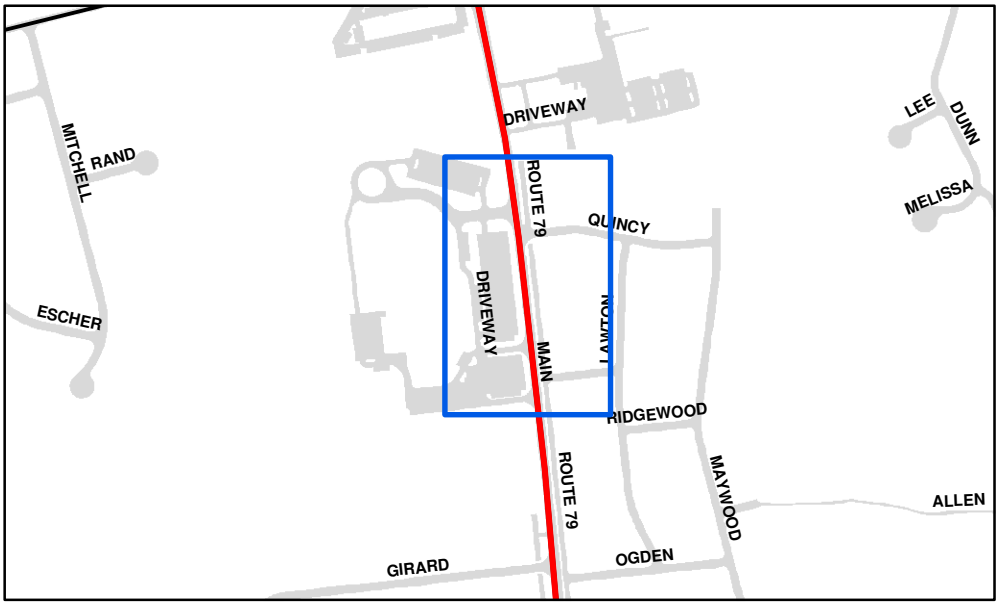
N

Source: Intersection locations from NJDOT SR 79 Straight Line Diagram

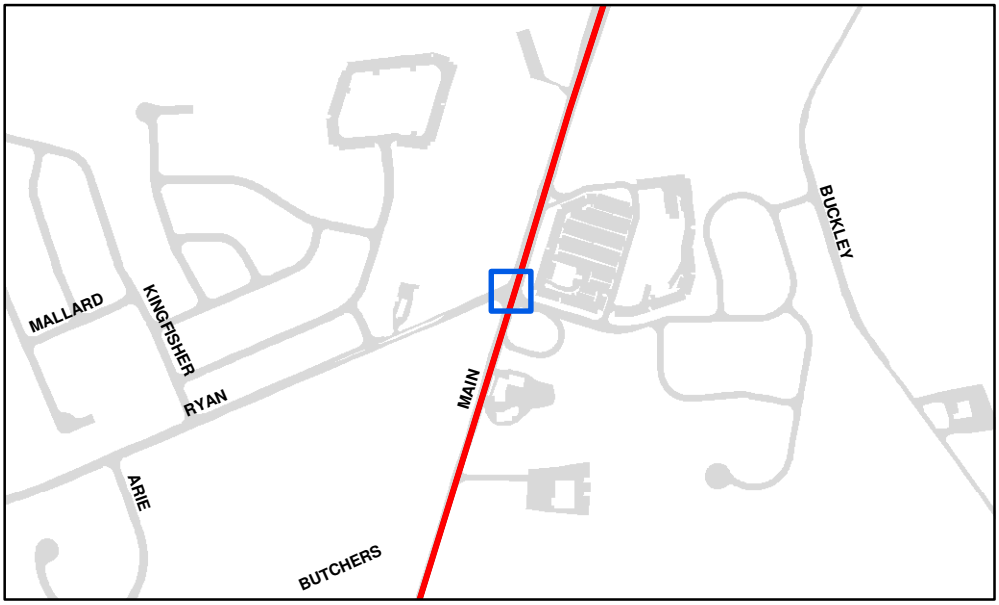
MONMOUTH COUNTY
State Route 79 Corridor Study



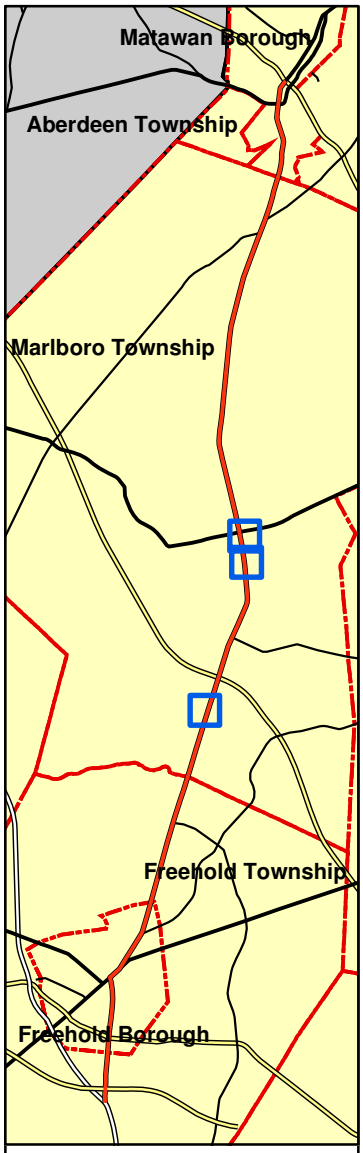
NJ Route 79 & County Route 520 in Marlboro Township



NJ Route 79 & Marlboro High School in Marlboro Township



NJ Route 79 & Ryan Rd in Marlboro Township



Legend

Congestion Hot Spots

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 21B

Congestion Hot Spots

0 0.05 0.1 Miles

N

Source: Intersection locations from NJDOT SR 79 Straight Line Diagram

MONMOUTH COUNTY
State Route 79 Corridor Study

Operational Concerns

An operational review of each of the intersections along the corridor was made to identify possible operational problems which may not be highlighted in the Level of Service (LOS) analysis. A summary of these concerns are indicated below.

Route 9 / Willowbrook Road / South Freehold Shipping Center Driveway

Although this area of NJ Route 79 was recently reconstructed, a "chokepoint" was identified southbound at the NJ Route 33 underpass, where the roadway narrows to a single travel lane in each direction. This reduces the flow of vehicles through this area, thereby limiting the ability of NJ Route 79 to feed the intersection with US Route 9. The traffic signals along this section are also timed to provide as much 'green time' as possible to NJ Route 79, increasing delays to the side street approaches.

Park Avenue (NJ Business Route 33)

This location is the intersection of two State highways and this signal operates independent of the signals along either NJ Route 79 or NJ Business Route 33. Traffic at this intersection is controlled by a fully-actuated traffic signal with vehicle detection on each approach. All approaches operate at or near capacity during the peak hours. The NJ Route 79 approaches to this intersection do not have dedicated left turn lanes, which at times limits the ability of a through vehicle to pass a vehicle waiting to turn left.

East Main Street / Court Street

This intersection is located in the heart of the downtown Central Business District (CBD) for Freehold Borough. The signal phasing at this intersection includes a dedicated pedestrian phase in which all traffic stops to allow pedestrians to cross. While this improves pedestrian safety at the intersection, this comes at the expense of vehicular flow through the intersection.

East Main Street / Center Street / Spring Street

Located in the north end of the Freehold CBD, the required dedicated signal phases for the five approach configuration of this intersection limit the traffic signal's ability to process vehicle movement in part due to long clearance times. Vehicle congestion in the area can be frequently attributed to this intersection.

Dutch Lane

This intersection lacks dedicated turning lanes limiting the ability of through vehicles to pass a vehicle waiting to turn.

East Freehold Road

Timing at the intersection considerably favors NJ Route 79, even though there are comparable volumes on the side street approaches.

Ryan Road

This intersection lacks dedicated turning lanes limiting the ability of through vehicles to pass a vehicle waiting to turn. In addition, the left turn storage capacity on the NJ Route 79 approaches is not sufficient to accommodate current demand.

School Road
This intersection lacks dedicated turning lanes limiting the ability of through vehicles to pass a vehicle waiting to turn. In addition, the left turn storage capacity on the NJ Route 79 approaches is not sufficient to accommodate current demand.

Newman Springs Road (CR 520)
Left turning vehicles on NJ Route 79 are hampered at this intersection by the absence of an advance left turn phase for the northbound and southbound approaches.

Wyncrest Road
This intersection lacks dedicated turning lanes limiting the ability of through vehicles to pass a vehicle waiting to turn.

Tennent Road and Lloyd Road
This intersection lacks dedicated turning lanes limiting the ability of through vehicles to pass a vehicle waiting to turn. A lack of coordination between these two signals increases congestion on NJ Route 79 between the intersections.

Mill Road and Wilson Avenue
This offset intersection was recently signalized due to increased traffic volumes from the side streets. Visibility issues for traffic signal heads, as well as less than optimal signal timings increase delay at this intersection. NJDOT is currently evaluating solutions to address these concerns. The offset intersection geometry increases the potential for conflicts.

New Brunswick Avenue / Broad Street
The lack of advanced left turn phases at the intersection reduces the capacity of left turning vehicles.

NJ Route 34
The current traffic signal timing at this intersection does not adequately serve traffic demands during the Saturday peak hour. It has been observed that short periods of high demand generated by the Matawan / Aberdeen train station during weekday peak periods also affect the ability of this intersection to operate effectively.

Crash History

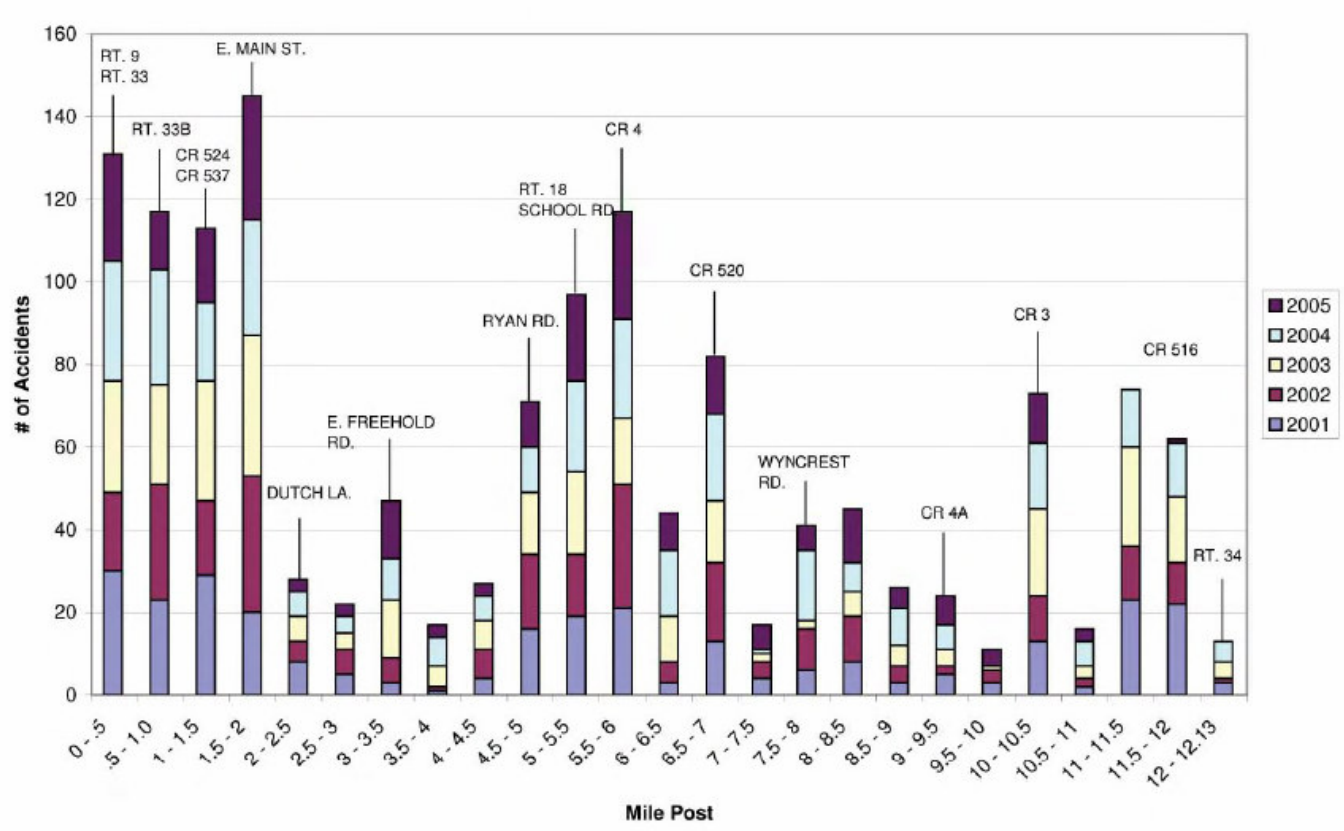
In addition to the volume of traffic and Level of Service operation on NJ Route 79, crash history is an important barometer of how a corridor functions. The number and severity of crashes can indicate design deficiencies such as sight distance restrictions and inadequate geometry. NJDOT maintains a database of reported crashes in the state of New Jersey. This database was consulted as a initial review of the crash history for the NJ Route 79 Corridor. **EXHIBIT 22** indicates the number of crashes identified between 2001 and 2005 sorted by milepost with locations of key intersections identified. This exhibit indicates that the majority of crashes along the corridor occur at key intersections. The crash rates for the corridor were also compared to the NJDOT statewide average crash rates for 2000 to 2004. The results of this comparison are indicated in **TABLE 8** below.

TABLE 8 – NJDOT STATEWIDE CRASH RATES

Average Crash Rate Summary (Crashes per year MVM)			
Year	Statewide Average Rate (2 Lanes w/ Shoulder)	Statewide Average Rate (2 Lanes w/o Shoulder)	NJ Route 79 Average Rate
2000	2.68	4.62	3.70
2001	2.71	4.08	4.45
2002	2.82	4.72	4.42
2003	3.03	4.65	4.70
2004	3.16	4.84	4.98
2005	2.96	4.27	3.85

NJ Route 79 is a two lane roadway with shoulders in some sections. The overall crash rate for NJ Route 79, including areas with and without shoulders, was greater than the statewide average without shoulders for three of the six years between 2000 and 2005.

EXHIBIT 22 – CRASH SUMMARY



Section 3: Current Land Use Goal Assessment

Land Use Concerns and Goals

To inventory transportation and planning goals for each municipality in the corridor, the consultant team interviewed representatives from each municipality. The consultant team and each municipality discussed planning and traffic issues as well as the treatment of Route 79 in each municipal master plan, zoning regulations, municipal growth goal statements, and traffic regulations. Other comments on land use and traffic issues in the study area were taken from each municipality's cross acceptance documents.

The municipalities in the corridor with large land areas, Marlboro and Freehold Townships, will likely have the most affect on land use and traffic generation in the study area. Traffic growth in these townships will most influence traffic on the entire corridor of Route 79. Therefore, the growth goals and discussion for the corridor will focus primarily on these municipalities.

Planning Goals by Municipality

Marlboro Township

The majority of Marlboro Township is residential. The Township is interested in decreasing new residential development and increasing commercial development. To that end, the township has down-zoned several residential zones. A major priority for Marlboro Township is attracting more property ratables in the form of non-polluting commercial and industrial development. Much of this growth is zoned for additional commercial development on Route 79.

Recent or pending rezoning proposals include two additional concentrations of commercial zoning between Route 18 and Route 520 and between Route 18 and the Freehold Township boundary. Growth in the township is planned in large concentrations of developable land on Route 79 that is zoned as C-1 (Village Commercial District) and C-5 (Community Commercial District #3). The Township also plans to expand the C-2 (Community Commercial District #2) Zone at Tennent Road and Route 79 to include the intersection of the two roadways.

The Circulation Plan Element of the Marlboro Township Master Plan addresses traffic congestion by making recommendations to improve efficiency and safety of movement of people through the Township. The plan does not detail specific traffic mitigation measures or mention improvement plans for Route 79.

Marlboro Township also encourages mixed-use communities within the Village Commercial District (C-1), which is located between Route 18 and Route 520 on Route 79, near Vandenberg Road. This location is also where the Marlboro Village is located, an existing but not designated center under the NJ State Plan.

Several developments are planned in the study area corridor, including new commercial uses at the intersection of Route 520 and Route 79, residential developments, and pending affordable housing communities.

Township representatives expressed a desire to maintain the existing character of Route 79 as a 2-lane semi-rural roadway.

Freehold Township

According to the interview with Freehold Township representatives, the Township has very little undeveloped residentially or commercially zoned land on or near Route 79. In the South of the Township, the Freehold Regional Center, a proposed NJ State Plan center, will be located at the intersection of NJ Routes 9, 33, and 79. The boundaries of the proposed center have yet to be confirmed.

Township priorities include providing additional pedestrian walkways along County and State roadways, establishing commuter parking lots, and working with NJ TRANSIT to locate transit friendly bus stops.

Freehold Township has participated in several area and regional traffic studies and as a result has amended zoning ordinances and regulations to minimize future traffic congestion and traffic conflicts.

Township representatives expressed a desire to increase bike and pedestrian facilities, including completing the Henry Hudson Trail and adding sidewalks to Route 79 north and south of the Freehold Borough.

Freehold Township representatives echoed Marlboro in the desire to maintain a 2-lane semi-rural character on Route 79.

Aberdeen Township

There is very little undeveloped land in Aberdeen Township. Representatives expressed interest in expanding the Route 79 study to include the Matawan-Aberdeen Train Station, which is the major traffic generator in the Corridor. Although, the study area boundaries were not expanded, the project team agreed to review the traffic mitigation techniques for train station-bound traffic.

Several developments are planned for the study corridor in Aberdeen Township, including a large active adult community.

Matawan Borough

There is very little available land in Matawan Borough. Route 79 is Main Street in Matawan. Representatives would like study recommendations to focus on mitigating commuter traffic to the train station and better enforcement of the speed limit.

Freehold Borough

Though several attempts were made by the consultant team to interview Freehold Borough, they were unsuccessful. According to State Plan documents, the Borough supports the extension of the Henry Hudson Trail into the downtown. The Borough is also considering building a parking deck downtown to supply needed parking. Freehold is the only designated center in the planning area.

Section 4: Projected Future Conditions Assessment

Data Methodology

Using the baseline traffic data and the North Jersey Regional Transportation Model (NJRTM), the background growth in through-traffic in the corridor was estimated for 2015 and 2030. Based on socio-economic and land development trends the County developed a zoning-based projection model to project 2015 and 2030 study area population and employment figures. The Monmouth County Planning Board projections were converted into location-specific household and employment growth areas. These values were then converted into trip generation values and loaded onto the NJRTM to establish the future travel demand. NJRTM network output values were then analyzed to identify location-specific congestion issues. This analysis revealed that projected growth would significantly overwhelm the capacity of the existing corridor.

Future Travel Patterns

Future travel patterns were obtained from the NJRTM 2006 and 2030 traffic assignment runs. Three traffic assignment runs can be combined to represent a typical weekday: AM peak period, PM peak period, and off-peak period. NJRTM 2006 and 2030 traffic volumes for each link of Route 79 as well as for NJ 79 cross-streets are summarized in the TABLES 10, 11, 12 and 13. Note that the NJRTM is typically limited to State and County Routes. Some minor streets are typically included in regional models only to provide connectivity for the traffic assignment process. Traffic forecasts for minor streets should not be taken from the regional model but should be developed based on the more detailed information regarding the location of future residential and commercial developments.

TABLE 9 - NJ 79 Northbound Traffic Volumes

Between	And	2006			2030			Percent Growth		
		AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak
South of US 9		6236	4534	18217	6772	5637	22987	9	24	26
US 9	NJ 33	2671	2316	8857	3095	2843	10069	16	23	14
NJ 33	Park Ave (NJ 33B)	2611	2351	9112	3121	2739	10298	20	17	13
Park Ave (NJ 33B)	West Main St	2437	2044	7931	2763	2326	9068	13	14	14
West Main St	East Main St (CR 537)	2727	3027	9908	2597	3498	11577	-5	16	17
East Main St (CR 537)	Local	1441	1501	5074	1230	1853	6062	-15	23	19
Local	East Freehold Rd / Kozloski Rd	1611	1777	5663	1390	2114	6656	-14	19	18
East Freehold Rd / Kozloski Rd	Ryan Rd	2401	3170	9668	2396	3491	11485	0	10	19
Ryan Rd	NJ 18	4389	3441	11603	4135	4279	14039	-6	24	21
NJ 18	Local	2193	2238	6417	2979	2557	7845	36	14	22
Local	Newman Springs Rd (CR 520)	2008	1551	5487	2760	1819	6815	37	17	24
Newman Springs Rd (CR 520)	Tennant Rd (CR 3)	1020	1134	3030	1088	1638	3674	7	44	21
Tennant Rd (CR 3)	Lloyd Rd (CR 3)	3789	2628	8329	4462	4125	10965	18	57	32
Lloyd Rd (CR 3)	Wilson Ave	1221	1334	4350	1241	1567	4825	2	17	11
Wilson Ave	New Brunswick Rd (CR 516)	1195	1256	4126	1349	1436	4568	13	14	11
New Brunswick Rd (CR 516)	NJ 34	2364	2256	7482	2534	2693	8723	7	19	17
North of NJ 34		1424	1629	6037	1479	1647	5942	4	1	-2

Source: 2006, 2030 North Jersey Travel Demand Forecasting Model (NJTPA)

TABLE 10 - NJ 79 Southbound Traffic Volumes

Between	And	2006			2030			Percent Growth		
		AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak
North of NJ 34		1346	1666	5971	1398	1797	6037	19	9	11
NJ 34	New Brunswick Rd (CR 516)	1844	2022	7546	2199	2204	8404	20	13	-5
New Brunswick Rd (CR 516)	Wilson Ave	984	732	4053	1183	827	3862	25	-15	-3
Wilson Ave	Lloyd Rd (CR 3)	1077	782	4252	1348	665	4112	66	25	34
Lloyd Rd (CR 3)	Tennant Rd (CR 3)	1903	3856	8584	3151	4826	11515	52	16	24
Tennant Rd (CR 3)	Newman Springs Rd (CR 520)	1033	1192	2931	1573	1378	3635	11	29	26
Newman Springs Rd (CR 520)	Local	1134	2239	5527	1264	2880	6962	6	32	24
Local	NJ 18	1895	2460	6169	2003	3235	7676	26	10	27
NJ 18	Ryan Rd	2671	4325	10721	3358	4736	13635	6	23	30
Ryan Rd	East Freehold Rd / Kozloski Rd	2734	2698	8205	2890	3315	10663	14	15	38
East Freehold Rd / Kozloski Rd	Local	1490	1600	4702	1694	1837	6479	18	17	43
Local	East Main St (CR 537)	1238	1393	4157	1456	1632	5935	13	10	28
East Main St (CR 537)	West Main St	2564	2916	8888	2894	3206	11357	16	12	21
West Main St	Park Ave (NJ 33B)	1507	2742	7414	1746	3079	8947	16	14	21
Park Ave (NJ 33B)	NJ 33	1814	2940	8631	2100	3345	10424	31	14	25
NJ 33	US 9	1674	2991	8428	2186	3408	10552	40	13	27
South of US 9		3022	6732	17851	4236	7638	22641	4	8	1

Source: 2006, 2030 North Jersey Travel Demand Forecasting Model (NJTPA)

TABLE 11 - NJ 79 Cross Street Approach Traffic Volumes

Street	2006			2030			Percent Growth		
	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak
US Route 9 and South	6236	4534	18217	6772	5637	22987	9	24	26
US Route 9 and North	3277	6038	16071	4339	6506	19459	32	8	21
NJ 33 and East	1134	872	2024	2370	1806	3589	109	107	77
NJ 33 and West	812	1019	2031	1469	2103	3475	81	106	71
Park Ave (NJ 33B) and East	1103	358	1449	1272	561	2421	15	57	67
Park Ave (NJ 33B) and West	83	289	378	170	499	1015	105	73	169
CR 537 (Main St) and West	2620	2317	8078	2962	2667	9627	13	15	19
Court St and North	598	1521	4316	823	2304	5105	38	51	18
Spring St and Center St	72	0	0	89	3	14	n/a	n/a	n/a
Spring St and Center St	1307	1178	3991	1333	1346	4800	2	14	20
Robertsville Road	87	194	536	125	218	718	44	12	34
Dutch Lane	24	0	0	55	3	4	n/a	n/a	n/a
E Freehold Rd and Kozloski Rd and East	1391	906	2917	1833	750	3075	32	-17	5
E Freehold Rd and West	553	1922	5242	665	2388	6653	20	24	27
Ryan Rd and West	360	888	1578	308	1205	1858	-14	36	18
NJ 18 and East	3975	3203	9480	6479	4604	13791	63	44	45
NJ 18 and West	3354	5753	12431	4597	7707	16306	37	34	31
CR 520 (Newman Springs Rd) and East	943	1010	2812	1207	988	3636	28	-2	29
CR 520 (Newman Springs Rd) and West	1202	913	2853	1592	1137	4027	32	25	41
CR 3 (Tennent Rd)	538	228	735	816	592	1272	52	160	73
CR 3 (Lloyd Rd)	830	3074	4333	1843	4161	7404	122	35	71
Wilson Ave	0	1	0	3	7	0	n/a	n/a	n/a
CR 516 (New Brunswick Ave and Broad St) West	1173	1000	3355	1190	1263	4156	1	26	24
NJ 34 (Middlesex St) and East	550	1824	3504	799	2089	4954	45	15	41
NJ 34 (Middlesex St) and West	954	1241	4226	1215	1308	4317	27	5	2
Route 79 North	1346	1666	5971	1398	1797	6037	4	8	1

Source: 2006, 2030 North Jersey Travel Demand Forecasting Model (NJTPA)

TABLE 12 - NJ 79 Cross Street Departure Traffic Volumes

Street	2006			2030			Percent Growth		
	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak	AM Peak	PM Peak	Off-Peak
US Route 9 and South	3022	6732	17851	4236	7638	22641	40	13	27
US Route 9 and North	5543	4426	15978	5692	5333	20119	3	20	26
NJ 33 and East	933	982	1782	1642	2341	3271	76	138	84
NJ 33 and West	1214	821	2220	2085	1610	3438	72	96	55
Park Ave (NJ 33B) and East	247	882	1137	384	1354	2151	55	54	89
Park Ave (NJ 33B) and West	374	158	632	528	200	1045	41	27	65
CR 537 (Main St) and West	1737	2856	8004	2040	3591	9603	17	26	20
Court St and North	1138	1157	3971	1843	1382	5169	62	19	30
Spring St and Center St	0	20	0	0	104	6	n/a	n/a	n/a
Spring St and Center St	1017	1473	4077	1128	1533	4880	11	4	20
Robertsville Road	154	152	437	159	205	635	3	35	45
Dutch Lane	1	2	0	12	19	5	n/a	n/a	n/a
E Freehold Rd and Kozloski Rd and East	612	1343	3315	478	1695	3782	-22	26	14
E Freehold Rd and West	1784	1191	4341	2210	1544	5301	24	30	22
Ryan Rd and West	841	476	1362	1163	442	1430	38	-7	5
NJ 18 and East	2762	4080	8761	3657	6560	11511	32	61	31
NJ 18 and West	5987	4214	13782	7218	5971	18823	21	42	37
CR 520 (Newman Springs Rd) and East	895	1022	2941	821	1356	3788	-8	33	29
CR 520 (Newman Springs Rd) and West	712	1307	2987	925	1741	4067	30	33	36
CR 3 (Tennent Rd)	144	433	711	375	837	1378	160	93	94
CR 3 (Lloyd Rd)	2569	1295	3979	3261	2557	6140	27	97	54
Wilson Ave	2	0	0	106	6	5	n/a	n/a	n/a
CR 516 (New Brunswick Ave and Broad St) West	864	1289	3492	1023	1384	4543	18	7	30
NJ 34 (Middlesex St) and East	1430	804	2089	1677	1213	3323	17	51	59
NJ 34 (Middlesex St) and West	1818	1507	5176	1931	1774	6041	6	18	17
Route 79 North	1424	1629	6037	1479	1647	5942	4	1	-2

Source: 2006, 2030 North Jersey Travel Demand Forecasting Model (NJTPA)

Travel Demand Forecast for 2015 and 2030 "No-Build" and "Build" Conditions

The primary method of determining future traffic patterns for the NJ 79 Corridor was based on both the NJRTM and a list of proposed commercial and residential developments prepared by the County and municipalities in the corridor. The growth in traffic in the NJ 79 Corridor may be attributed to two components: "through or diverted" traffic which has both origin and destination outside of the NJ 79 corridor and "local" traffic which has origin or destination or both within the corridor. "Through" traffic is attributed to growth that occurs outside of the corridor while "local" traffic is attributed to growth that occurs within the corridor. The techniques for estimating both components are described below:

"Through or diverted" Traffic

The "through or "diverted" traffic is estimated directly for the NJRTM. The 2015 and 2030 NJRTM model year travel demand matrices, or trip tables, are altered so that local traffic for the NJ 79 corridor, as shown in the list of traffic analysis zones below, remains at existing levels (**SEE TABLE 13**). By assuming no growth in local traffic for the future years, any change in NJ 79 traffic forecast by the NJRTM must be attributed to "through" traffic.

TABLE 13 – Traffic Analysis Zones

MUNICIPALITY	CENSUS TRACT	NJRTM Traffic Analysis Zone (TAZ)
Aberdeen Borough	8025, 8026, 8027, 8028, 8029	770, 771, 772, 773, 774
Freehold Borough	8108, 8109, 8110	873, 874, 875
Freehold Township	8104.01, 8104.02, 8105.01, 8105.02, 8105.03, 8106	866, 867, 870, 868, 869, 871
Marlboro Township	8095.01, 8095.02, 8096, 8097.01, 8097.03, 8097.04	851, 851, 852, 854, 853, 853
Matawan Borough	8030, 8031	775, 776

TABLE 14 shows the assigned traffic volumes on NJ 79 from US 9 in Freehold Township in the south to NJ 34 in Matawan Borough in the north. The NJRTM was run for the 2007, 2014 and 2030 conditions for the morning peak, evening peak and off-peak periods. As stated earlier, for each run, the NJ 79 corridor traffic volumes, defined as the list of Census Tracts above, was held at 2007 levels. For each section of NJ 79, 2015 and 2030 growth factors were computed. Because the "through" traffic growth was only a small component of the total growth in the corridor, it was desired to estimate a single growth factor for both directions of NJ 79 for 2015 and 2030 based on the average growth in the corridor. As seen in the table, the growth factors range from less than 1.00, i.e. a decrease in traffic, to approximately 1.30 in some sections. In addition, the growth rates did not vary significantly among the morning peak, evening peak and off-peak periods. Based on this analysis, background or "through" growth rates of 1.05 and 1.10 were selected for 2015 and 2030, respectively.

"Local" Traffic

Growth due to "local" traffic is estimated separately for each Census Tract based on the forecasted growth in population and employment as determined by the County and the municipalities in the corridor. The Monmouth County Planning Department provided employment and population projections for all Census Tracts in the study area for 2015 and 2030. Employment and household projections were calculated by the County from the growth estimates and trend growth values from 1997-2003 in each municipality. The consultant team allocated these projections to developable land areas in each Census Tract. Population projections were converted into households using US Census 2000 average persons per household for each municipality. Using the County's "developable land" GIS layer, the study area Composite Zoning layer, the County projections, and Census Tract boundaries, the consultant team allocated the amount of developable land in each Composite Zone per Census Tract.

Next, the potential household yield was calculated for residential zones based on County-assigned density values for each composite zone. The results of the yield calculations were used to allocate households in each residentially zoned developable land area by Census Tract. For commercial and industrial land, the County Composite zones use building square footage maximums, which cannot be directly assigned to employment shares. Therefore, employment projections were distributed as a percentage of total acreage of developable commercial and industrial composite-zoned land. The employment values were then allocated to retail, office, and industrial composite-zoned land in each Census Tract.

TABLE 14 - 2015 and 2030 AM Peak Period, PM Peak Period and Off-Peak Period Growth Rates

Location	2007			2015			2030			Growth 2007-2015			Growth 2007-2030		
	AM	PM	Off-Pk	AM	PM	Off-Pk	AM	PM	Off-Pk	AM	PM	Off-Pk	AM	PM	Off-Pk
RT9/SCHENECK RD															
RT 9/RT79 NB	6177	5422	20663	6651	5732	22974	7196	6099	24147	1.08	1.06	1.11	1.16	1.12	1.17
RT 9/RT79 SB	4354	6746	19954	4773	6953	22600	5532	8415	26094	1.10	1.03	1.13	1.27	1.25	1.31
RT33															
RT79 NB	2569	2642	10641	2860	2620	9967	2912	2686	10555	1.11	0.99	0.94	1.13	1.02	0.99
RT79 SB	2030	2945	9909	2415	2933	11921	2415	3319	10937	1.19	1.00	1.20	1.19	1.13	1.10
PARK AVE															
RT79 NB	2298	2260	9481	2549	2277	8711	2490	2372	9560	1.11	1.01	0.92	1.08	1.05	1.01
RT79 SB	1687	2617	8641	2048	2629	10638	2135	2996	9919	1.21	1.00	1.23	1.27	1.14	1.15
COURT ST															
RT79 NB	1687	2617	8641	2048	2629	10638	2135	2996	9919	1.21	1.00	1.23	1.27	1.14	1.15
RT79 SB	396	485	1232	413	470	1200	390	464	1207	1.04	0.97	0.97	0.98	0.96	0.98
E. FREEHOLD RD															
RT79 NB	1818	1826	6115	2155	1781	7639	2326	1592	7835	1.19	0.98	1.25	1.28	0.87	1.28
RT79 SB	2824	2859	9896	3174	2891	11653	3479	2935	11511	1.12	1.01	1.18	1.23	1.03	1.16
RYAN RD															
RT79 NB	4413	3641	13344	4577	4126	13051	4748	4102	14687	1.04	1.13	0.98	1.08	1.13	1.10
RT79 SB	2834	4781	12216	3253	4833	14103	3632	4884	14143	1.15	1.01	1.15	1.28	1.02	1.16
NJ 18															
RT79 NB	4413	3641	13344	4577	4126	13051	4748	4102	14687	1.04	1.13	0.98	1.08	1.13	1.10
RT79 SB	2834	4781	12216	3253	4833	14103	3632	4884	14143	1.15	1.01	1.15	1.28	1.02	1.16
CR4															
RT79 NB	1812	2423	6550	1763	2463	6441	1517	2664	5960	0.97	1.02	0.98	0.84	1.10	0.91
RT79 SB	1116	2244	6018	1086	2245	5908	1125	2388	5432	0.97	1.00	0.98	1.01	1.06	0.90
CR520															
RT79 NB	997	1091	3198	1039	1144	3039	1344	1207	3011	1.04	1.05	0.95	1.35	1.11	0.94
RT79 SB	1011	1121	3108	998	1261	3055	1149	1514	2760	0.99	1.12	0.98	1.14	1.35	0.89
TENNENT RD															
RT79 NB	3653	2556	8155	3798	2693	8178	4634	2955	8988	1.04	1.05	1.00	1.27	1.16	1.10
RT79 SB	1011	1121	3108	998	1261	3055	1149	1514	2760	0.99	1.12	0.98	1.14	1.35	0.89
LLOYD RD															
RT79 NB	1091	1236	4142	1087	1243	4049	1487	1107	3758	1.00	1.01	0.98	1.36	0.90	0.91
RT79 SB	1060	700	4087	1025	649	4065	868	879	2352	0.97	0.93	0.99	0.82	1.26	0.58
WILSON AVE															
RT79 NB	1212	1139	3867	1224	1147	3772	1429	1034	3510	1.01	1.01	0.98	1.18	0.91	0.91
RT79 SB	1902	3639	8362	1923	3908	8412	2258	4755	9153	1.01	1.07	1.01	1.19	1.31	1.09
CR 516															
RT79 NB	1212	1139	3867	1224	1147	3772	1429	1034	3510	1.01	1.01	0.98	1.18	0.91	0.91
RT79 SB	1902	3639	8362	1923	3908	8412	2258	4755	9153	1.01	1.07	1.01	1.19	1.31	1.09
NJ 34															
RT79S NB	2351	2218	7263	2375	2265	7409	2604	2404	8466	1.01	1.02	1.02	1.11	1.08	1.17
RT79S SB	1859	1925	7468	1836	1916	7664	1807	2157	7407	0.99	1.00	1.03	0.97	1.12	0.99
RT79N NB	1456	1643	5914	1460	1651	5906	1558	1715	6101	1.00	1.00	1.00	1.07	1.04	1.03
RT79S SB	1367	1718	5924	1353	1781	5913	1374	1730	6203	0.99	1.04	1.00	1.01	1.01	1.05
Average Growth Rate										1.06	1.03	1.04	1.16	1.09	1.06

Source: North Jersey Regional Transportation Model (NJRTM), 2007, 2014 and 2030

Key assumptions made by the County and consultant team are as follows:

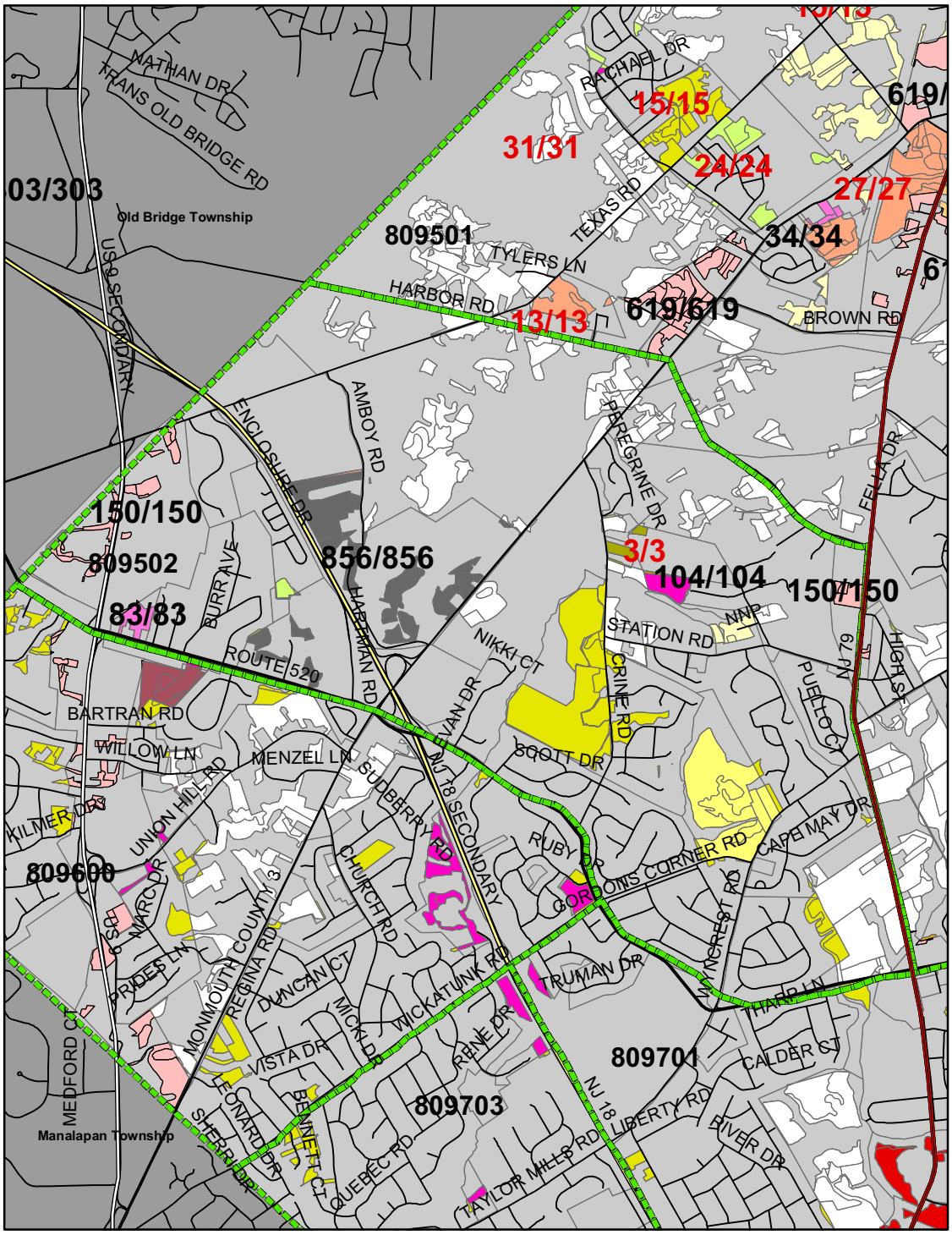
- All "developable land" will be built-out by the year 2030, therefore the maximum household and employment values could be assigned to each developable area.
- Because it is not possible to project the size of buildings to be constructed on vacant commercial and industrial land, employment was distributed throughout all non-residential land in each Census Tract proportional to the percentage of the total non-residential developable land area in each Tract.
- Year 2000-2005 projection values from the County will not be used for this project because the Regional Transportation Model data reflects newer traffic data (2006) collected for this study.
- Where County projections exceed residential zone build-out capacities, year 2015 and/or year 2030 household allocations will be capped at maximum build-out values per zone (which are based on residential County Composite Zone density definitions).

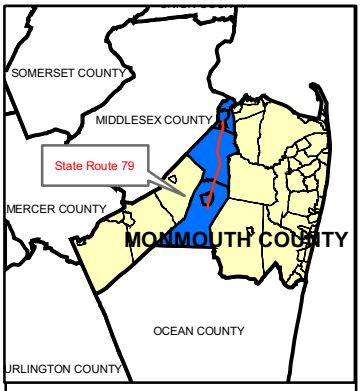
The end result of the land use portion of Task 2 is a series of maps and tables representing the geographic distribution of household and employment projections in each Census Tract. An example of one Census Tract is provided in **EXHIBIT 23**. The remaining maps are provided in **APPENDIX I.**

Stump Hausman then converted the household and employment growth at each developable land area location to new local trips. The trip generation is based on the ITE Trip Generation 7th edition. The future year trip distribution is based on the existing trip distribution patterns for morning, evening and Saturday that were developed using the existing traffic counts and the NJRTM. The forecast population and employment growth by Census Tract is summarized in **TABLES 15** and **16** for 2015 and 2030, respectively.

TABLE 15 - 2015 and 2030 ROUTE 79 CORRIDOR POPULATION / HOUSEHOLDS PROJECTIONS

MUNICIPALITY	CENSUS TRACT	POPULATION INCREASE (2005-2015)	PERSONS PER HOUSEHOLD	# NEW HOUSEHOLDS	POPULATION INCREASE (2015-2030)	PERSONS PER HOUSEHOLD	# NEW HOUSE HOLDS
Aberdeen Borough	802500	128	2.72	47	33	2.72	12
Aberdeen Borough	802600	231	2.72	85	60	2.72	22
Aberdeen Borough	802700	65	2.72	24	16	2.72	6
Aberdeen Borough	802800	84	2.72	31	22	2.72	8
Aberdeen Borough	802900	54	2.72	20	14	2.72	5
Freehold Borough	810800	69	3.00	23	0	3.00	0
Freehold Borough	810900	0	3.00	0	0	3.00	0
Freehold Borough	811000	45	3.00	15	54	3.00	18
Freehold Township	810401	301	2.55	118	452	2.55	177
Freehold Township	810402	350	2.55	137	523	2.55	205
Freehold Township	810501	143	2.55	56	117	2.55	46
Freehold Township	810502	209	2.55	82	314	2.55	123
Freehold Township	810503	204	2.55	80	304	2.55	119
Freehold Township	810600	579	2.55	227	870	2.55	341
Marlboro Township	809501	0	3.17	0	0	3.17	0
Marlboro Township	809502	0	3.17	0	0	3.17	0
Marlboro Township	809600	0	3.17	0	0	3.17	0
Marlboro Township	809701	0	3.17	0	0	3.17	0
Marlboro Township	809703	0	3.17	0	0	3.17	0
Marlboro Township	809704	0	3.17	0	0	3.17	0
Matawan Borough	803000	111	2.52	44	98	2.52	39
Matawan Borough	803100	0	2.52	0	0	2.52	0
TOTAL		4070		984	2987		1121





Legend

Route 79

Census Tract Boundary

Composite Zoning

- C-0
- C-12.5
- C-50
- CON/REC
- I-0
- I-01
- MF-0
- MF-08
- MF-15
- MU-0
- OB-0
- OB-01
- OB-10
- ROWL-10
- SF-0
- SF-05
- SF-10
- SF-20
- SF-40
- SF-80

Projected Value Allocation

Jobs **2015/2030**

Households **2015/2030**

Exhibit 23

Projection Assignment Example - 8095.02

0 0.375 0.75 Miles

W

Source: NJDOT 2004 Roads, Monmouth County Planning Dept., Vollmer Associates Planning Analysis

MONMOUTH COUNTY
State Route 79 Corridor Study

Stantec

C-0		SF-0
C-12.5		SF-05
C-50	150/150	SF-10
	150/150	SF-20
CON/REC		SF-40
I-0		SF-80
I-01	856/856	MF-0
OB-01	83/83	MF-08
OB-0	104/104	MF-15

TABLE 16 - 2015 and 2030 ROUTE 79 CORRIDOR EMPLOYMENT PROJECTIONS

MUNICIPALITY	CENSUS TRACT	2005-2015 PROJECTED NEW EMPLOYEES				2015-2030 PROJECTED NEW EMPLOYEES			
		TOTAL	RETAIL	OFFICE	WAREHOUSE	TOTAL	RETAIL	OFFICE	WAREHOUSE
Aberdeen Borough	802500	36	36	-	-	48	48	-	-
Aberdeen Borough	802600	175	33	-	142	233	43	-	190
Aberdeen Borough	802700	70	38	-	32	94	52	-	42
Aberdeen Borough	802800	134	134	-	-	179	179	-	-
Aberdeen Borough	802900	10	10	-	-	13	13	-	-
Freehold Borough	810800	61	-	-	61	11	-	-	11
Freehold Borough	810900	45	45	-	-	8	8	-	-
Freehold Borough	811000	4	-	-	4	1	-	-	1
Freehold Township	810401	100	4	88	8	109	5	96	9
Freehold Township	810402	248	5	0	242	268	6	0	262
Freehold Township	810501	1,183	0	104	1,079	1,282	0	112	1,169
Freehold Township	810502	554	0	554	-	601	0	601	-
Freehold Township	810503	525	79	258	188	569	85	280	204
Freehold Township	810600	49	-	49	-	54	-	54	-
Marlboro Township	809501	1,942	1,239	642	61	1,942	1,239	642	61
Marlboro Township	809502	1,344	300	187	857	1,344	300	187	857
Marlboro Township	809600	834	572	262	-	834	572	262	-
Marlboro Township	809701	950	431	49	471	950	431	49	471
Marlboro Township	809703	111	-	111	-	111	-	111	-
Marlboro Township	809704	1,196	1,029	167	-	1,196	1,029	167	-
Matawan Borough	803000	-	-	-	-	-	-	-	-
Matawan Borough	803100	153	54	-	99	128	45	-	83
TOTAL		9724	4,010	2,470	3,245	9975	4,055	2,560	3,360

The ITE Trip Generation average rates were applied separately for each land use as noted below. Note that for the retail land use, ITE Trip Generation 815 – Free-Standing Discount Store was selected because of the availability of a significant number of relevant samples. In reviewing the trip generation rates, it was found that many potential retail land uses have lower trip generation than ITE 815. To account for this, a twenty percent reduction was applied to the retail trip generation rate for all three time periods to reflect an average of the retail land uses noted in the first bullet below. The trip generation rates associated with each land use are summarized below:

- **Retail employment** – Independent variable is number of employees
  - Use ITE Trip Generation Land Use 815 – Free-Standing Discount Store
  - Use average rates per employee during peak hour of adjacent street traffic
  - AM Peak Hour – 0.51 trips per employee (66% enter, 34% exit)
  - PM Peak Hour – 3.48 trips per employee (52% enter, 48% exit)
  - Saturday Peak Hour – 4.09 trips per employee (54% enter, 46% exit)
  - Apply 25% reduction for pass-by trips
  - Apply 20% reduction to reflect average of multiple retail land uses (812-Building Materials and Lumber Store, 813-Free-Standing Discount Superstore, 814-Speciality Retail Center, 815-Free-Standing Discount Superstore, 820-Shopping Center and 823-Factory Outlet Center)

- **Commercial employment** – Independent variable is number of employees
  - Use ITE Trip Generation Land Use 815 – Free-Standing Discount Store
  - Use ITE Trip Generation Land Use 710 - General Office Building
  - Use average rates per employee during peak hour of adjacent street traffic
  - AM Peak Hour – 0.48 trips per employee (88% enter, 12% exit)
  - PM Peak Hour – 0.46 trips per employee (17% enter, 83% exit)
  - Saturday Peak Hour – 0.09 trips per employee (54% enter, 46% exit)

- **Warehouse employment** – Independent variable is number of employees
  - Use ITE Trip Generation Land Use 150 - Warehousing
  - Use average rates per employee during peak hour of adjacent street traffic
  - AM Peak Hour – 0.72 trips per employee (51% enter, 49% exit)
  - PM Peak Hour – 0.59 trips per employee (35% enter, 65% exit)
  - Saturday Peak Hour – 0.10 trips per employee (64% enter, 36% exit)

- **Single Family Households** – Independent variable is number of dwelling units based on average household size by municipality
  - Use ITE Trip Generation Land Use 210 – Single-Family Detached Housing
  - Use average rates per dwelling unit during peak hour of adjacent street traffic
  - AM Peak Hour – 0.75 trips per dwelling unit (25% enter, 75% exit)
  - PM Peak Hour – 1.01 trips per dwelling unit (63% enter, 37% exit)
  - Saturday Peak Hour – 0.94 trips per dwelling unit (54% enter, 46% exit)

- **Mulit-Family Households** – Independent variable is number of dwelling units based on average household size by municipality
  - Use ITE Trip Generation Land Use 230 – Residential Condominium / Townhouse
  - Use average rates per dwelling unit during peak hour of adjacent street traffic
  - AM Peak Hour – 0.44 trips per dwelling unit (17% enter, 83% exit)
  - PM Peak Hour – 0.52 trips per dwelling unit (67% enter, 33% exit)
  - Saturday Peak Hour – 0.47 trips per dwelling unit (54% enter, 46% exit)

As stated earlier, trip distribution was based on the data developed from the existing traffic counts and the NJRTM. The trip distribution for each municipality in the NJ 79 corridor is summarized below. In applying the distribution to the individual census tracts, it was found that many trips would not use NJ 79 to reach their destination. Local trips would likely use local streets; longer distance trips would use US 9 or NJ 34. The trips that would not use NJ 79 are noted in the trip distribution table. In total, about one-third of all trips generated by new development in the corridor would be on NJ 79.

TABLE 17 – DISTRIBUTION OF TRIPS

MUNICIPALITY	CENSUS TRACT	To/From – AM Distribution for Trips from Employment Locations and to Residential Locations						
		Aberdeen / Matawan	Freehold Boro/Twp	Marlboro	Other Monmouth	Middlesex	Ocean	Comment
Aberdeen Borough	802500	0%	1%	4%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802600	0%	1%	4%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802700	0%	1%	4%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802800	0%	1%	4%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802900	0%	1%	4%	34%	22%	1%	Adjacent to NJ 79
Freehold Borough	810800	1%	0%	3%	20%	7%	3%	Adjacent to NJ 79
Freehold Borough	810900	1%	0%	3%	20%	7%	3%	Adjacent to NJ 79
Freehold Borough	811000	1%	0%	3%	0%	0%	0%	Trips via US 9
Freehold Township	810401	1%	0%	3%	0%	0%	3%	Trips via US 9
Freehold Township	810402	1%	0%	3%	20%	7%	3%	Adjacent to NJ 79
Freehold Township	810501	1%	0%	3%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810502	1%	0%	3%	0%	0%	3%	Trips via NJ 33 / US 9
Freehold Township	810503	1%	0%	3%	0%	0%	3%	Trips via NJ 33 / US 9
Freehold Township	810600	1%	0%	3%	0%	0%	0%	Trips via NJ 33 / US 9
Marlboro Township	809501	7%	11%	0%	18%	23%	1%	Adjacent to NJ 79
Marlboro Township	809502	7%	11%	0%	0%	0%	1%	Trips via NJ 18
Marlboro Township	809600	0%	0%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809701	7%	11%	0%	18%	23%	1%	Adjacent to NJ 79
Marlboro Township	809703	0%	11%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809704	7%	11%	0%	18%	23%	1%	Adjacent to NJ 79
Matawan Borough	803000	0%	1%	4%	34%	22%	1%	Adjacent to NJ 79
Matawan Borough	803100	0%	1%	4%	0%	0%	0%	Trips via GSP or NJ 34
MUNICIPALITY	CENSUS TRACT	To/From – PM Distribution for Trips from Employment Locations and to Residential Locations						
		Aberdeen / Matawan	Freehold Boro/Twp	Marlboro	Other Monmouth	Middlesex	Ocean	Comment
Aberdeen Borough	802500	0%	2%	10%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802600	0%	2%	10%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802700	0%	2%	10%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802800	0%	2%	10%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802900	0%	2%	10%	31%	18%	2%	Adjacent to NJ 79
Freehold Borough	810800	0%	0%	6%	28%	6%	8%	Adjacent to NJ 79
Freehold Borough	810900	0%	0%	6%	28%	6%	8%	Adjacent to NJ 79
Freehold Borough	811000	0%	0%	6%	0%	0%	0%	Trips via US 9
Freehold Township	810401	0%	0%	6%	0%	0%	0%	Trips via US 9
Freehold Township	810402	0%	0%	6%	28%	6%	8%	Adjacent to NJ 79
Freehold Township	810501	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810502	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810503	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810600	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Marlboro Township	809501	5%	9%	0%	18%	13%	3%	Adjacent to NJ 79
Marlboro Township	809502	5%	9%	0%	0%	13%	3%	Trips via NJ 18
Marlboro Township	809600	0%	0%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809701	5%	9%	0%	18%	13%	3%	Adjacent to NJ 79
Marlboro Township	809703	0%	9%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809704	5%	9%	0%	18%	13%	3%	Adjacent to NJ 79
Matawan Borough	803000	0%	2%	10%	31%	18%	2%	Adjacent to NJ 79
Matawan Borough	803100	0%	2%	10%	0%	0%	0%	Trips via GSP or NJ 34

MUNICIPALITY	CENSUS TRACT	To/From – Saturday Distribution for Trips from Employment Locations and to Residential Locations						
		Aberdeen / Matawan	Freehold Boro/Twp	Marlboro	Other Monmouth	Middlesex	Ocean	Comment
Aberdeen Borough	802500	0%	1%	8%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802600	0%	1%	8%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802700	0%	1%	8%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802800	0%	1%	8%	0%	0%	0%	Trips via GSP or NJ 34
Aberdeen Borough	802900	0%	1%	8%	33%	19%	1%	Adjacent to NJ 79
Freehold Borough	810800	0%	0%	6%	26%	6%	5%	Adjacent to NJ 79
Freehold Borough	810900	0%	0%	6%	26%	6%	5%	Adjacent to NJ 79
Freehold Borough	811000	0%	0%	6%	0%	0%	0%	Trips via US 9
Freehold Township	810401	0%	0%	6%	0%	0%	0%	Trips via US 9
Freehold Township	810402	0%	0%	6%	26%	6%	5%	Adjacent to NJ 79
Freehold Township	810501	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810502	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810503	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Freehold Township	810600	0%	0%	6%	0%	0%	0%	Trips via NJ 33 / US 9
Marlboro Township	809501	5%	11%	0%	17%	14%	2%	Adjacent to NJ 79
Marlboro Township	809502	5%	11%	0%	0%	14%	2%	Trips via NJ 18
Marlboro Township	809600	0%	0%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809701	5%	11%	0%	17%	14%	2%	Adjacent to NJ 79
Marlboro Township	809703	0%	11%	0%	0%	0%	0%	Trips via NJ 18
Marlboro Township	809704	5%	11%	0%	17%	14%	2%	Adjacent to NJ 79
Matawan Borough	803000	0%	1%	8%	33%	19%	1%	Adjacent to NJ 79
Matawan Borough	803100	0%	1%	8%	0%	0%	0%	Trips via GSP or NJ 34

The future year 2015 and 2030 traffic volumes for morning, evening and Saturday peak periods were computed as the sum of the existing traffic, through traffic growth, and local development. The future year traffic volumes were then assigned to the NJ 79 highway network. In order to accommodate the traffic associated with the proposed development, two new intersections / access points were assumed to be in place on NJ 79 in Marlboro. The first intersection is located north of NJ 18 to serve the retail development in Census Tract 8097.01; the second is located south of NJ 18 to serve the retail development in Census Tract 8097.04. For the other Census Tracts, it was assumed that access would be via the existing cross streets as shown in **TABLE 18**.

TABLE 18 - ACCESS VIA NJ 79 TO PROPOSED COMMERCIAL AND RESIDENTIAL DEVELOPMENTS

MUNICIPALITY	CENSUS TRACT	Commercial Access	Residential Access
Aberdeen Borough	802500	Main St to/from North	Main St to/from North
Aberdeen Borough	802600	Main St to/from North	Main St to/from North
Aberdeen Borough	802700	Main St to/from North	CR 3 (Lloyd Road)
Aberdeen Borough	802800	CR 3 (Lloyd Road)	CR 3 (Lloyd Road)
Aberdeen Borough	802900	CR 3 (Lloyd Road)	Wilson Ave, CR 516 (New Brunswick Ave)
Freehold Borough	810800	Lincoln Pl / Institute St	Lincoln Pl / Institute St
Freehold Borough	810900	Barkalow Ave	n/a
Freehold Borough	811000	Throckmorton St	US 9
Freehold Township	810401	US 9	Robertsville Rd, E Freehold Rd / Kozloski Rd, NJ 33B (Park Ave) and West, Throckmorton St
Freehold Township	810402	NJ 33B (Park Ave) and East	E Freehold Rd / Kozloski Rd, Beechwood Ave, CR 537 (Main St) and East, NJ 33B (Park Ave) and East
Freehold Township	810501	CR 537 (Main St) and East, NJ 33 and East, US 9 and South	US 9 and South, NJ 33B (Park Ave) and East
Freehold Township	810502	NJ 33 and West, US 9 and South	NJ 33 and West
Freehold Township	810503	NJ 33B (Park Ave) and West, NJ 33 and West	NJ 33 and West
Freehold Township	810600	US 9 and South	US 9 and South, Court Street and North
Marlboro Township	809501	CR 3 (Tennent Road), NJ 34 (Middlesex Ave) and East, Wilson Ave, CR4A (Conover Rd)	CR 3 (Tennent Road), Roosevelt Ave, Wilson Ave
Marlboro Township	809502	Station Rd, NJ 18 and West	Station Rd, Wyncrest Rd, CR 520 (Newman Springs Road) and West, NJ 18 and West
Marlboro Township	809600	NJ 18 and West, CR 520 (Newman Springs Road) and West	US 9, NJ 18 and West
Marlboro Township	809701	New Access	New Access
Marlboro Township	809703	NJ 18 and West	NJ 18 and West
Marlboro Township	809704	New Access	New Access
Matawan Borough	803000	Mill Road, Wilson Ave, Main St to/from North	Mill Road, NJ 34 (Middlesex Ave)
Matawan Borough	803100	Main St to/from North	Main St to/from North

The resulting traffic volumes are summarized for each intersection in the **EXHIBITS 24-29.**

Growth Implications of Traffic Results and Revised Project Methodology for 2015 and 2030

As noted, the County projection values reflect a theoretical build-out of all developable land assuming current development, zoning, and projections using recent development trends to 2015 and 2030. The land use and travel demand forecast methodologies reflect these projections without making any judgment regarding how realistic the projected development densities might be given other constraints such as roadway capacity and municipal growth visions. As previously

stated in the travel demand forecast result section, it would not be possible to accommodate model-generated traffic output on the existing roadway network.

It is important to note that the development density suggested by the forecasts may not be immediately attainable for the Route 79 corridor without a drastic change in the character of the communities and roadway. The largest municipalities in the corridor, Marlboro and Freehold Townships, agree with this assessment. According to Marlboro Township officials, developers are already showing a slowing of interest in development in the corridor because of traffic constraints. Based on the projected unconstrained growth in traffic, development could slow significantly due to congestion well before developable land is built-out.

After analyzing the results of the travel demand model and identifying growth, the consultant team and the County met with representatives from Marlboro Township, where the largest proportion of the growth is projected to occur. Township representatives were concerned about the magnitude of the projected employment growth allowed by their zoning and the associated projected traffic effects. They indicated that much less growth is actually occurring in their Township despite the zoning and the cross accepted projections. They also discussed the land use and traffic goals of the Township, including the desire to maintain the existing rural character of the roadway.

As a result of this meeting, the County and consultant team decided that it would not be prudent to base improvement strategies on the unconstrained travel demand forecast output values. Instead, the consultant team focused on maintaining the character of the existing roadway and has developed smaller-scale roadway improvements, transit strategies, and land use recommendations to assist each municipality in reaching their land use and transportation goals. The appropriateness of improvement alternatives in terms of community character was a central consideration in the evaluation of the strategies.
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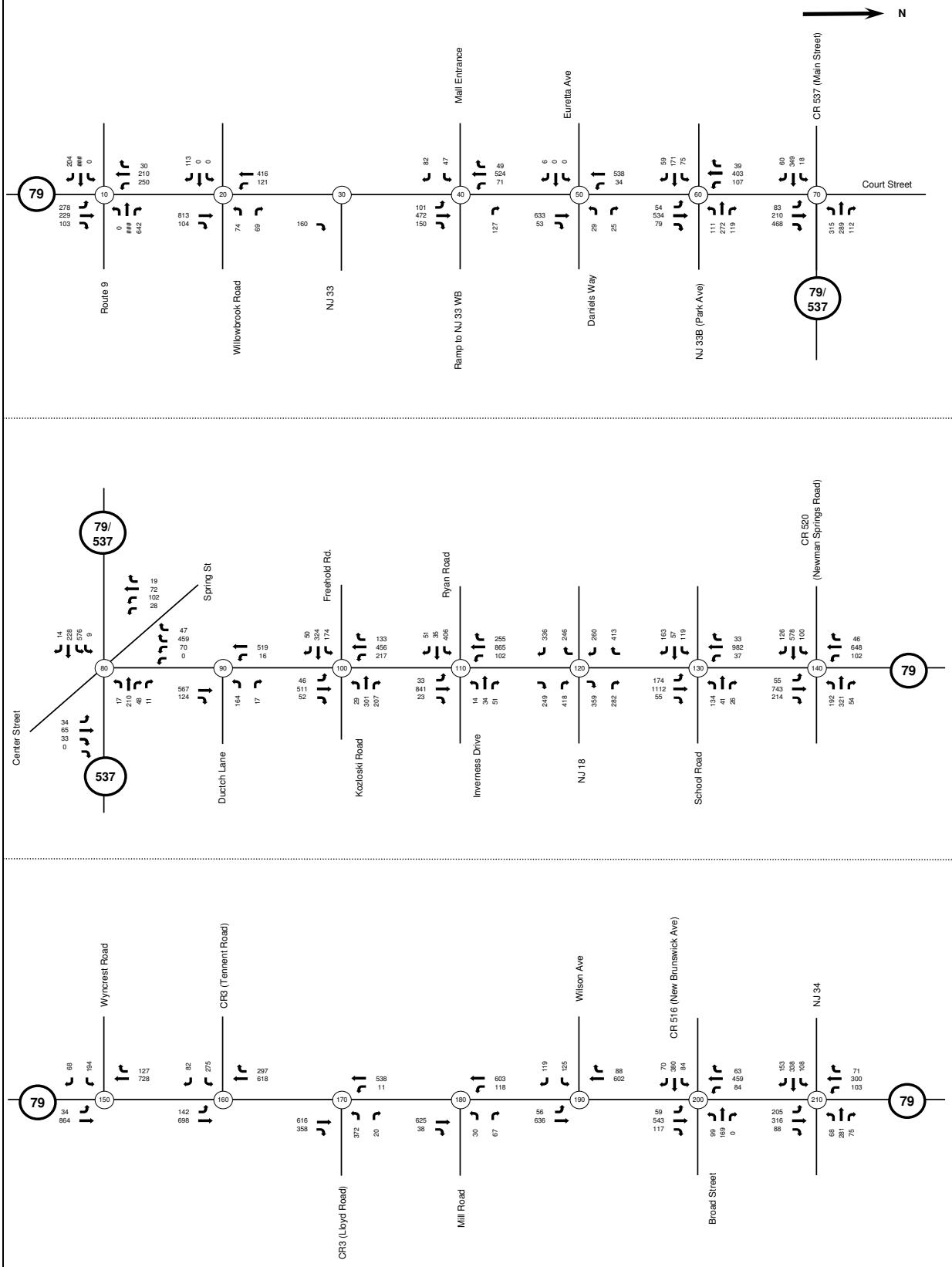

EXHIBIT 24
2015 AM Traffic Volumes

Not to Scale

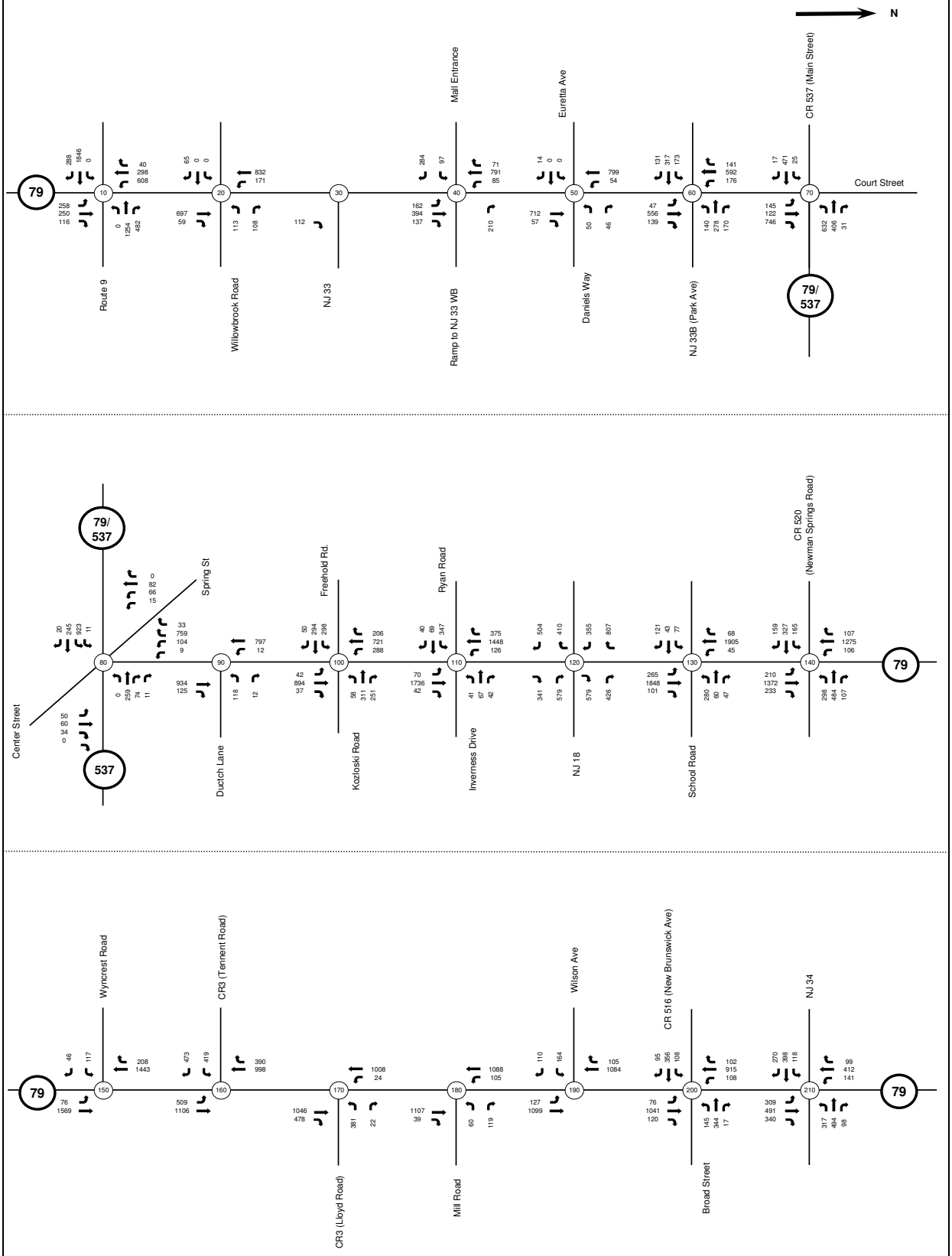

EXHIBIT 25
2015 PM Traffic Volumes

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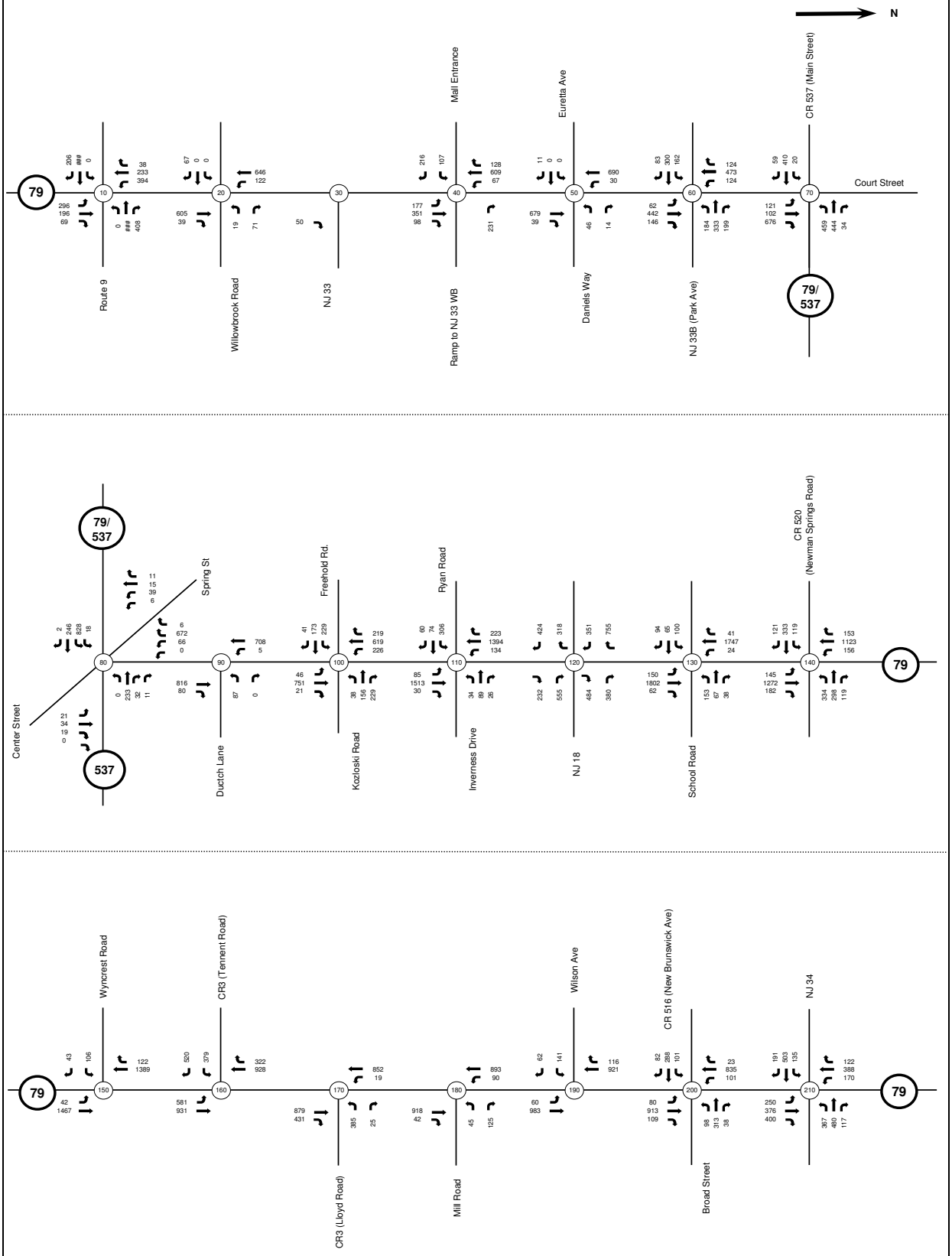

EXHIBIT 26
2015 Saturday Traffic Volumes

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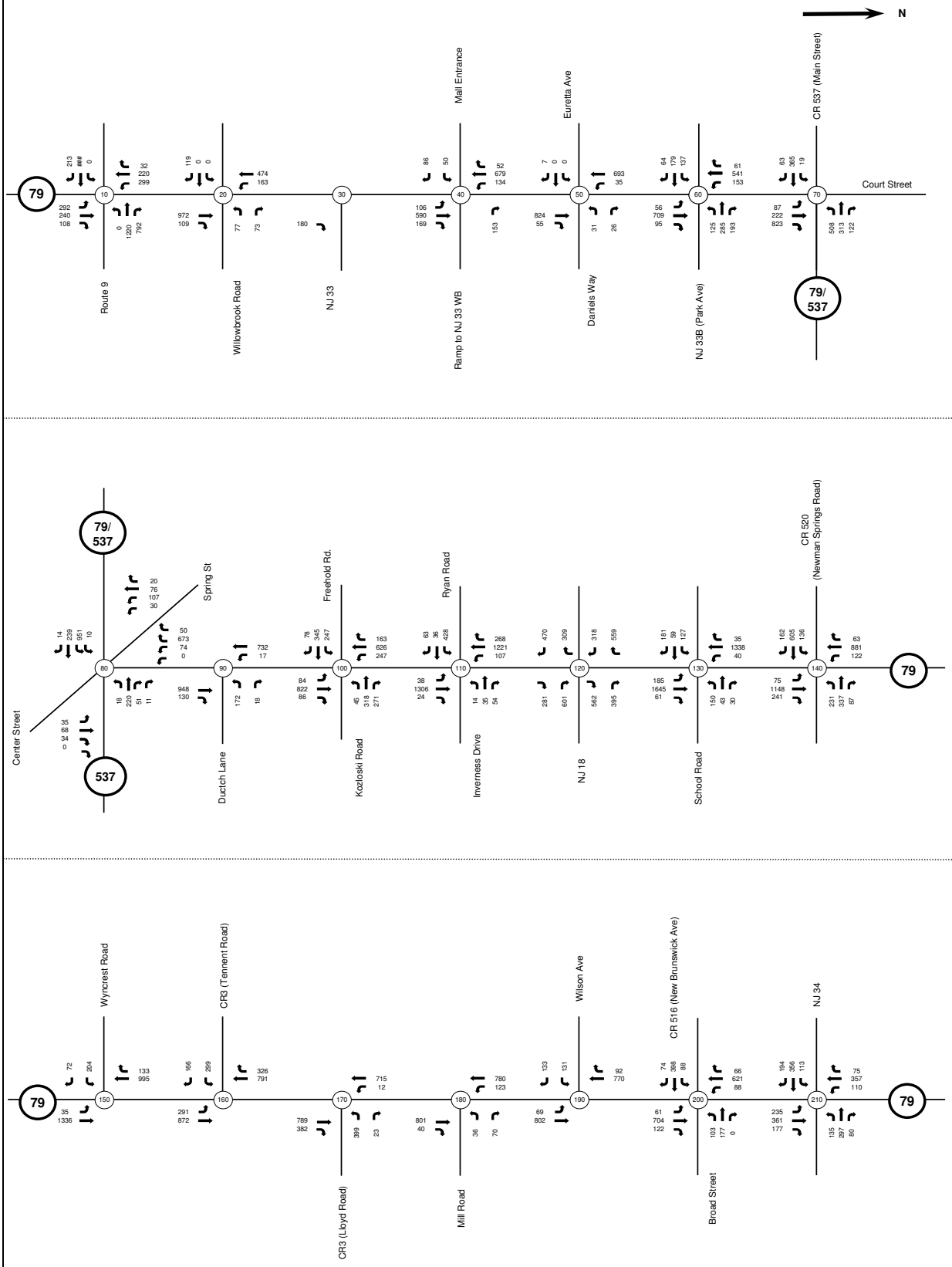

EXHIBIT 27
2030 AM Traffic Volumes

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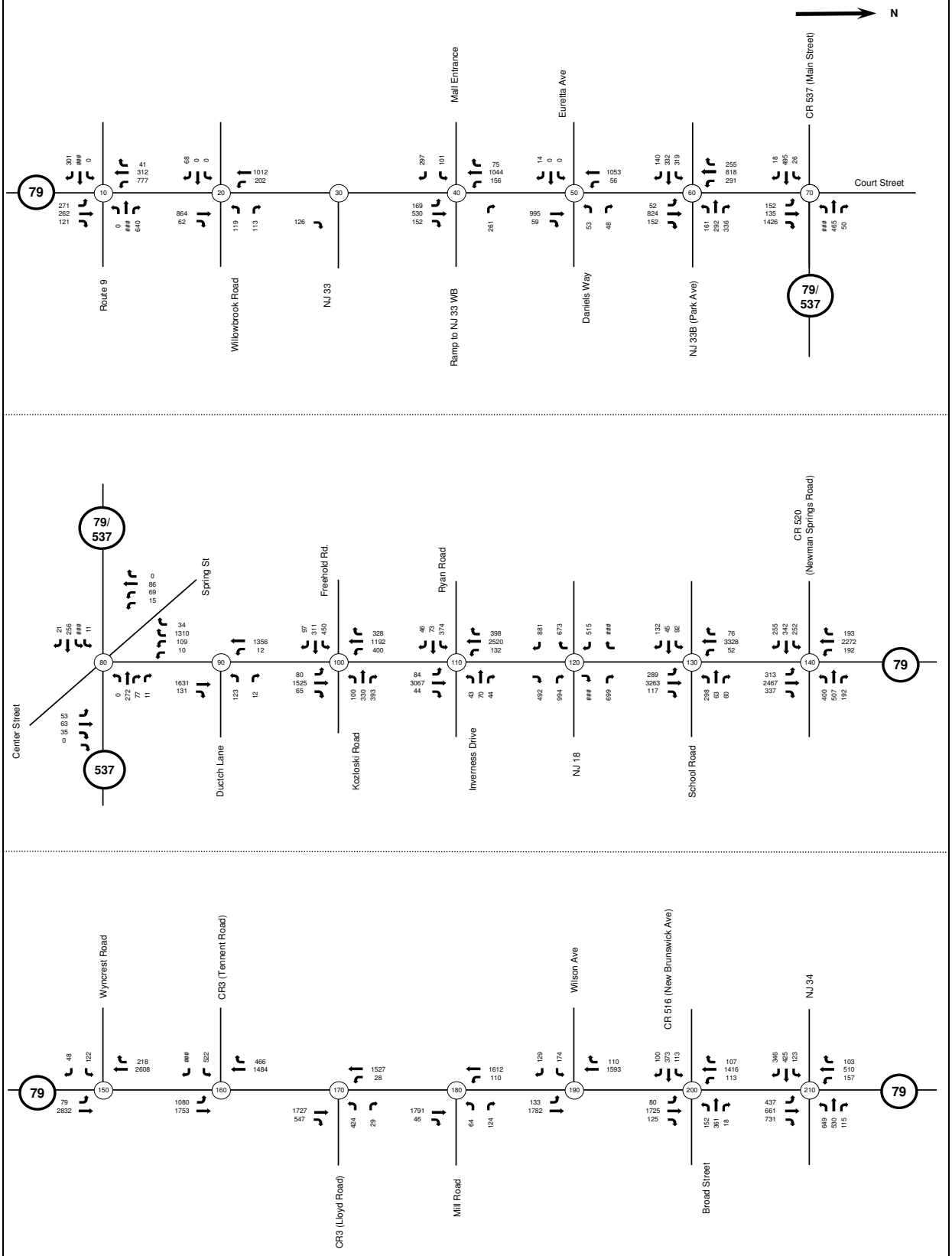


EXHIBIT 28
2030 PM Traffic Volumes

Not to Scale

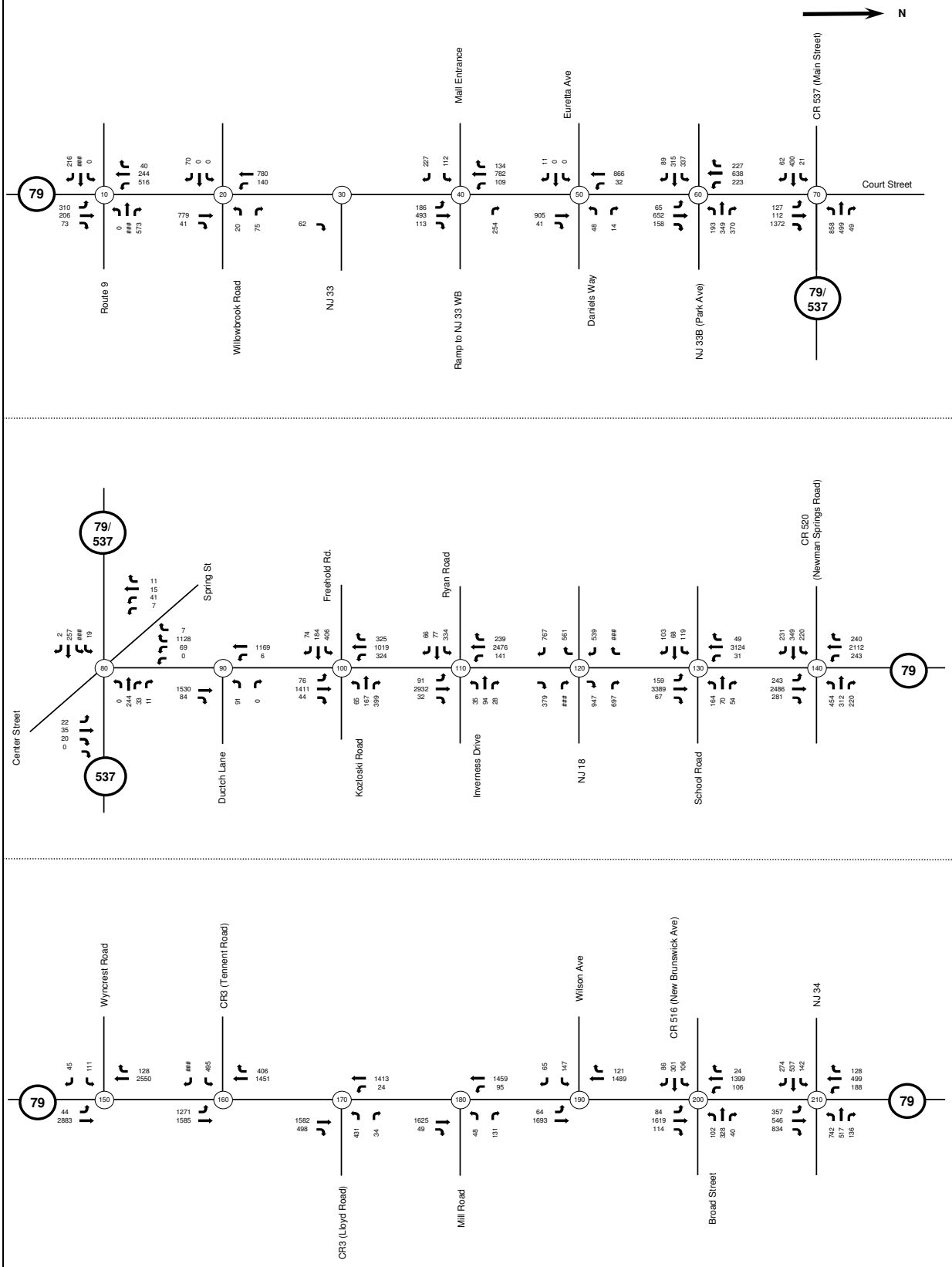


EXHIBIT 29
2030 Saturday Traffic Volumes

Not to Scale

Section 5: Potential Improvement Strategies (Long List)

Recommendation Structure

To best address the land use and transportation issues in the Route 79 Corridor, the consultant team compiled a "Long List" of solution types from existing conditions analysis, stakeholder comments, and similar projects. The "Long List" was intended to present a broad variety of land use and transportation solutions for the issues in the corridor without applying situational knowledge and municipal goals. The consultant team presented examples and descriptions of each solution type to the Technical Advisory Committee, Stakeholder Advisory Committee, and the public. A matrix of order-of-magnitude positive and negative traffic, environment, community, and cost effects of each solution was created. This matrix, **TABLE 19**, was used in tandem with TAC, SAC, and public comments to guide the creation of a "Short List" of strategies to focus recommendations for the remainder of the project.

Solutions Toolbox

The "Long List" of solutions includes:

<u>Land Use Solutions</u>
- Master Plan Modifications
- Zoning Regulation Updates
- Subdivision Regulation Updates
- Access Management Strategies
- Alternate Commercial Use Strategies
- Center-Based Development Strategies
- Land Use Consistent with the NJ State Development and Redevelopment Plan

<u>Transportation Strategies</u>

Transit Service and Facility Enhancements
- New/expanded transit routes
- Bus-rail stops or shelters
- Park and Ride lots
- Kiss and Ride drop-off zones

Alternate Transportation Modes and Facilities
- Bike Lanes
- Sidewalk Coordination Throughout Corridor
- Recreation Paths
- Henry Hudson Trail crossing

Transportation Demand Management Strategies (TDM)
- Ridesharing
- Employer Trip Reduction (ETR) Plans

Transportation System Management Strategies (TSM)
- Advanced Directional Signage
- Intersection Capacity Upgrades

- Channelized Turning Bays
- Travel Lane Improvements
- Intersection Turn Restrictions
- Roadway Signage
- Signal Improvements
- Traffic Detection and Control Systems
- Intelligent Transportation Systems (ITS)
- Variable Directional Signage
- Roadway Widening- 2-lane with auxiliary lane
- Roadway Widening- 4-lane with intersection improvements
- Roadway Widening at Intersections
- Jughandles
- Safety Upgrades
- Way-finding Signage
- Alternate Traffic Routing
- Overpasses
- Use of Shoulder Lanes

Screening Analysis

The Long List of solutions was presented to each of the advisory committees for review and comment. The consultant team explained each concept and, where appropriate, gave potential locations for implementation. The Technical Advisory Committee and Stakeholder Advisory Committee then commented on each concept. After a detailed discussion of the solution strategies, attendants completed a feedback form to denote the top three and bottom three strategies believed to be most effective in reaching the transportation and land use goals of the corridor. Respondents chose the following strategies as likely to be most effective:

1. Transit Enhancements
2. Intersection Capacity Upgrades
3. Roadway Modifications

After presenting each solution to the public, the team narrowed down the Long List of solutions into the Short List Strategies. These strategies are presented in detail along with study area problem statements, potential implementation locations, and description of issues for further study.

TABLE 19: "LONG LIST" SOLUTION STRATEGIES

Improvement Strategies	Impacts							
	Traffic		Environment		Community		Cost ($)	Consultant Rating
	Improvement	Degredation	Positive	Negative	Positive	Negative		
Transit service and facility enhancements								
New/expanded transit routes	L+ / M+		L+ / M+		M+		M	R
Bus-rail stops and/or shelters		L-	L+		L+		L	R
Park and ride lots	L+		M+		L+		L	R
Kiss and ride drop-off zones	L+		L+		L+		L	R
Alternative Transportation Modes and Facilities								
Bike Lanes		L-	L+		L+		L	R
Sidewalk Coordination Throughout Corridor		N/A	L+		M+		L	HR
Recreation Paths	L+		L+		H+		L	R
Facilitate Henry Hudson Bike Path Crossing		L-	M+		H+		M	HR
Transportation Demand Management Strategies (TDM)								
Ridesharing	L+		L+		L+		L	R
Employer Trip Reduction (ETR) Plans	L+		L+		L+		L	R
Transporatation System Management Strategies (TSM)								
Advanced Directional Signage	L+				L+		L	R
Intersection Capacity Upgrades	L+ / M+		L+		L+ / M+		L / M	HR
Channelized Turning Bays	L+ / M+		L+		L+		L	HR
Travel Lane Improvements	L+		-	-	-		L	HR
Intersection Turn Restrictions	L+		-	-		M-	L	R
Roadway Signage	L+		-	-	L+		L	R
Signal Improvements	L+			L-	L+ / M+		L	R
Traffic Detection and Control Systems	M+			L-	M+		L	R
Intelligent Transportation Systems (ITS)	M+			L-	M+		L	HR
Variable Directional Signage	M+			L-	M+		L	R
Roadway Widening 1- 2 lanes with auxiliary lane	H+			H-		L-	H	HR
Roadway Widening 2- 4 lanes with intersection improvements	H+			H-		M-		R
Roadway Widening at Intersections	M+			Varies		L- / M-	M	HR
Jughandles	M+			Varies		M-	M	R
Safety Upgrades	L+			L-	M+		L / M	R
Way-finding signage	L+			L-	L+		L	R
Alternate Traffic Routing	M+			L-	M+		L	HR
Overpasses	H+			M-		L-	H	NR
Use of Shoulder Lanes	M+			L-	L+		L	NR
Land Use Strategies								
Comprehensive/Master Plan Updates								
Coordinate corridor land use and transportation visions	M+			L-	M+		L	HR
Address traffic generation in development vision	M+			L-	M+		L	HR
Zoning and Subdivision Regulations	M+			L-	M+		L	R
Alternate Commercial Zoning	M+			L -	H+		L	R
Development Guidelines/Negotiated Agreements	M+			L -	M+		L	R
Access Management	H+			L -	M+		M	HR
Bike, pedestrian, and transit-friendly site design	L+		L+		H+		L	HR
Alternative Commercial Use Strategies	M+		-		M+		L	HR
Center-based Development	H+		L+		H+		M	R
Consistency with NJ State Plan	M+		M +		M+		L	R

H = High
M = Moderate
L = Low
- = No Impact / Insignificant Change

HR= Highly Recommended
R= Recommended
NR= Not Recommended

Section 6: Corridor Issues and General Improvement Strategies (Short List)

Problem Statements and Solution Strategies

Land Use
Analysis of existing conditions, developable land areas, stakeholder input, and land use plans in the corridor identified several land use problem statements for attention in this study, including:

- Master Plan Documents that do not address the needs of the Corridor;
- Zoning and Subdivision regulations that do not address the needs of the Corridor;
- Potential for an extreme increase in commercial development in the Corridor;
- Incomplete Bicycle and Pedestrian Networks;
- Lack of consistency with the NJ State Plan; and,
- Lack of transit options in the Corridor.

Each problem statement has traffic, community, and cost implications that will be described in detail along with the corresponding land use solution and target implementation areas, where applicable. The consultant team included all corridor municipalities in the planning process. However, some solution strategies are applicable only where large areas of developable land exists. Therefore, some solution statements mention only Marlboro Township and Freehold Township.

Where appropriate, the consultant team identified potential locations, estimated cost, phasing, land use implications, and responsible agencies for each implementation strategy.

Target locations for each solution are organized either by municipality or by land use solution areas, as shown in **EXHIBIT 30**. These areas were identified for major roads only and do not indicate political or planning boundaries. Broader solution strategies are described by municipality.

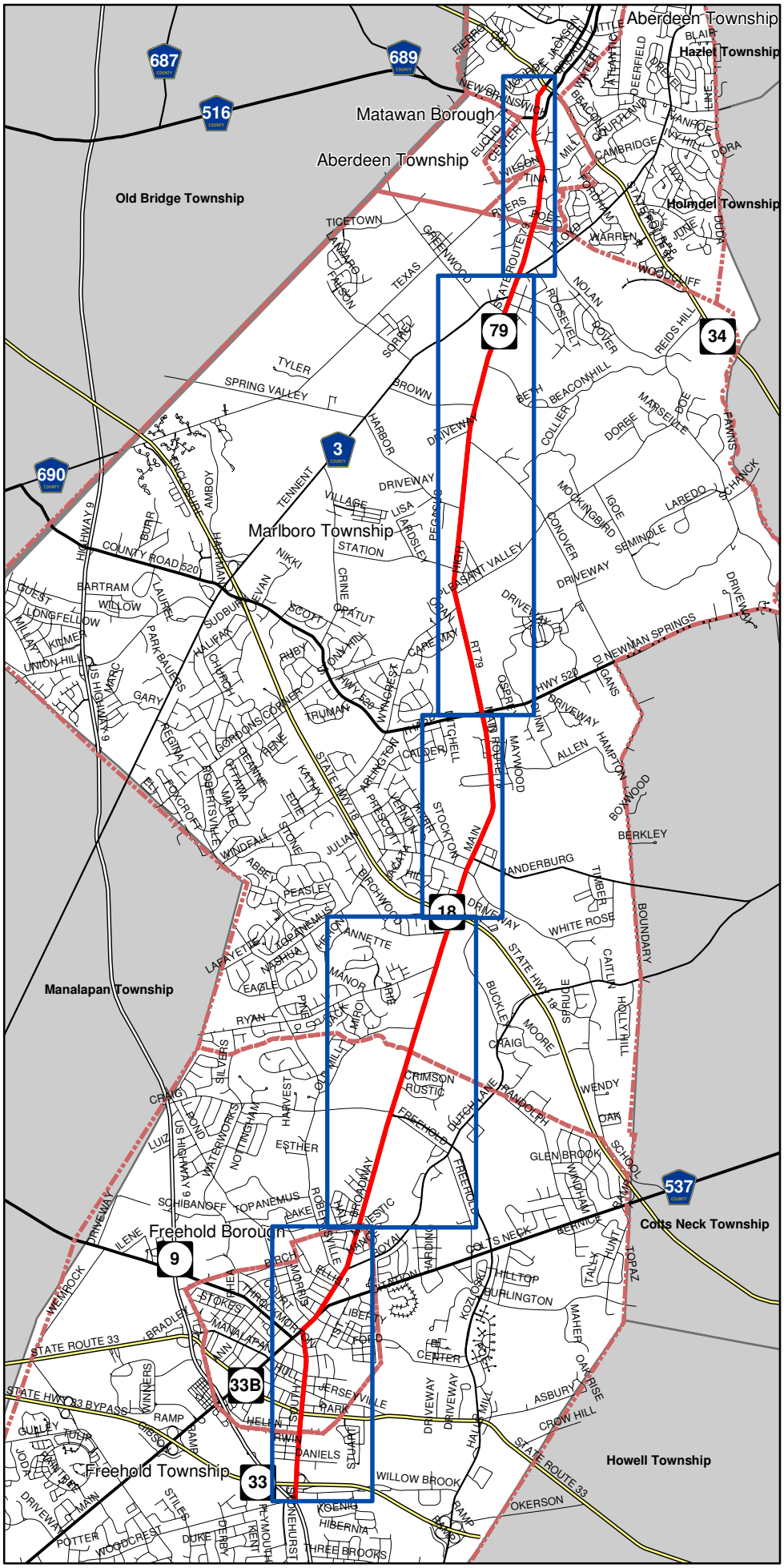
Problem: Master Plan Documents that do not address the needs of the Corridor

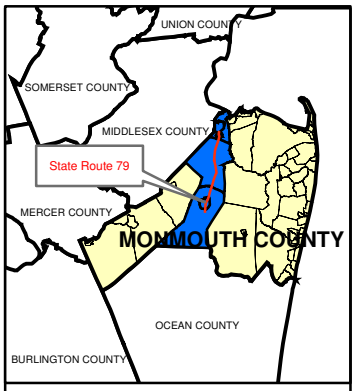
Municipal Comprehensive Plans are generally out-of-date or do not specifically address growth on Route 79. Master Plan documents have been updated in the corridor as shown in **Table 21**.

TABLE 20: MASTER PLAN DOCUMENT DATES

Municipality	Master Plan	Reexamination	Other Plans
Aberdeen Twp	1982	2003	
Matawan Borough	1982	2003	
Marlboro Township	2005		Circulation Plan 1997, Amend. 2002, new draft in progress
Freehold Township	1998	2001	Circulation Plan 1999
Freehold Borough	1980	1995; draft in progress	Circulation Plan 1980
Source: Western Monmouth Development Plan and Monmouth County Planning Board			

Without specific goals in a municipality's Master Plan, officials cannot support alternate land development types, traffic mitigation techniques, goals for Route 79, or unified corridor visions. There is currently no documented unified vision for Route 79 regarding primary use, desired width, or land use strategies. Several municipalities in the corridor have included discussion of Route 79 in master planning documents, however goal statements for land use and transportation are not present in the planning documents. In project meetings for this study, stakeholders agreed that a major vision goal for the corridor is a 2-lane roadway character but this concept is undocumented in municipal planning documents.





Legend

Land Use Strategy Solution Areas

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 30

Land Use Strategy Solution Areas

0 0.5 1 Miles

Source:
Road geometry and subtype from NJDOT 2004 Roads. Sidewalk locations from aerial photography.

MONMOUTH COUNTY
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Circulation Elements in several municipalities do not reflect the pending growth on Route 79. Marlboro Township Circulation Element, last amended in 1997, defines Route 79 as a minor arterial. Proposed Roadway Improvement priority segments include School Road East between Route 79 and Dutch Lane Road and County Route 520 between Wyncrest Road and Route 79. Priority intersection improvements include Ryan Road and Route 79, Pleasant Valley Road and Route 79, Station Road and Route 79, and Vanderburg Road at Route 79. While these segments and intersections are highlighted as improvement areas, roadway improvement and traffic mitigation techniques are not discussed for these locations. The Circulation Element does note that improvements on Route 79 are the responsibility of Monmouth County.

The Freehold Township Circulation Plan, last amended in 1999, classifies Route 79 as a major collector street. No improvements are suggested for Route 79 in Freehold Township. A proposed realignment and extension of East Freehold Road from County Route 537 to Route 9 is mentioned to provide Freehold Township with an east-west minor arterial roadway. This improvement has not yet been implemented and is facing strong resident opposition. The Freehold Township Circulation Plan also suggests design standards for new local streets with curbing and sidewalks required in higher density development areas and near schools but not in rural development areas.

Circulation Elements and Master Plan do not include discussion of NJDOT Desired Typical Section (DTS) and whether the current DTS is appropriate for Route 79. Presently, the majority of the DTS for Route 79 is 4-lane undivided with shoulders or parking. This is inconsistent with the vision of 2-lane small town roadway expressed by each municipality in the corridor. Both Freehold Township and Marlboro Township mention the NJDOT DTS but there are no suggestions for changing the designations.

Solution: Update Master Plans to Include Land Use and Transportation Goals on Route 79

TABLE 21: MASTER PLAN-MUNICIPAL SPECIFIC SOLUTION STRATEGIES TO BE INCLUDED IN UPDATES

Municipality	Document Unified Corridor Vision	Character of Roadway	Intersection and Roadway Improvements on Route 79	Include Appropriate DTS	Circulation Plan Update	Center-Based Development	Alternate Transportation Facilities
Marlboro Twp	X	X	X	X	X	X	X
Freehold Twp	X	X	X	X	X	X	X
Freehold Boro	X		X				X
Aberdeen Twp	X		X				X
Matawan Boro	X		X				X

The Master Plans and Circulation Elements of each municipality must clearly reflect the transportation and land use goals of the corridor. The consultant team recommends that the corridor communities work together to document the 2-lane roadway unified vision for the corridor. The land use and transportation goals of each Master Plan should include language beyond increasing the flow of traffic through the municipalities. Land use goals that would increase traffic in the corridor throughout several municipalities should be included and discussed at length, including mixed-use development, potential development centers, and large residential developments. Regional and municipal pedestrian and bicycle facilities should also be part of the corridor unified vision discussions.

Each Master Plan and Circulation Element should state the goal of maintaining the 2-lane character of the roadway. Additionally, the NJDOT Desired Typical Section (DTS) must reflect this goal as well. The Circulation Elements of each municipality should reflect this preference and the municipalities should petition NJDOT for a change in the official DTS.

Problem: Zoning and Subdivision Regulations Do Not Reflect the Desired Character of Route 79

The following disconnects were noted between the zoning and subdivision regulations and the desired character of the corridor as noted by the municipalities:

- Zoning densities have the potential to allow extremely large population and employment increases within the corridor
- Zoning and Subdivision regulations currently allow for:
  - Disconnected compatible land uses
  - Lack of "sense of place"
  - Disconnected pedestrian facilities
  - Strip Development Types
  - Frequent Curb Cuts
  - Development patterns that encourage traffic congestion
  - Changes to the character of the corridor

Solution: Zoning and Subdivision Strategies to Guide Desired Growth and Character of Route 79

Connectivity of compatible adjacent uses should be encouraged in the subdivision regulations of each community. Residential developments should also be required to retrofit existing infrastructure to accommodate bicycle and pedestrian connections.

Language in the zoning code could encourage mixed-use and dense development projects through density bonuses. Parking regulations in each municipality should be examined and amended if necessary to add shared parking benefits for mixed use projects. Zoning can also reflect a preference against strip development and focus toward center-based or mixed-use development.

In new and existing developments, new urbanist principles should be reflected in the zoning and subdivision regulations, including zoning for community design, step back regulations that fit a small-scale roadway, and pedestrian scale development concepts.

Each of these concepts will require further study to reflect specific goals and zoning language in each municipality.

Marlboro: The C-3 zone contains a requirement for a 200-foot buffer to be included where a commercial use abuts a residential zone. The 200-foot buffer will serve to reduce noise and improve aesthetics for adjacent residential and commercial uses. The Village Commercial (C-1) Zone is located in Marlboro Village north of School Road along Route 79 and contains extensive development controls in order to preserve unique historical character of that area. A proposed C-1 Zone District expansion will include the eastern portion of the adjacent light industrial and office

zones. The proposed rezoning of the zone districts would provide an opportunity to both buffer Marlboro Village from incompatible uses and allow for the expansion of the Village area.

Encourage Zoning and Subdivision Regulations to include:

- Connectivity of compatible uses
- Mixed-use and higher-intensity development patterns at future commercial development areas
- Benefits for access management strategies in new and retrofitted projects
- A preference against strip development types
- Placemaking strategies
- Development trip generation limits or impact fees
- Accommodation for regional and site-specific pedestrian and bike facilities
- Commercial zoning goals and development caps
- State plan density targets

TABLE 22: ZONING AND SUBDIVISION REGULATION TARGETS TO BE INCLUDED IN EACH MUNICIPALITY

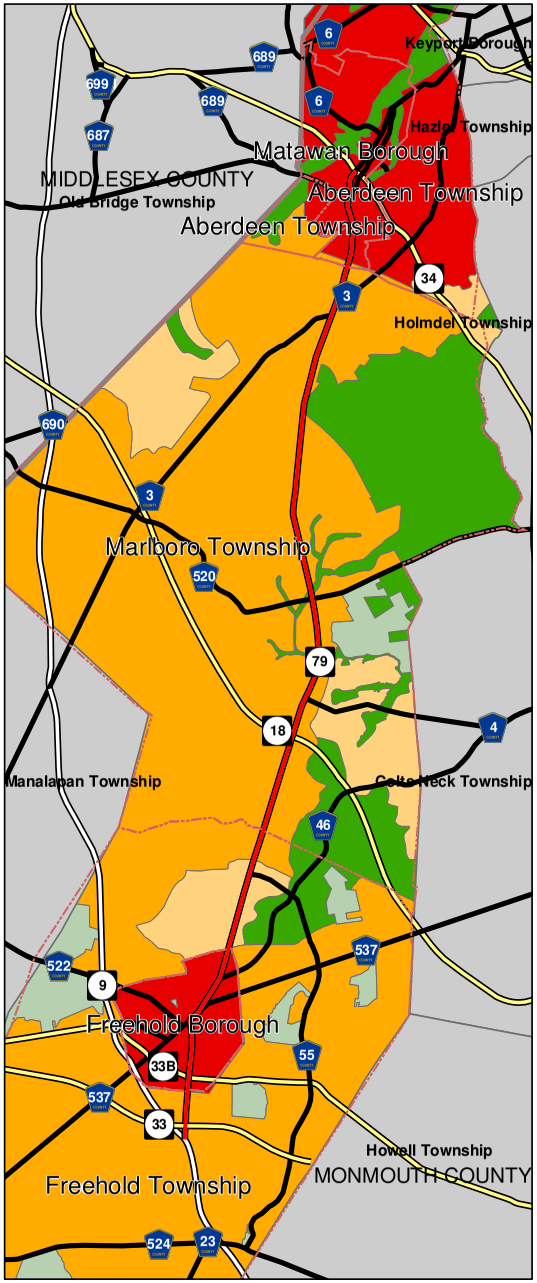
Municipality	Connectivity of Uses	Mixed-Use Development	Placemaking Strategies	Impact Fees for New Development	Provisions for Alternate Transportation Facilities	Access Management	Analysis of Commercial Zoning Goals
Marlboro Twp	X	X	X	X	X	X	X
Freehold Twp	X	X	X	X	X	X	
Freehold Boro					X		
Aberdeen Twp	X				X		
Matawan Boro	X				X		

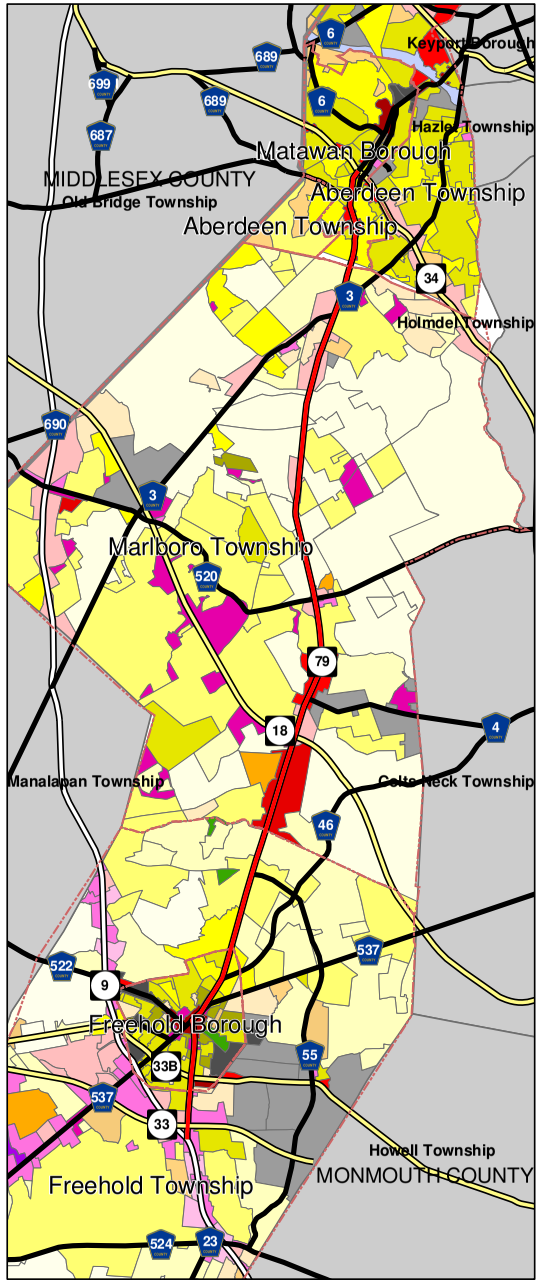
Problem: Lack of Consistency with the NJ State Plan (SEE EXHIBIT 31)

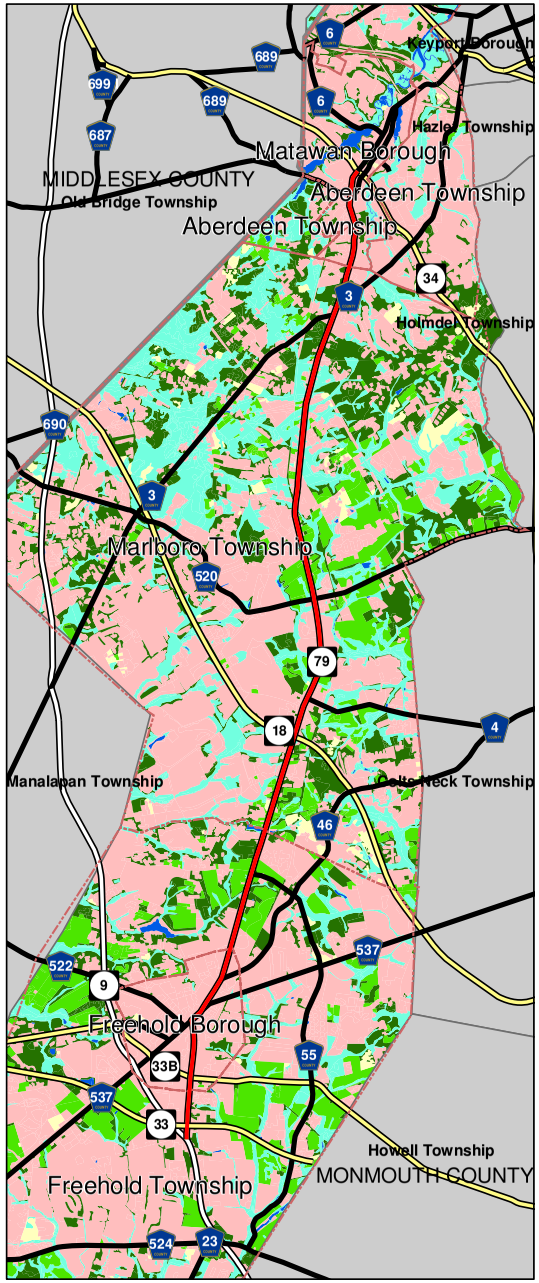
Each municipality should examine zoning and land use goals along with State Planning Area goals to ensure consistency with the NJ State Development and Redevelopment Plan. While all Master Planning documents are fully consistent with the NJ State Plan, the several land uses, and densities in the corridor are potentially inconsistent with the State Plan in some areas.

While zoning classifications fit narrowly into State Plan goals, the forecast direction of the growth does not match in all areas. At proposed center-based development locations, the airport and hospital development sites and between County Route 520 and the Freehold Township border, areas are zoned for single-family with a minimum lot size 80,000 SF, or for the Village Commercial or Commercial Industrial Zone Districts.

According to build-out methodology, the zoning in these developable areas at the zoned density calls for more growth than both the municipality visioning and transportation systems can handle. Zoning regulations must communicate the municipality's desire to maintain the character of the roadway on Route 79. With build-out of current zoning, the resulting traffic will be such that this rural character will be significantly reduced.







State Planning Areas

- PA 1- Metropolitan
- PA 2- Suburban
- PA 3- Fringe
- PA 4- Rural
- PA 5: Env. Sensitive
- PA 6, above: Parkland

Composite Zoning

Residential	SF-0
	SF-05
	SF-10
	SF-20
	SF-40
	SF-80
Multi-Family	MF-0
	MF-08
	MF-15
Mixed-Use	MU-0
	MU-08
Commercial	C-0
	C-12.5
	C-50
Office Business	OB-0
	OB-01
	OB-10
Industrial	ROWL-10
	I-0
	I-01
Conservation Recreation	Con/Rec
	CON/REC

Land Use

- URBAN
- BARREN LAND
- AGRICULTURE
- FOREST
- WATER
- WETLANDS

EXHIBIT 31

State Plan, Composite Zoning, and Existing Land Use

0 0.5 1 Miles

Source: Road geometry and subtype from NJDOT 2004 Roads. Land use based on 2002 data provided by NJDEP. Building footprints provided by Monmouth Co.

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Solution: Examine Growth with NJ State Plan Goal Statements and Densities

Master Plan and Circulation Elements should include analysis of State Plan centers as part of the update. Land use and transportation strategies should include measures to ensure consistency with the NJ State Plan, including a build-out analysis, future travel demand studies for large development types, and reexamination of the desired character of Route 79 in the corridor.

Problem: Potential for Extreme Increase in Commercial Development

Several municipalities in the corridor encourage commercial and industrial uses on newly zoned areas directly fronting Route 79. Marlboro Township recently expanded the C-3 and C-1 zones to increase development opportunities. The C-1 zone in Marlboro Township contains Marlboro Village Center, an existing center in the NJ State Plan, which permits higher density development. The Freehold Regional Center is a proposed NJ State Plan center at the intersection of Routes 9, 33, and 79.

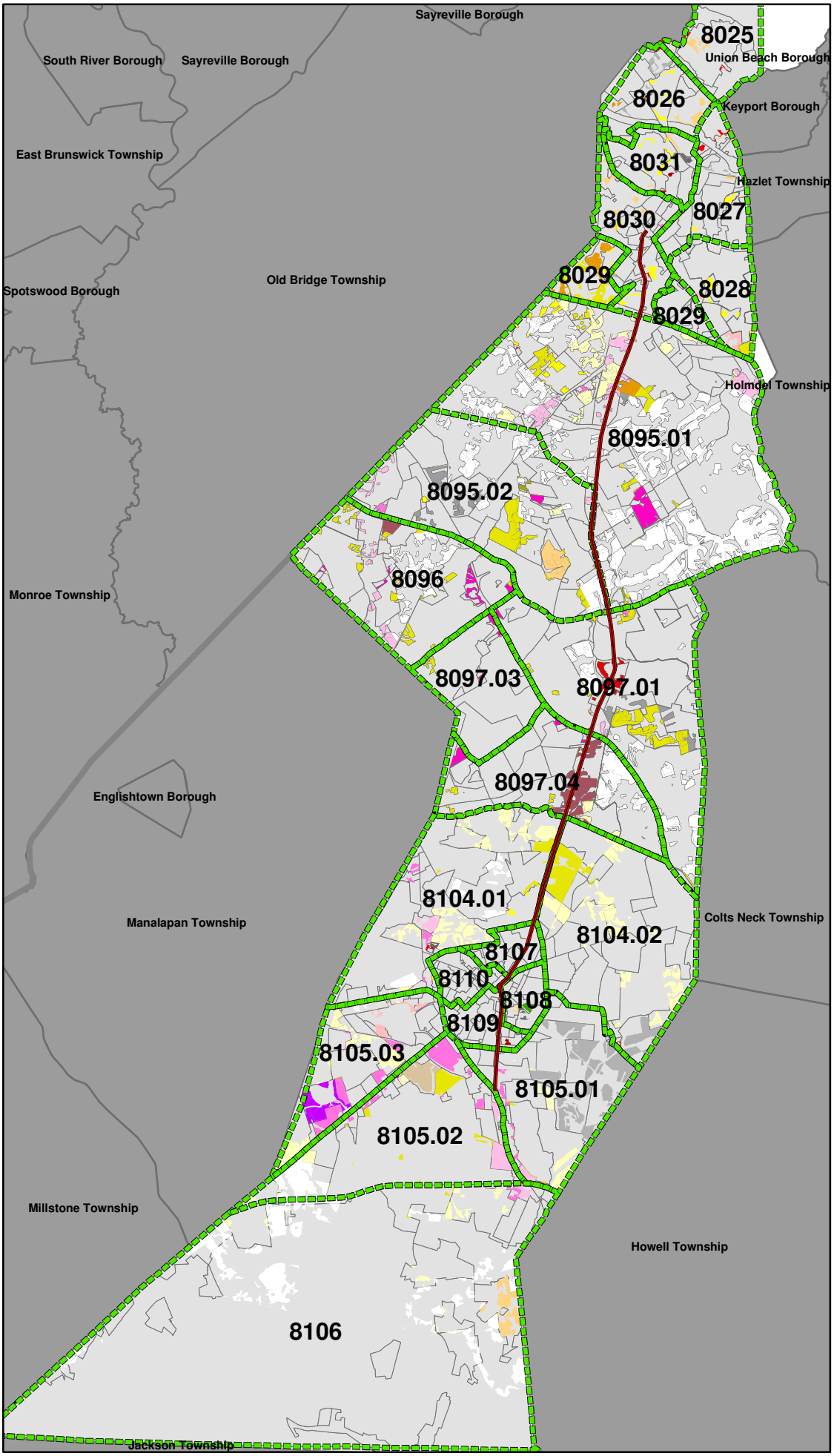
There are several large developable areas available for commercial or industrial development, as shown in **EXHIBIT 32**. Large developable areas of the Marlboro C-1 zone are adjacent to existing development. High densities are permitted in this zone, which may potentially increase traffic generation if development is implemented without traffic mitigation techniques. Two major redevelopment sites are also available for development in Marlboro: the former Marlboro Airport site and the former Marlboro State Hospital site. Both sites are in the process of being re-zoned to allow for development at this time.

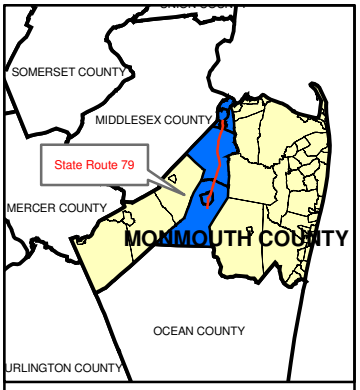
Solution: Center-Based Development Strategies

TABLE 23: PROPOSED CENTER BASED DEVELOPMENT LOCATION-SPECIFIC SOLUTION STRATEGIES

	Examine Center Based Development Concepts and Locations	Increase Walkability on Connecting Roadways	Verify Access to Infrastructure	Concentrate Growth at Center Development	Increase Access to Alternate Forms of Transportation at Center Developments
Route 34 – Lloyd Road		X			
Lloyd Road – Route 520	X	X	X	X	X
Route 520 – Route 18	X	X	X	X	X
Route 18 – Freehold Boro Line	X	X	X	X	X
Freehold Boro – Route 33 Business	X		X	X	X

Encouraging center-based development would increase site-specific density and mix of uses without allowing for a uniform increase in traffic throughout the corridor. Mixed-use and center-based development on one or adjacent sites promotes movement throughout the site to keep traffic off of Route 79. Mixed-use development combine several typical day and nighttime uses and effectively reduce trip generation for those living on-site or in nearby connected development.





Legend

Route 79

Census Tract Boundary

- C-0
- C-12.5
- C-50
- CON/REC
- I-0
- I-01
- MF-0
- MF-08
- MF-15
- MU-0
- OB-0
- OB-01
- OB-10
- ROWL-10
- SF-0
- SF-05
- SF-10
- SF-20
- SF-40
- SF-80

EXHIBIT 32

Developable Land with Composite Zoning

0 0.5 1 2 Miles

N

Source: NJDOT 2004 Roads, Monmouth County Planning Dept., Stantec Planning Analysis

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In areas dominated by strip development types, a walkable mixed-use center creates a sense of place that is otherwise absent. Placemaking concepts could define this sense of place in Marlboro Township as a whole as well as Marlboro Village, the newly-approved State Plan center.

Several land use planning strategies are necessary to prepare a municipality for center-based development. Shared parking provisions for mixed-use development types can reduce the total required parking for each use. Access management techniques can decrease curb cuts on Route 79 and increase safety as well as flow into and out of developments. Zoning to protect surrounding uses could offer a buffer between environmental, industrial, and other incompatible uses or create a seamless connection between compatible uses. Incorporation of regional and local bicycle and pedestrian facilities could increase the involvement of the center development in the community. Provisions can be required in zoning and subdivision plans to incorporate recreation facilities into new developments.

Several potential center-based development opportunities exist within the Route 79 corridor, including: airport and hospital redevelopment sites, commercially zoned areas of developable land between Route 520 and Route 18 and between Route 18 and the Freehold Township boundary, and a concentration of mixed-use zoned developable land near the intersection of County Route 3 and Route 79. These locations are shown in **EXHIBIT 33**.

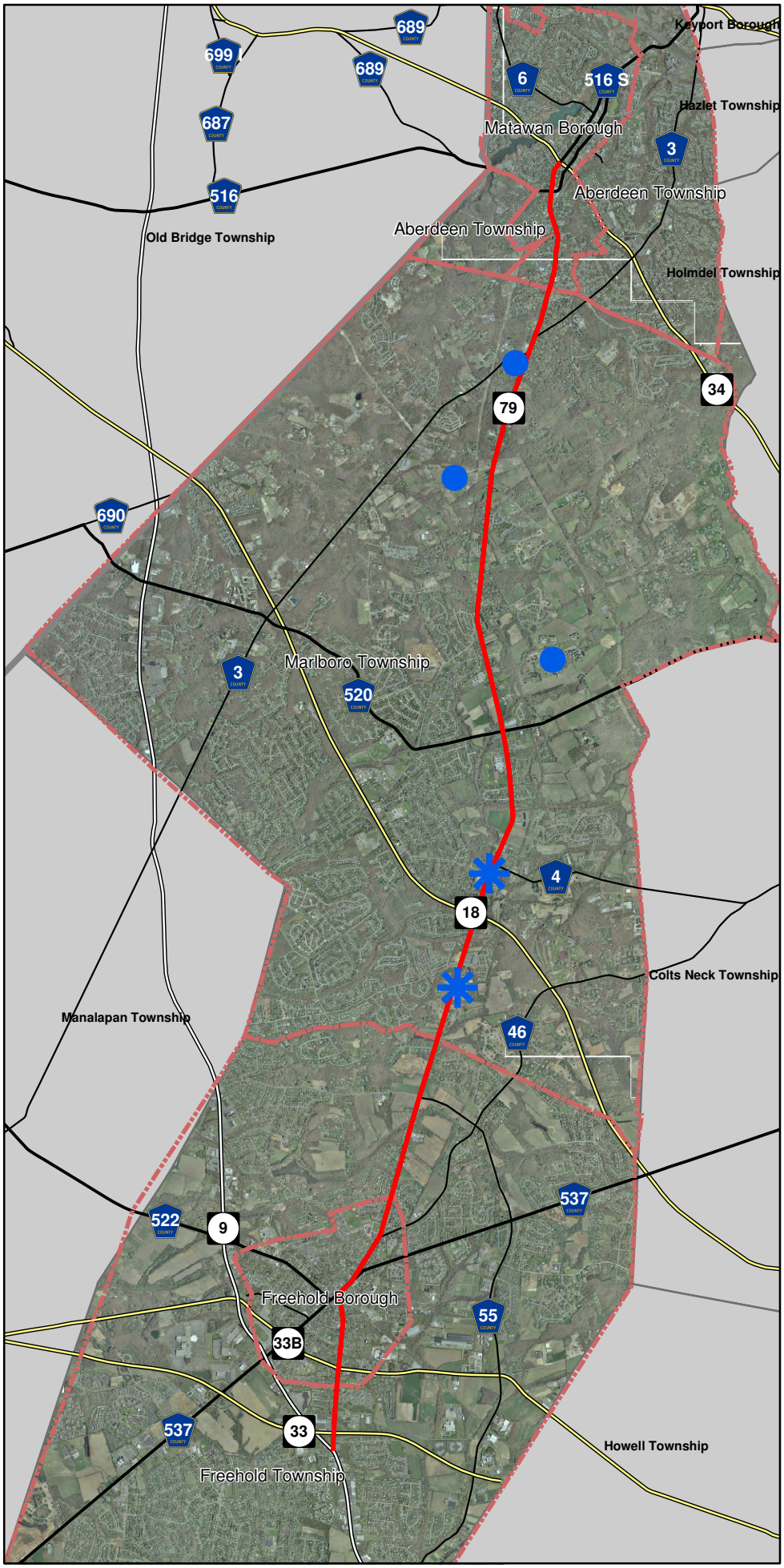
Transportation

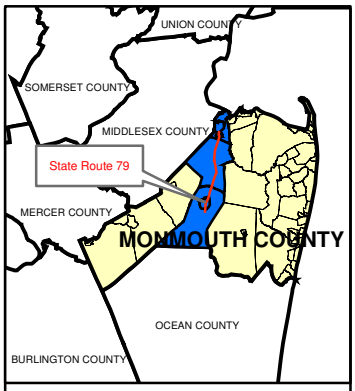
Problem: Incomplete Bicycle and Pedestrian Networks

There are several local and regional bicycle and pedestrian networks in the Route 79 corridor. Unfortunately, bicycle and pedestrian networks are not consistent or complete in all areas of the corridor.

Currently, the Henry Hudson Trail exists in varying forms as an off-road or dedicated bikeway from Atlantic Highlands to Freehold Borough. Unfortunately, there are several missing links in the recreation trail. The trail now runs from Atlantic Highlands to Matawan, Aberdeen to Marlboro Township, and Marlboro Township to Freehold Borough. At several of these gaps there is not sufficient directional signage or facilities to allow for a safe alternative route. Since the trail is on a railroad right-of-way, most of the trail is parallel to roadways rather than on-road. However, several bridges have been cleared and the safety of road crossings is an issue, especially in high roadway speed sections like Route 79 at Station Road and busy regional roadway intersections, such as the intersection of Route 79 and County Route 520. There are also very few trailheads in the corridor; just one trailhead is located on private property behind the Bicycle Hub bike shop on Route 79 north of Station Road. Existing Trail facilities and expansion plans are shown in **EXHIBIT 34**.

The sidewalk facilities in the corridor are also substantial yet incomplete. There is a full sidewalk network in Freehold Borough and in parts of Matawan Borough. In Freehold Township and Marlboro Township, sidewalks are limited to the Marlboro Village Center area between Route 18 and Route 520, and just south of East Freehold Road on Route 79. Sidewalks are often alternately on the west and east side of Route 79 without pedestrian crossings. Existing sidewalk locations are shown once again in **EXHIBIT 35.** As identified in the existing conditions section of this study, several major intersections do not have crosswalks, pedestrian signal heads, or ADA compliant ramps, including Wyncrest, Tennent and Lloyd Roads.





Legend

Municipal Boundary

Redevelopment Properties

Commercial Zoning Concentration

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 33

Proposed Center-Based Development Locations

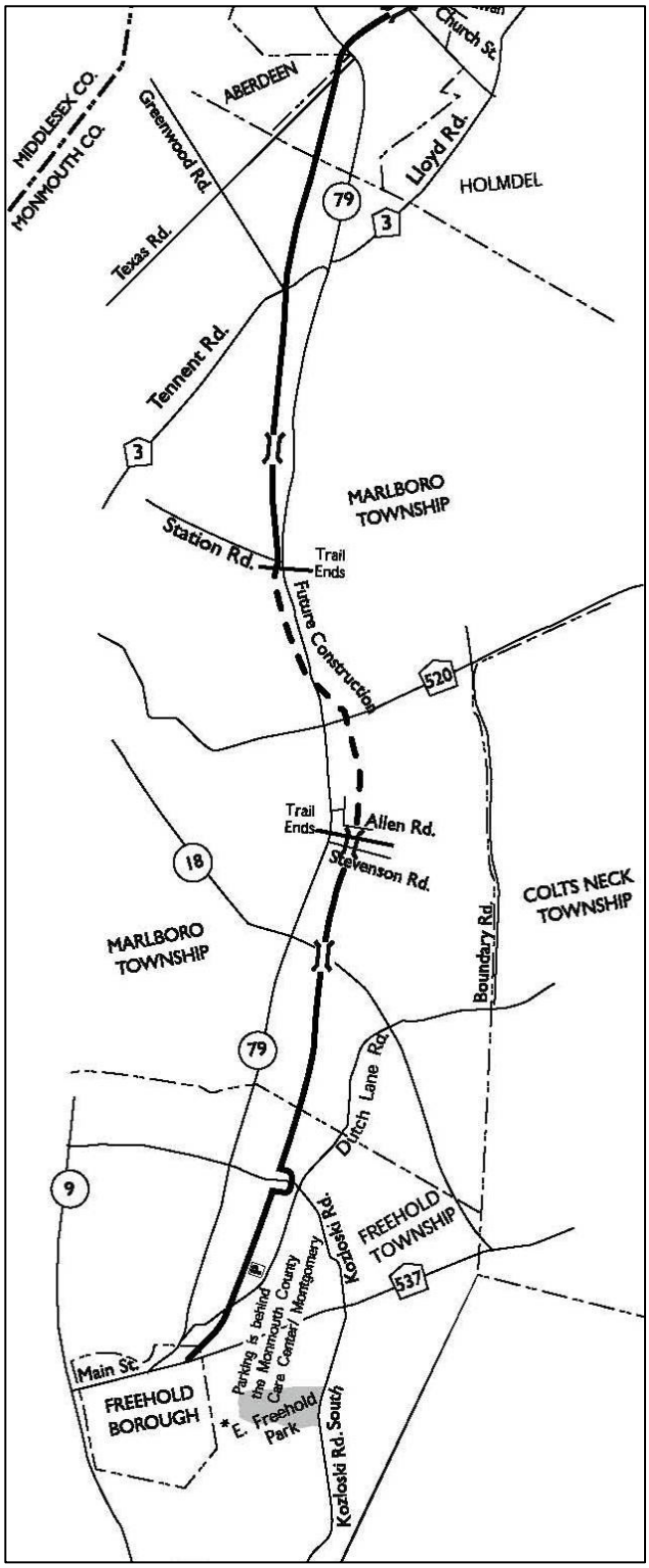
0 0.5 1 Miles

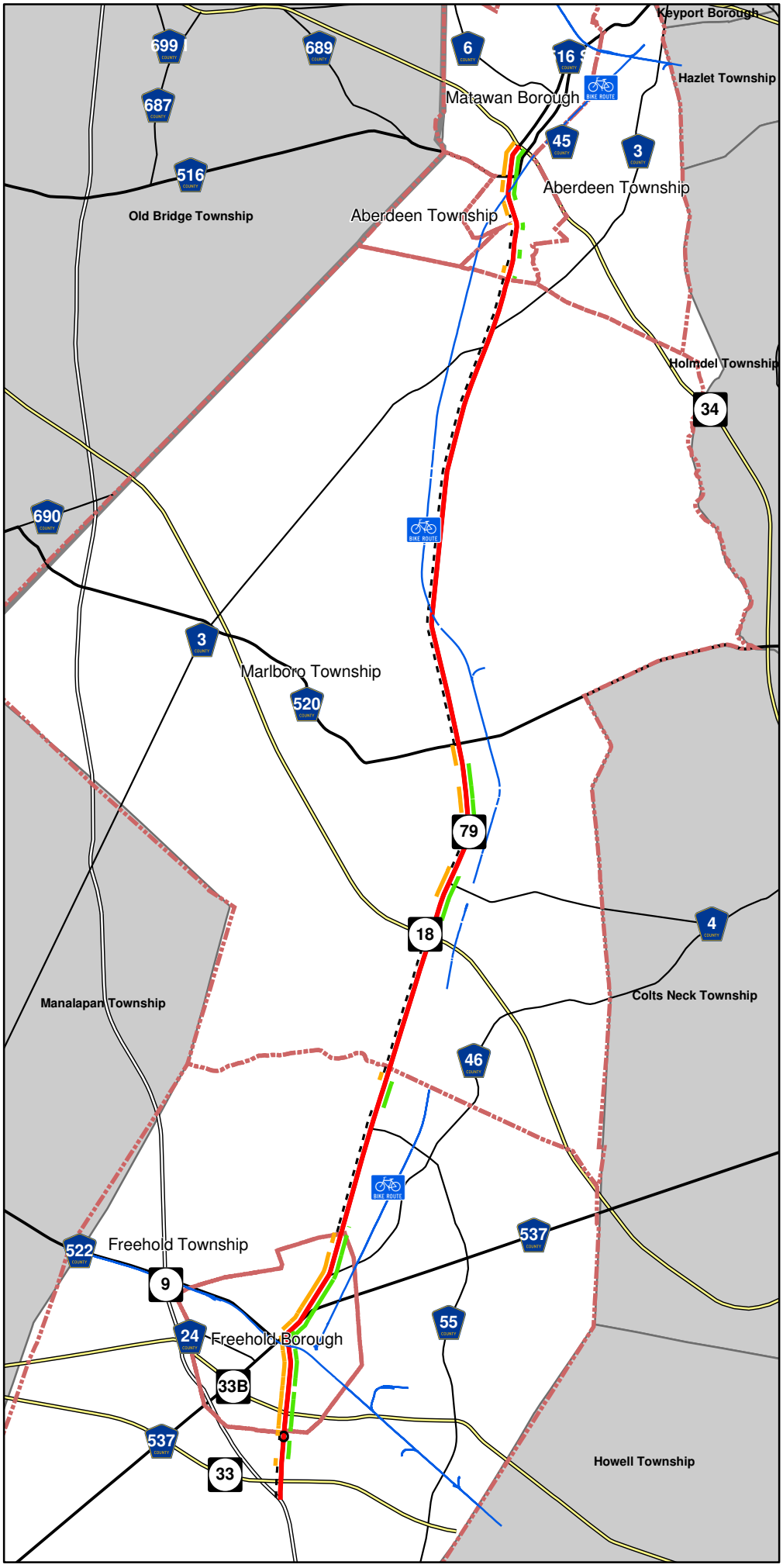
N

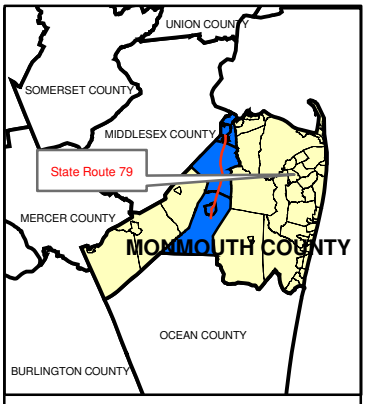
Source:
Road geometry and subtype from NJDOT 2004 Roads. Sidewalk locations from aerial photography.

MONMOUTH COUNTY
State Route 79 Corridor Study

EXHIBIT 34 – Henry Hudson Trail Map







Legend

Sidewalks

- None
- East Side
- West Side
- Both Sides
- Existing and Potential Bicycle Facility

Roadways

- State Highway
- Highway
- County Roads (500)
- County Roads (600)
- Route 79

EXHIBIT 35

Existing Pedestrian & Bicycle Facilities

0 0.5 1 Miles

N

Source:
Road geometry and subtype from NJDOT 2004 Roads. Bicylce lanes from Monmouth Co. Sidewalks interpreted from aerial photography.

MONMOUTH COUNTY
State Route 79 Corridor Study

Construction and connectivity for new or existing bicycle and pedestrian facilities is not required in several municipalities in the corridor. Although the Freehold Township Planning Board requires sidewalks in all commercial and densely populated residential areas in order to maintain pedestrian safety and encourage pedestrian traffic, some pedestrian and road connections between residential and commercial developments have met with local and neighborhood opposition. Freehold Township also supports bikeway development and recommends that major roadway reconstruction be designed to provide for Class III bikeways along the shoulders of the road. Marlboro Township does not currently require pedestrian connections between commercial centers, or between residential and commercial areas.

Solution: Priority Pedestrian and Bicycle Facility Expansion Areas

TABLE 24 - SOLUTION: PROPOSED PRIORITY BICYCLE AND PEDESTRIAN FACILITY EXPANSION AREAS

	Sidewalk Extension Areas	Crossing Improvements	Henry Hudson Trail Expansion Area	Trail – Roadway Study Required	Alternate Route Bicycle Area	Increased Bicycle Signage
Route 34 – Lloyd Road		X		X		
Lloyd Road – Route 520	X	X	X	X	X	X
Route 520 – Route 18		X	X	X	X	X
Route 18 – Freehold Boro Line	X	X				
Freehold Boro – Route 33 Business	X	X				

The NJDOT and Monmouth County Parks Department are currently examining strategies for the Henry Hudson Trail Southern Extension. Several crossing strategies are being examined for the corridor. Where the trail crosses high-speed roadways, solutions could include actuated signals or designated bike crossing areas.

One concept that could temporarily connect the trail system is a separated on-road bike lane along Route 79 from Allen Road to Station Road and on Church Road in Matawan to the Aberdeen-Matawan NJ Transit Station. This concept poses several serious issues, including possible needs for roadway widening, a crossing at the intersection of Route 520 and Route 79, and funding for the facilities. However, while funding and support is gathered for the completion of the Henry Hudson Trail, this interim solution could temporarily complete the trail system. The target bike lane area is shown on **EXHIBIT 36**.

Currently, bicyclists often cut through local roads without bike lanes in order to connect the trail sections. These local roads do not have bike lanes. Municipalities could consult with local bicycle groups to determine the best route along local roads and sign it accordingly for use as an alternate route. Roadway improvements such as shoulder expansions or sidewalks would be necessary on rural narrow roads.

Further study is necessary to determine a temporary or longer-term solution to connect the regional bicycle facilities.

Municipalities should work together to create a complete sidewalk network throughout the corridor. Until this goal is conceptualized through municipal cooperation, strategic sidewalk expansion

locations can be targeted for completion. Several areas have been identified as potentially beneficial to the communities in the corridor, including areas adjacent to schools, commercial corridors, sporting facilities, and existing or future town centers. These areas are identified in **EXHIBIT 37**, and include Marlboro Township from Route 520 to Route 18, Matawan Borough from County Route 3 south on Route 79 to the municipal boundary. Facilities should include provisions consistently on either the west or east side of Route 79 and crosswalks to access additional facilities where available, especially at busy intersections such as Route 520 or at the High School. Facility expansions should also include access to adjacent developments with existing sidewalk facilities, including most residential developments and specialty uses, like the senior housing center at Ryan Road near Route 79. Including access to these development types will significantly increase the pedestrian network in the corridor. The existing and proposed expansions of the Henry Hudson Trail can also serve as pedestrian access ways.

Bicycle and pedestrian facilities could be encouraged as part of municipal subdivision and zoning regulations for residential and commercial development. Connectivity could be provided between adjoining amenities and sidewalks could be required as part of new developments. These strategies will be particularly useful in Marlboro Township and Freehold Township as new growth occurs. In Freehold Township, existing Master Plan documents are referenced as prior support for bicycle and pedestrian facilities.

Problem: Lack of Transit Options in the Corridor

Several stakeholders commented on the need for increased transit facilities and service in or adjacent to the corridor. Connections to the Aberdeen-Matawan NJ Transit station could be expanded to include several additional Park and Ride lots, a transit shuttle on Route 79 from Freehold Borough to the station, and possible expanded rail service with NJ Transit or the Monmouth-Ocean-Middlesex rail line.

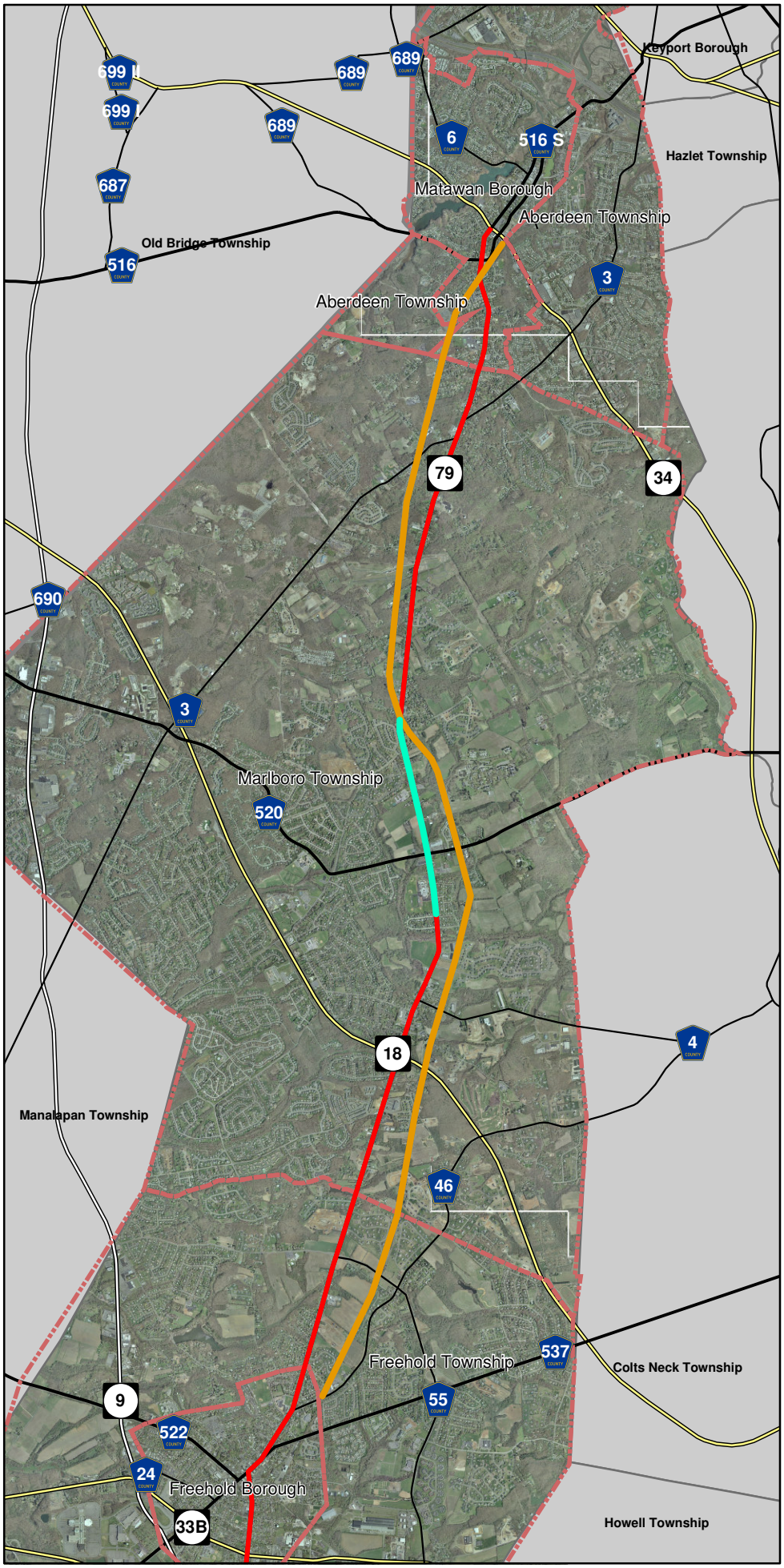
Ridership at the Aberdeen-Matawan station was 3,096 boardings per day in 2005. There are 1,958 parking spaces available at the station. Parking facilities at the Aberdeen-Matawan station are full to capacity with a waiting list of approximately 1,200 applicants or approximately 10 years according to Matawan officials. Several NJ Transit buses run through or adjacent to the corridor including the Freehold – NYC #135 bus from Freehold Borough to the Port Authority in New York via Route 79. There is no connection between the #135 bus and the Aberdeen-Matawan train station.

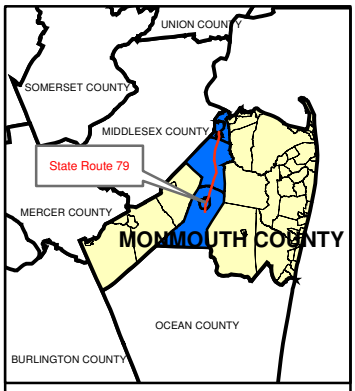
There is currently no identification of the Henry Hudson Historic Trail as a commuter amenity. The trail facilities are relatively flat in grade, safe, and run very near to the Aberdeen-Matawan train station. A bicycle advocate in the stakeholder group reported several commuters using the trail.

Solution: Transit Coordination and Expansion Strategies

TABLE 25 - SOLUTION: INCREASE TRANSIT SERVICE AND CONNECTION WITHIN THE CORRIDOR

	Potential Park and Ride Locations	Potential Bus Service Locations	Potential Train Station Shuttle Service	Accommodate HH Trail as Commuter Conduit	Potential Lakehurst to Monmouth Junction Train Service Area
Route 34 – Lloyd Road		X	X	X	X
Lloyd Road – Route 520	X		X	X	X
Route 520 – Route 18	X	X	X	X	X
Route 18 – Freehold Boro Line	X		X	X	X
Freehold Boro – Route 33 Business		X	X	X	X





Legend

Municipal Boundary

Bikeways

Henry Hudson Trail Right of Way

Proposed On-Road Bike Lane

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 36

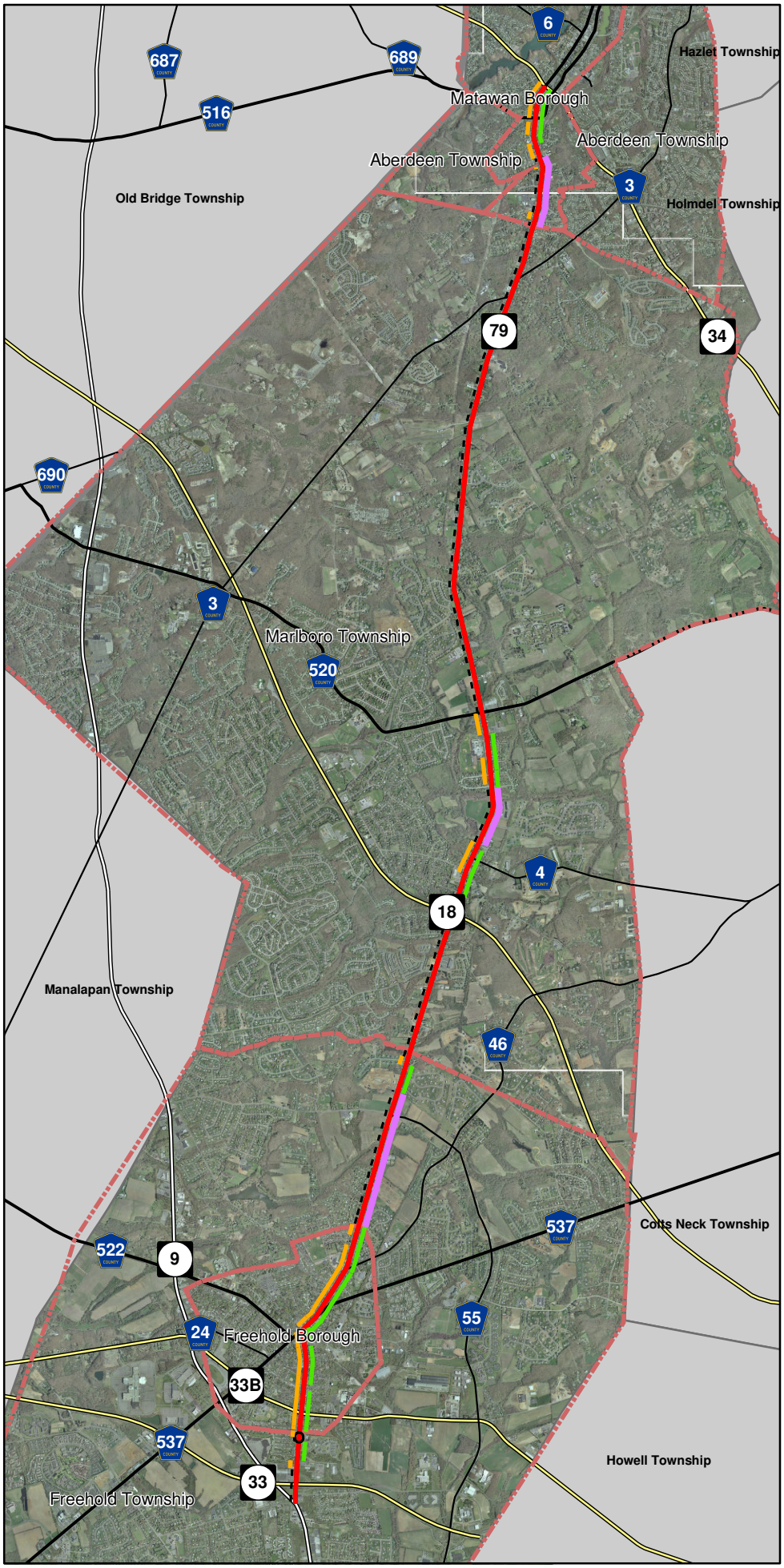
Existing and Proposed Bicycle Facilities

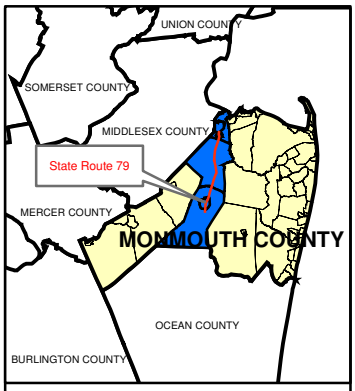
0 0.5 1 Miles

N

Source:
Road geometry and subtype from NJDOT 2004 Roads.

MONMOUTH COUNTY
State Route 79 Corridor Study





Legend

Municipal Boundary

Sidewalks

None

West Side

East Side

Both Sides

Proposed

Roadways

State Highway

Highway

County Roads (500)

County Roads (600)

Route 79

EXHIBIT 37

Existing and Proposed Pedestrian Facilities

0 0.5 1 Miles

N

Source:
Road geometry and subtype from NJDOT 2004 Roads. Sidewalk locations from aerial photography.

MONMOUTH COUNTY
State Route 79 Corridor Study

Several solution strategies could mitigate the lack of transit in the corridor:

Park and Ride Facilities
The NJ Transit bus Route #135 operates along Route 79 between Freehold and Marlboro; The Route #135 Bus offers express service to New York with a stop at the School Road Park and Ride Lot and the Freehold Transportation Center. Expanded Park and Ride facilities could decrease traffic on Route 79 and the surrounding roadways while maintaining connecting service to transit amenities. Currently, there are several Bus Park and Ride locations in the southern portion of the corridor: on School Road and Route 79 (Marlboro Park and Ride), downtown Freehold Borough at Throckmorton Street (Freehold Park and Ride), and at US 9 and NJ 33 (Freehold Mall Park and Ride). There are several locations north of County Route 520 that could be examined for possible Park and Ride facilities.

Shuttle Bus Service
Beginning in 2003 for a period of several months, an experimental shuttle bus service operated along Route 79 from Freehold Borough to the Aberdeen- Matawan train station. This service was not successful. It may have been due to the infrequent nature of the service (once per hour) and the availability of only 3 NB and 3 SB shuttle trips in the AM and PM peak periods that did not always offer direct connections to trains. If the involved municipalities are interested, it may be possible to develop a more commuter-friendly and frequent service with guaranteed rail connections from Park and Ride locations, dense residential areas, and mixed-use centers in study area communities some time in the future.

Passenger Rail service:
New passenger rail service for Central New Jersey has been proposed as part of NJ TRANSIT's Monmouth-Ocean-Middlesex Draft Environmental Impact Study (DEIS). Three alternatives are being studied – Lakehurst to Red Bank, Lakehurst to Matawan, and Lakehurst to Monmouth Junction.

Monmouth and Ocean Counties have long been advocates for the Monmouth Junction alignment that will offer rail service to residents in the study area at proposed stations in Freehold Township and Borough and in Manalapan. This alternative will have the most riders, offer the most passenger designations, serves the State Development and Redevelopment Plan's growth areas, and best reduces congestion in this region. The Matawan alternative is opposed by the county and residents in the study area for many reasons including the reactivation of a long defunct rail line with an abundance of encroachments, environmental and access issues, and the elimination of the over 2 million dollar Henry Hudson bicycle and pedestrian trail that is located on the right-of-way of the Matawan Line.

In 2001, NJ Transit proposed a feasibility study for a new station in the Laurence Harbor section of Old Bridge, between South Amboy and Matawan-Aberdeen stations on the North Coast line. At that time, 25% of riders using the Matawan-Aberdeen station resided in Old Bridge, according to the Old Bridge Planning Board. The addition of this station would greatly alleviate traffic congestion in Matawan and Aberdeen and throughout the Route 79 Corridor. The project is still in the planning stages at time of this draft.

Commuter Use of Multi-Use Trail Facilities

The Henry Hudson Historic Trail could be improved for use as a commuter path through several possible strategies:

- Improvements to crossing locations along Route 79, CR 520 and other higher volume roadways where car-bicycle interaction would occur to ensure enhanced safety;
- Locating commuter oriented services and parking near trailheads or trail end points;
- Completion of missing links and gaps in the existing trail; and
- Signage to direct cyclists to the next segment of the bike path or the train station.

The Monmouth County Parks Department and NJDOT are currently studying these issues. NJ TRANSIT and Meadowlink TMA could also seek to increase bicycle amenities like bike lockers, bike valet services, and signage to and from the end of the bike path near the Aberdeen-Matawan train station.

TABLE 26

Route 79 Corridor Land Use Strategy Location Recommendations

Location	Master Plan Updates			Zoning and Subdivision Regulations						Center Based Development	Consistency With NJ State Plan				Pedestrian and Bicycle Networks			Transit	
	Unified Corridor Vision	Appropriate DTS Limits	Circulation Plan Update	Access Management	Commercial Zoning Reexamination	Mixed-Use/Dense Development Patterns	Preference Against Strip Development Types	Connectivity of Compatible Land Uses	Accommodation for Regional and Local Bike/Ped Facilities	Further Study for Location and Development Potential	Limit Commercial Zoning Densities to PA Densities	Protect Lands of PA 4 and Above	Encourage Smart Growth Strategies	Facilitate Alternate Transportation Facilities	Sidewalk Expansion	Bicycle Facility Expansion	On-Street Bike Lanes	Additional Transit Service	Park and Ride Locations
Route 34 - Lloyd Road	O	O	O	O			O	O				O	O	O					
Lloyd Road - Route 520	O	O	O	O	O	O		O	O	O	O	O	O	O	O	O	O	O	
Route 520 - Route 18	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		O	
Route 18 - Freehold Boro Line	O	O	?	O				O	O		O		O	O	O				O
Freehold Boro Line - Route 33 Business	O	X	?	O			O						O	O					

Existing	X
Proposed	O

The implementation of the below recommended roadway improvements will help to maintain the character and viability of the Route 79 corridor in the future if implemented in conjunction with the land use solutions discussed earlier in the report. In order to better define specific project concepts for the transportations strategies listed below, the report includes a Project Packages section containing an outline of project issues, objectives and approaches, and sketch planning concepts for improvement configuration. The intention is that these project packages may be advanced into further planning, design and funding phases through the auspices of the regional Metropolitan Planning Organization and/or appropriate sponsor agencies.

Problem: Volume of Traffic on Main Street in Downtown Freehold
Significant operational deficiencies exist at the intersections of Route 79 with County Route 537 in downtown Freehold. The volume of both of these roadways is combined for approximately 0.15 miles. Since the Route 79 through traffic must turn right onto Main Street and then left to continue on Route 79, significant conflict occurs. The exclusive pedestrian phase at the intersection of Route 79 with Main Street and Court Street further complicates the operation, however this phase is necessary given the high volume of pedestrians in the downtown area.

Solution: Alternate Roadway / Future Study
The primary solution at this location is to reduce the volume of traffic traveling through downtown Freehold. This could be accomplished via a number of alternative roadways such as Route 18 or East Freehold Road / Kozloski Road. An additional alternative that could be considered is the signalization of Throckmorton Street at West Main Street (CR 537), however this alternative would require detailed study in conjunction with reexamining the overall circulation in Freehold Borough.

Problem: Mill Road / Wilson Road
These two closely spaced intersections (less 200' apart) were recently signalized. Due to the limited distance between the intersections, there is limited storage available for left turning vehicles and the volume of left turns has apparently increased since the signalization of these intersections. As a result, significant queuing results at the intersection and at times the queuing extends to Route 34.

Solution: Future Study
Monmouth County would be willing to support presenting to NJDOT any future solutions developed by the municipality.

As part of assessing transportation system improvements, the project team identified several intersections where physical design improvements can be directly applied. As appropriate, concept plans are developed for these locations.

Problem: Ryan Road
The left turn on the eastbound Ryan Road approach operates at a failing level of service with extensive queuing during both the AM and PM weekday peak periods. Route 79 widens to 2 lanes in each direction just north of the Ryan Road intersection in the vicinity of the Route 18 interchange. There are significant through volumes in both directions on Route 79 and the reduction to one lane in each direction prior to the Ryan Road intersection is a "choke point" for Route 79 traffic.

Solution: Add a Double Left Turn Lane and Receiving Lane (Short Term)
Add a Second Northbound and Southbound Thru Lane (Long Term)

Provide a double left turn lane on the eastbound Ryan Road approach to accommodate the high volume of left turning vehicles. Widen northbound Route 79 north of the Ryan Road intersection in order to receive the double left turn. As a long term solution, it is also recommended that two (2) through lanes are provided in each direction on Route 79 to eliminate the "choke point" and to accommodate future increase in the through traffic on Route 79.

Problem: School Road

The School Road approaches operate with significant delays during both the AM and PM weekday peaks. In particular, the westbound School Road approach operates at a failing level of service with extensive queuing during the PM peak period. Additionally, due to the significant volume of through traffic on Route 79 the northbound traffic regularly queues beyond Route 18. There is a reduction to one lane in each direction prior to the School Road intersection; this is a "choke point" for Route 79 traffic.

Solution: Add Minor Street Left Turn Lanes (Short Term)
Add a Second Northbound Thru Lane (Long Term)

Provide left turn lanes on both the eastbound and westbound School Road approach to accommodate the high volume of left turning vehicles. Widen the westbound approach to accommodate the additional lane and relocate the driveway for the business on the northeast corner of the intersection. It should be noted that Marlboro has begun advancing a similar improvement. As a long term solution, it is also recommended that two (2) through lanes are provided in the northbound direction on Route 79 to eliminate the "choke point" and to accommodate future increase in the through traffic on Route 79.

Problem: Marlboro High School

There is a significant volume of busses, students and faculty entering and exiting the school during the weekday peak periods. In order to safely allow vehicles in and out of the high school, Marlboro Township Police stop all through traffic on Route 79. The police are generally on site for 30-45 minutes each afternoon when the school lets out for the day. This has been an ongoing problem for over 20 years.

Solution: Provide a Traffic Signal (Immediate)

Perform a traffic signal warrant analysis for the school driveway to verify that a traffic signal is warranted at the driveway. Based on the feedback received from members of the Steering Committee it is assumed that a peak hour warrant analysis would be satisfied and that NJDOT would be agreeable to the installation of a traffic signal at this location. The school's driveway would be reconfigured to align with Palmer Court.

Problem: Newman Springs Road

There is a heavy volume of traffic on both of the Newman Springs Road (CR 520) approaches to the intersection. The westbound left turn movement operates at level of service F with significant delays in the existing conditions. As traffic continues to increase within the corridor, even at a modest rate, the CR 520 approaches will begin to fail. Additionally there is a significant volume of northbound right turns during the AM weekday peak period.

Solution: Add Additional Lanes (Long Term)
Provide a left turn lane, a through lane and a through/right turn lane on both Newman Springs Road approaches. Provide a dedicated right turn lane in the northbound direction. There are currently developments proposed on both the northwest and southeast corners of the intersection, therefore there is a potential that the ROW could be acquired from the developers during the development process. There may also be an opportunity to have the developers make or contribute to some of the recommended improvements to mitigate the impacts of the proposed developments. Both Marlboro and the County should advance these opportunities.

In addition to the above improvements minor improvements and signal timing modifications are recommended at the intersections noted below. The Monmouth County Engineering Departments should utilize information contained in this report to recommended timing changes to NJDOT for implementation by their maintenance/operations departments.

- Route 79 & Kozloski Road (Additional green time should be allotted to the southbound left turn movement)
- Route 79 & Lloyd Road (Additional green time should be allotted to the westbound approach)
- Install “Left Turn Yield on Green” signs (R10-12) on all four approaches of the intersection at Route 79 and Ryan Road/Inverness Drive.
- Install side road symbol signs on both Route 79 approaches to Stevenson Drive (W2-2) to alert motorists of the upcoming intersection.

Section 7: Phasing of the Improvements

There are important actions that can be taken by each level of government, local, county and state, and these actions relate to projects that can be achieved in the near-term, medium-term and long-term. The types of projects, and actions, that are recommended fall into several clusters.

- Build Projects: Projects involving engineering design, property acquisition (such as for intersection improvements) and construction have relatively long lead times, but, in terms of action, can and should be initiated as soon as possible by Monmouth County with formal endorsements from the affected municipalities. This initiation will usually include requests to place the projects on the Transportation Improvement Program at the regional planning organization, NJTPA, and may sometimes include preliminary detailed traffic studies, preliminary engineering and cost estimating. The traffic studies and preliminary engineering will build on the studies performed for this Route 79 Corridor Improvement Project, which can be characterized as the documentation of project 'need'.

- Policy Development: Critical recommendations developed in the course of this study involve state, county and local policies, and, more specifically the formal documentation of those policies. Systems now employed to allocate state capital resources require that the allocations be supportive of, and consistent with, local plans and policies. While to some this may seem bureaucratic, it serves a vital function in that the process of policy change is a public one, one about which discussion and consensus building is necessary. A critical example of this is the absence of clear goal and policy statements for the Route 79 corridor in several municipal master plans. State and county policy issues also arise, however, these are greatly influenced by the municipal policies which form the basis of the discussion and possible negotiations.

- Specific Regulatory Changes: Broad policy development is critical to committing public resources but local regulatory systems largely govern the interaction between private investors, such as developers of commercial or residential projects. Municipal governments have the latitude to modify these regulations extensively. While there is an interaction with state regulatory systems, especially in wetland protection and highway access, local regulations govern the location and distribution of types of development. Changes to the present designated locations for development, especially commercial development, and changes to the intensity and types of development to be permitted, emerged as recommendations in the Route 79 Corridor Improvement Project.

- Service Changes: There were two areas of service that became strong recommendations in the corridor study. One was to improve the system available to bicyclists so that cycling could become a viable option for commuters linking to transit. This will be treated largely as a 'build' project. The second is a strong recommendation to improve transit service in the corridor, especially the link from Freehold to the NJT railroad station in Matawan.

Phasing and sequencing of the actions by the state, county and municipal governments is generally recommended to be as follows:

TABLE 27- APPROXIMATE SEQUENCING OF IMPROVEMENT ACTIONS

Action	Type	Responsible Party
Update Planning Documents	Policy Development	Municipalities
Zoning and Development Goal Revisions	Regulatory Changes	Municipalities
Update County Planning Documents	Policy Development	County
Intersection Improvements	Build Project	County
Advocate Transit Expansion	Service Changes	County
Alter NJDOT Desired Typical Section Classifications	Policy Changes	State of New Jersey
Assist in Municipal Planning Updates	Regulatory Changes	State of New Jersey
Complete Henry Hudson Trail	Build Project	State of New Jersey

Municipal Actions:

- Policy Development: Update, to the extent necessary, municipal master plans to reflect the long-term character desired for Route 79. The semi-rural two-lane basic design, with intersection improvements that improve through-put of traffic was clearly expressed in the course of the study as the desired character. Three other items would benefit from additional emphasis in the local transportation plan elements for the corridor, the completion of the Henry Hudson Trail, the imposition of a more rigorous access management program and additional transit service, supported by additional park and ride capacity. Current master plan transportation elements do not reflect these interests clearly, a fact that is an obstacle to actions by the state and county in pursing policy changes and commitments to improvements. This is a top priority item. It is also highly recommended that a discussion about the future of Route 79 occur among the affected municipalities and that every effort be made to come up with a generally consistent policy that crosses municipal boundaries and that is reflected in each local plan. Once this has been accomplished, actions by the county and state summarized below can proceed into formal efforts.

- Regulatory Changes: A key issue that emerged from the study of the Route 79 corridor is that a large amount of employment growth, largely in Marlboro Township, was forecast, and could theoretically be accommodated on the available commercially zoned land. Even a substantial fraction of the forecasted growth would result in untenable traffic operations on Route 79, given the desire to not change the road radically. Two concepts, one to reduce the size of those areas zoned for commercial, and one to concentrate growth near the Route 79 and Route 18 interchange, where traffic operations are somewhat better than the balance of the corridor, are recommended for consideration in the master plan update process. In addition, a review of the relationship of the State Plan, a generalized but comprehensive land use system, to the local master plans should be integrated in the review given that the guidance in this document is potentially very supportive of the changes suggested by the corridor plan.

Monmouth County Actions:

Policy Development

- The Monmouth County Growth Management Plan reflects the County's goals and objectives, which were agreed upon by each municipality. In so much as the changes to local policies described in the municipal discussion are adopted, the county should review its plan documents and, to the extent appropriate, change them to reflect the changes adopted by the municipalities. County support for more active access management practices in the corridor should also be forthcoming and the county actively should support the municipalities in their discussions on this issue with the NJDOT.

Build Projects

- Monmouth County has a central role to play in advocating for funds towards intersection improvements, the Henry Hudson Trail completion and investments in additional rail and bus service in the county. Clearly the county needs to be very active in pursuing Henry Hudson Trail funding in the immediate future. As municipal planning goals, zoning and subdivision regulations, and the corridor unified vision changes, the county will need to advocate placement of intersection and pedestrian system improvements on the regional Transportation Improvement Program (TIP). As part of preparing to add these projects to the TIP it may also be necessary for the County to invest in detailed traffic, preliminary design and cost estimating for the improvements. It is often the case that projects that have been more thoroughly developed advance more quickly into implementation and opportunities to do that should be selected in close coordination with the municipalities. Again, the Route 79 Corridor Improvement Project's recommendations can serve as a comprehensive project 'need statement' which is a vital part of any funding request.

Service Changes

- Key service changes, especially more bus service in the corridor from Freehold Borough to the NJT rail station in Matawan, and, longer term, the possible provision of a new rail station on the same line, or implementation of new MOM rail service at the southern end of the corridor, will need to be very actively supported by the county. Initial focus on improved bus service, and the park and ride system needed to make it effective, would be appropriate based on the findings of the study.

State of New Jersey Actions

Policy Changes

- NJDOT maintains a statewide system that establishes the 'desired sections', i.e. the long term goal for type of roadway for all state highways. This system has not been updated consistently but it does reflect long term goals for each highway corridor in the state. Currently the policy calls for a 'desired typical section' for Route 79 that is a four-lane design, radically different in appearance from the current highway. It is unlikely that a commitment will ever be made to develop a four-lane highway and such an investment would contravene current state 'right sizing' and overall 'context sensitive' policies. Local policies are likely to expressly differ from this approach after the transportation plan

elements have been updated. The NJDOT should change this 'desired typical section' designations to reflect the revised local policy.

Regulatory Changes

- The New Jersey Office of Smart Growth and the Monmouth County, can play a valuable role in assisting the corridor communities in the updates of their master plans and local development regulations. This assistance should be forthcoming and should focus on providing clear policy support for local master plan, and zoning changes per state policy. Such support has the potential to assist local leadership as they negotiate these changes with their constituents.

Build Projects

It is clear from the Route 79 corridor analysis that one build project should be advanced as quickly as possible: completion of the Henry Hudson Trail. The study team understands that options for completion of the trail have been developed. It is clear that this trail will be valuable from both a recreational and commuter travel perspective. This project should be advanced as quickly as possible and should become a top priority for Monmouth County and the communities in the corridor. NJDOT's active leadership in this effort is necessary.

Potential Funding Sources

There are a variety of funding sources with all funding levels. Municipalities, Monmouth County, NJTPA, and the State of New Jersey should explore these funding options to assist in implementing the solution strategies presented in this study.

TABLE 28- POTENTIAL FUNDING SOURCES

Source	Program	Details
Local	Transportation Improvement District	Developer fees for roadway, bikeway, pedestrian improvements
State Funding	Municipal Aid	Roadway improvement projects, rehabilitation, reconstruction, signalization
State Funding	County Aid	Road and bridge improvements, public and private transportation projects
State Funding	NJ TRANSIT Community Shuttle Program	Possible funding for community shuttle service vehicle
State Funding	Local Bikeway Program through NJDOT	Planning and funding towards local bikeway construction
State Funding	NJ FIT through NJDOT	Assist counties and municipalities to manage local growth in travel demand to reduce stress on transportation systems by promoting walking and cycling
Federal Funding	Safe Routes to School	Developing and implementing projects and programs to enhance safety of school trips and encourage walking and bicycling to school
Federal Funding	Transportation Enhancement Projects in Surface Transportation Program	Design, right-of-way acquisition, and construction for: pedestrian and bicycle facilities, safety and educational activities, scenic easements, beautification, structures and facilities, environmental mitigation
Association of NJ Environmental Commissions	Smart Growth Planning Grants for Municipalities	1-to-1 matching reimbursement grants up to $20,000 to municipalities for local or regional plans, ordinances, or studies that protect natural resources and establish land use patterns in State Plan

Local

The local municipalities could form a Transportation Improvement District in which fees would be paid as new development occurs within the corridor. These fees could then be used for roadway, bikeway, and pedestrian improvements.

State Funded Programs

Municipal Aid

In the municipal aid program, funds are appropriated by the Legislature for municipalities in each county based on a formula contained in legislation. Additionally, $5M is allotted for those municipalities that qualify for Urban Aid. Urban Aid is distributed by a formula that is computed by the Department of Community Affairs.

Each spring, the Division announces the program for that fiscal year and invites municipalities to apply. Road improvement projects such as resurfacing, rehabilitation or reconstruction and signalization are funded from the $78.75 million in municipal aid distributed by formula.

A municipality submits a Resolution, Application and Agreement Form (SA-96) for each project to the Local Aid district office serving its area. Each district office reviews the SA-96 forms for completeness, makes a field investigation, evaluates each project and assigns a rating to each. Projects for which SA-96 forms have been received are presented to a screening committee comprised of municipal engineers, and Department of Transportation staff appointed by the Commissioner. The committee evaluates the projects presented and makes recommendations to the Commissioner of Transportation for consideration and approval. The State pays 75% of the funds at the time of bid approval and the remainder on a reimbursement basis after acceptance by the municipality and the State of the work completed.

County Aid

County Aid funds are appropriated by the Legislature annually for the improvement of public roads and bridges under county jurisdiction. Public transportation and other transportation projects are also included. Counties are allotted funds not less than their combined total of 1984 apportioned Federal Aid Urban System funds and State match including their portion of any non-attributable funds made available to Small Urban Areas. The minimum allotment is $300,000.

Each county must develop an Annual Transportation Program (ATP). The program must indicate each project to be undertaken and the estimated cost of each. The program shall not exceed the annual allotment of State funds. The ATP shall be approved by the Board of Chosen Freeholders and submitted to the Local Aid District Office for approval.

Counties are required to execute one Resolution, Application and Agreement Form (SA-96) for the projects undertaken as indicated on the approved ATP. Forms are obtained through the Division of Local Aid and Economic Development District Office.

The State will pay the annual County allotment after approval of the Annual Transportation Program (ATP) and the Resolution, Application and Agreement Form (SA-96) by the Department of Transportation.

NJ TRANSIT Community Shuttle Program

The NJ TRANSIT Community Shuttle Program provides communities with shuttle service to and from rail stations, major bus corridor, or light rail station, during “peak” periods. The program serves municipalities and counties and uses federal funds to purchase minibuses to lease to municipalities/counties at no cost. The program also offers seed money for operating costs during the first three years of operation. Currently, the program is not accepting applications but may expand in the future.

NJDOT Local Bikeway Program

The Local Bikeway Program is designed to develop local pedestrian and bicycle circulation plans and facility inventories. The program provides municipalities with planning services to develop local circulation elements and other transportation planning initiatives. Priority funding is given to State Plan centers, Urban Strategies Initiatives, and improving facilities and safety on existing facilities. The program is administered by the Division of Transportation Systems Planning & Research, Bureau of Systems Development and Analysis (BSDA).

NJDOT Future-In-Transportation Program (NJ FIT)
The Future-in-Transportation Program works to alter land use and transportation patterns to serve the needs of modern transportation users. Program funds assist counties and municipalities to manage local growth in travel demand to reduce stress on transportation systems by promoting walking and cycling. Smart growth principles are used to achieve these goals, such as context sensitive design, alternatives to automobile travel, and established connections between local land use decision-making and state transportation planning.

Federally Funded Programs

Safe Routes to School
The Safe Routes to School (SRTS) Program is a federal, state and local effort to enable children to walk and bicycle to school. Program features include safety facilities, pedestrian and bicycle facility enhancements, and programs to encourage walking to school.

Transportation Enhancements
The Transportation Enhancement program 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 environmental and cultural resources and to promote alternative modes of transportation.

Funds are available for design, right of way acquisition and construction. Selection of TE projects involves the participation of civic and environmental groups, the transportation community and other government organizations such as the state's Metropolitan Planning Organizations.

An advisory committee is charged with applying the selection criteria and preparing the recommended list of projects for approval by the Commissioner of Transportation. Solicitation packages are usually sent out in the winter to every municipality and county inviting them to submit an application in one or more of twelve eligible categories.

Eligible categories are:
- provision of facilities for pedestrians and bicyclists
- provision of safety and educational activities for pedestrians and bicyclists
- acquisition of scenic easements and scenic or historic sites, scenic or historic highway programs (including the provision of tourist and welcome center facilities)
- landscaping and other scenic beautification
- historic preservation, rehabilitation and operation of historic transportation buildings
- structures and facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)
- control and removal of outdoor advertising
- archeological planning and research environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity establishment of transportation-related museums

TE funds are to be used only for projects with a direct transportation relationship that enhance quality of life while reaching the greatest number of people.

Other Sources

ANJEC Smart Growth Planning Grants
The Association of New Jersey Environmental Councils offers Smart Growth Planning Grants to municipal planning initiatives for local or regional plans, ordinance, or studies that protect natural resources and establish State Plan land use patterns. Funds are administered to municipalities as 1-to-1 matching reimbursement grants of up to $20,000.

PROJECT PACKAGES

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As noted earlier in this report, through the course of this study several core findings became apparent. One of the major findings was that under current municipal land use plans, there is the potential to generate traffic volumes that could necessitate significant expansion of the roadway infrastructure, inconsistent with the nature of the Route 79 Corridor since the communities along the corridor have expressed a desire to maintain the overall design and character of Route 79. Therefore it is essential that the land use problems identified below be addressed with the solutions detailed in the body of the report. The implementation of these land use solutions is essential to the long term stability of the Route 79 corridor.

Land Use

Problem: Master Plan Documents that do not address the needs of the Corridor
Solution: Update Master Plans to Include Land Use and Transportation Goals on Route 79

Problem: Zoning and Subdivision Regulations Do Not Reflect the Desired Character of Route 79
Solution: Develop Zoning and Subdivision Strategies to Guide Desired Growth and Character of Route 79

Problem: Lack of Consistency with the NJ State Plan
Solution: Examine Growth with NJ State Plan Goal Statements and Densities

Problem: Potential for Extreme Increase in Commercial Development
Solution: Develop Center-based Development Strategies

However, through the course of this study it was also noted that the corridor contains a number of locations where safety and operational deficiencies currently exist. The improvements detailed in this Project Packages section contain an outline of project issues, objectives and approaches, and sketch planning concepts for improvement configuration. The intention is that these project packages may be advanced into further planning, design and funding phases through the auspices of the regional Metropolitan Planning Organization and/or appropriate sponsor agencies.

Intersection: Route 79 and Ryan Road (MP 4.64)

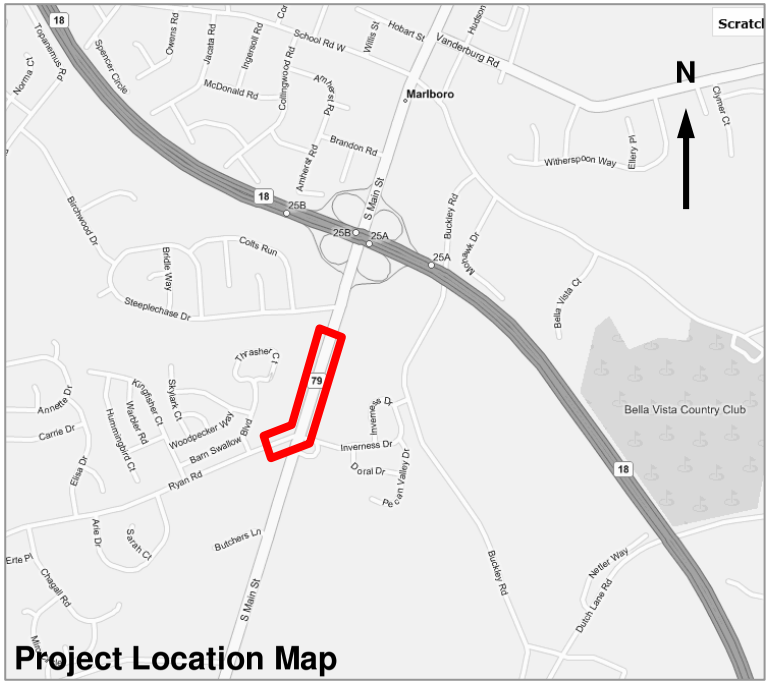
Operational Deficiencies:
The left turn on the eastbound Ryan Road approach operates at a failing level of service with extensive queuing during both the AM and PM weekday peak periods. Route 79 widens to 2 lanes in each direction just north of the Ryan Road intersection in the vicinity of the Route 18 interchange. There are significant through volumes in both directions on Route 79 and the reduction to one lane in each direction prior to the Ryan Road intersection is a “choke point” for Route 79 traffic.

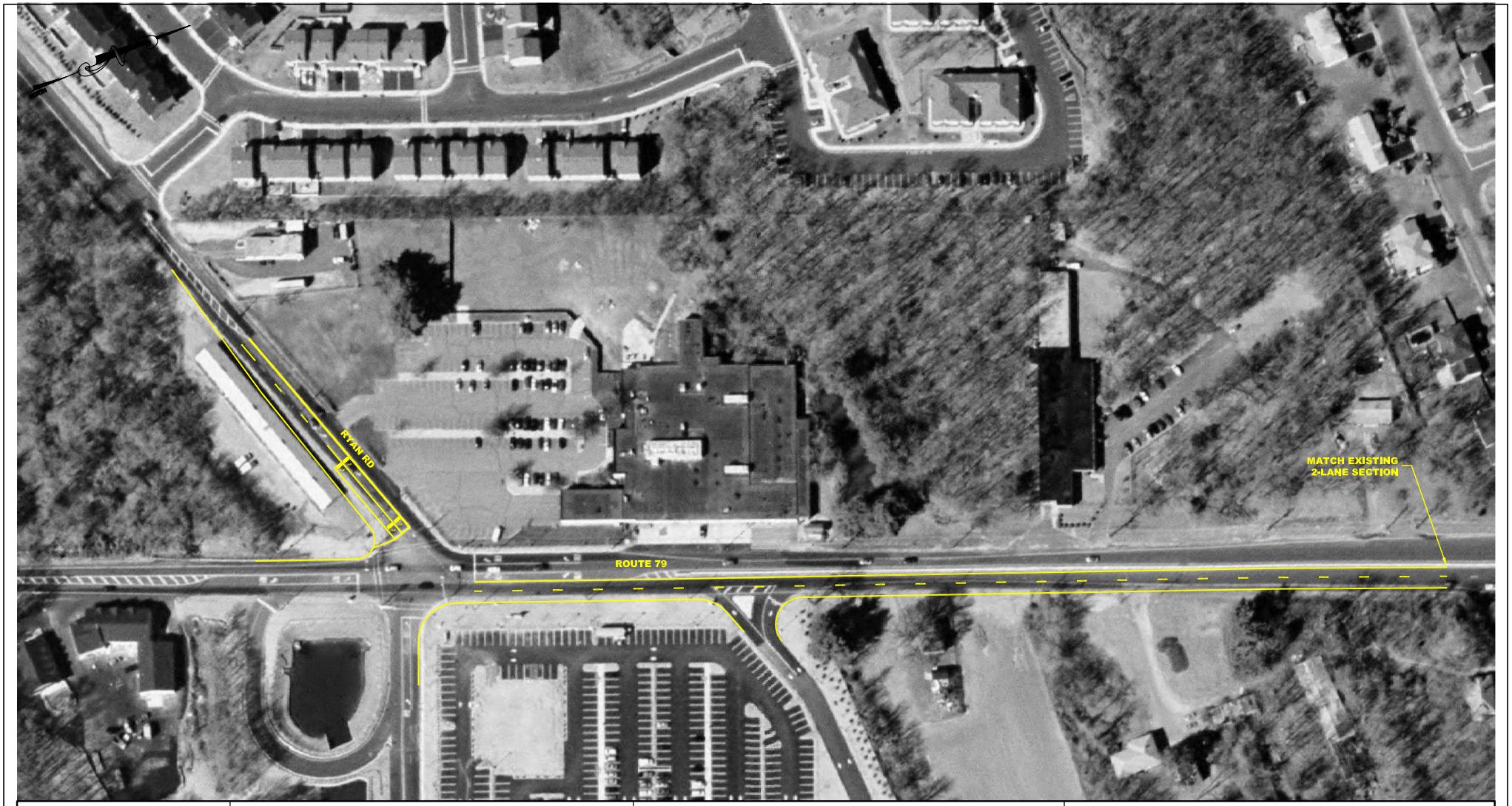
Proposed Improvements (Short Term) – Estimated Cost $1.0 million (w/o ROW):
Provide a double left turn lane on the eastbound Ryan Road approach to accommodate the high volume of left turning vehicles. Widen northbound Route 79 north of the Ryan Road intersection in order to receive the double left turn.

Proposed Improvements (Long Term) – Estimated Cost $1.5 million (w/o ROW):
Provide two through lanes in each direction on Route 79 to eliminate the “choke point” and to accommodate future increase in the through traffic on Route 79.

Issues:
ROW Acquisition / Potential Environmental Impacts Associated with the Long Term Solution

Potential Lead Agency / Funding Source - NJDOT / NJDOT Local Aid
Local Opinion - Stakeholders are supportive of proposed improvement.





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Intersection: Route 79 and School Road (MP 5.47)

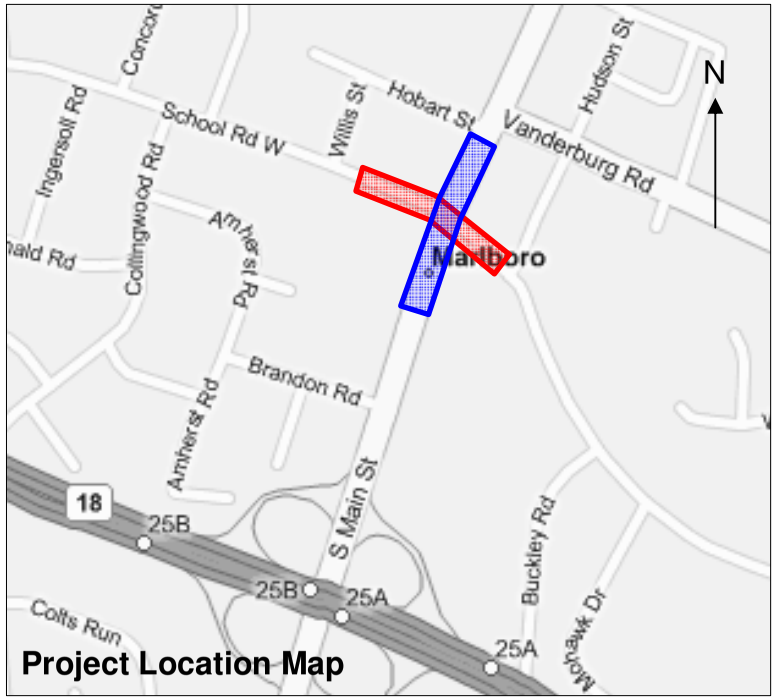
Operational Deficiencies:
The School Road approaches operate with significant delays during both the AM and PM weekday peaks. In particular, the westbound School Road approach operates at a failing level of service with extensive queuing during the PM peak period. Additionally, due to the significant volume of through traffic on Route 79 the northbound traffic regularly queues beyond Route 18. There is a reduction to one lane in each direction prior to the School Road intersection; this is a "choke point" for Route 79 traffic.

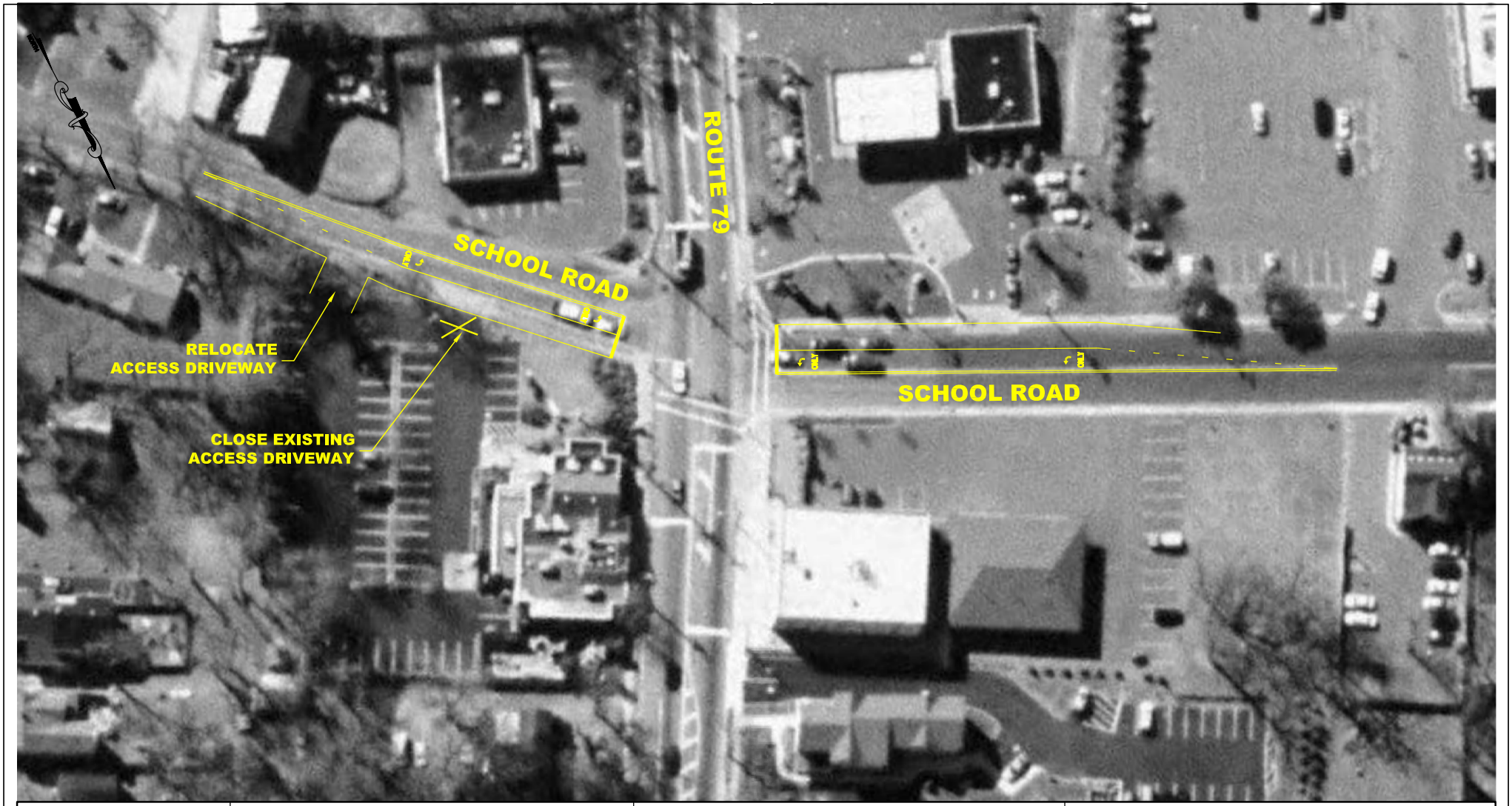
Proposed Improvements (Short Term) – Estimated Cost $0.5 million (w/o ROW):
Provide left turn lanes on both the eastbound and westbound School Road approach to accommodate the high volume of left turning vehicles. Widen the westbound approach to accommodate the additional lane and relocate the driveway for the business on the northeast corner of the intersection. Please note that Marlboro has begun advancing a similar improvement.

Proposed Improvements (Long Term) – Estimated Cost $0.75 million (w/o ROW):
Provide two through lanes in the northbound direction on Route 79 to eliminate the "choke point" and to accommodate future increase in the through traffic on Route 79.

Issues:
ROW Acquisition / Potential Environmental Impacts Associated with the Long Term Solution

Potential Lead Agency / Funding Source - NJDOT / NJDOT Local Aid
Local Opinion - Stakeholders are supportive of proposed improvement.





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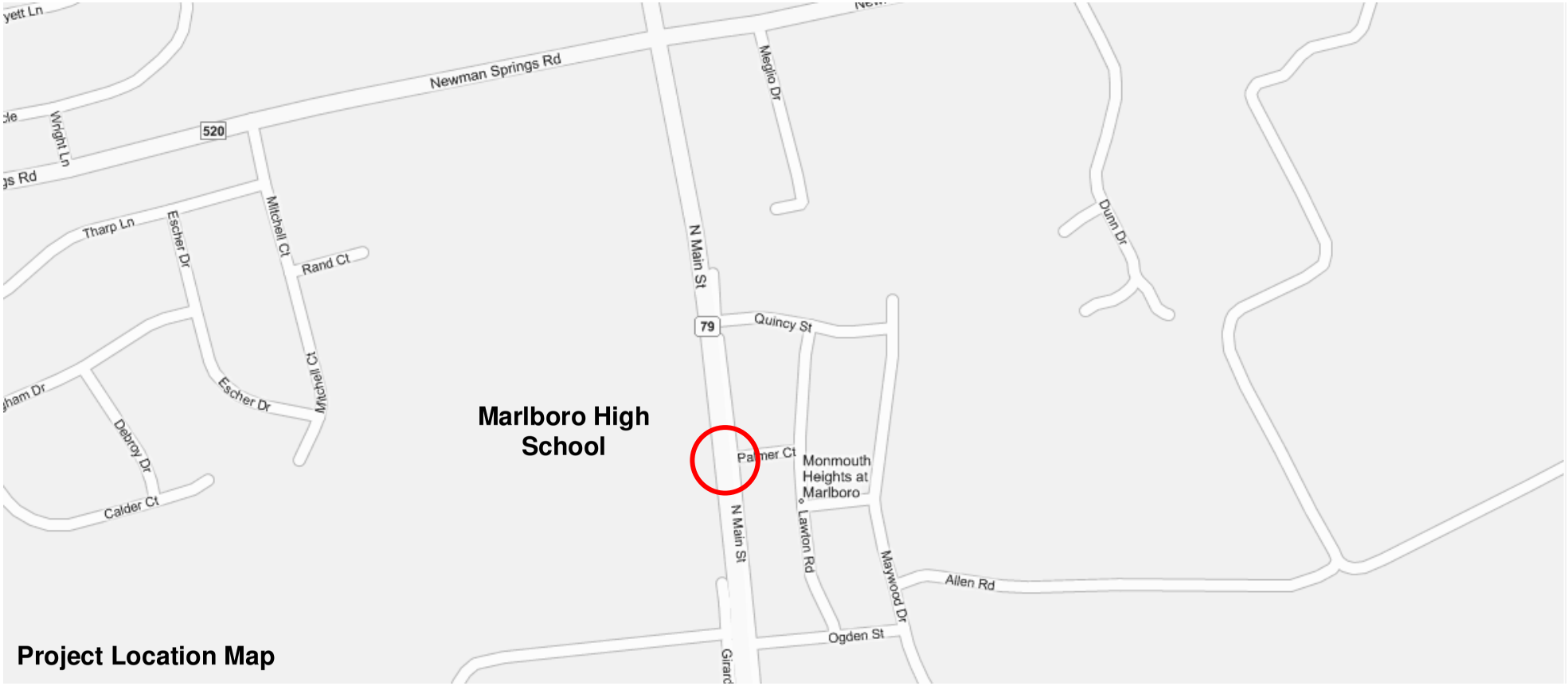
Marlboro High School (Approx MP 6.45)

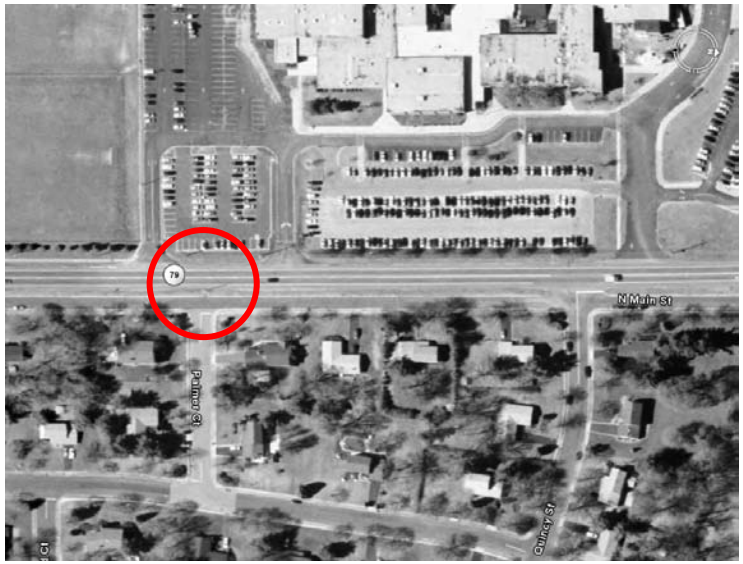


Operational Deficiencies:
There is a significant volume of busses, students and faculty entering and exiting the school during the weekday peak periods. In order to safely allow vehicles in and out of the high school, Marlboro Township Police stop all through traffic on Route 79. The police are generally on site for 30-45 minutes each afternoon when the school lets out for the day. This has been an ongoing problem for over 20 years.

Proposed Improvements (Immediate) – Estimated Cost $400,000 (w/o ROW):
Perform a traffic signal warrant analysis for the school driveway to verify that a traffic signal is warranted at the driveway. Based on the feedback received from members of the Steering Committee it is assumed that a peak hour warrant analysis would be satisfied and that NJDOT would be agreeable to the installation of a traffic signal at this location. The school's driveway would be reconfigured to align with Palmer Court.

Issues:
Possible ROW Acquisition / Signal Spacing Waiver required from NJDOT

Potential Lead Agency / Funding Source - NJDOT / Local Aid
Local Opinion - Stakeholders are supportive of proposed improvement.



Intersection: Route 79 and Newman Springs Road (CR 520) (MP 6.82)

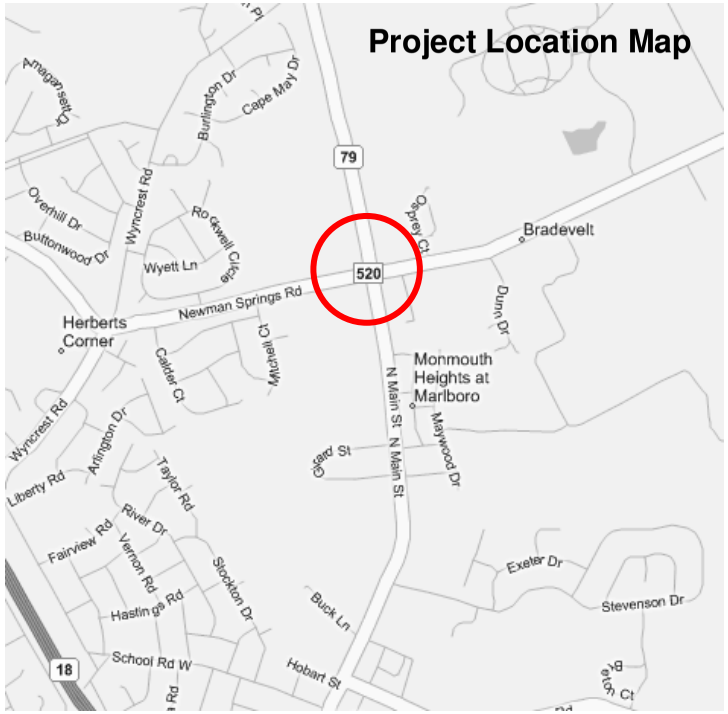
Operational Deficiencies:
There is a heavy volume of traffic on both of the Newman Springs Road (CR 520) approaches to the intersection. The westbound left turn movement operates at level of service F with significant delays in the existing conditions. As traffic continues to increase within the corridor, even at a modest rate, the CR 520 approaches will begin to fail. Additionally there is a significant volume of northbound right turns during the AM weekday peak period.

Proposed Improvements (Long Term) – Estimated Cost $1.50 million (w/o ROW):
Provide a left turn lane, a through lane and a through/right turn lane on both Newman Springs Road approaches. Provide a dedicated right turn lane in the northbound direction.

Issues:
ROW Acquisition / Potential Environmental Impacts at stream crossing west of Route 79 / Access Impacts

Potential Lead Agency / Funding Source – NJTPA, Monmouth County, Private Developers / There are currently developments proposed on both the northwest and southeast corners of the intersection, therefore there is a potential that the ROW could be acquired from the developers during the development process. There may also be an opportunity to have the developers make some of the recommended improvements to mitigate the impacts of the proposed developments / NJDOT Local Aid

Local Opinion - Stakeholders are supportive of proposed improvements.



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COUNTY OF MONMOUTH
NEW JERSEY