

MARCH 2015

# CAMDEN COUNTY HIGHWAY PLAN



Prepared by:



Prepared for:





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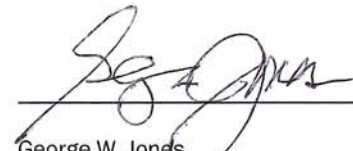
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*Adopted: October 28, 2014*

  
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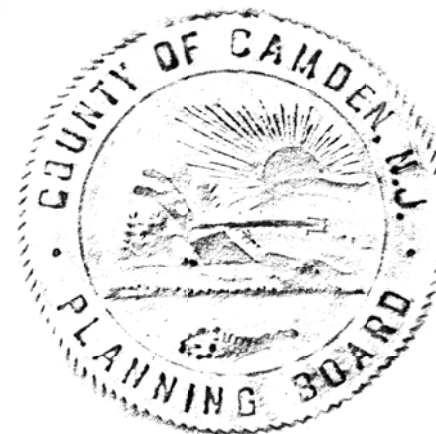
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# Executive Summary

The Camden County Highway Plan serves as an element to the update of the overall Camden County Master Plan. The project was developed by the Delaware Valley Regional Planning Commission (DVRPC) for, and with the direct participation of, the Camden County Division of Planning. The Highway Plan sets the direction for highway infrastructure—and particularly the county route network—to keep pace with changes expected by 2040. The work was conducted alongside the development of the county's Land Use Plan update, and integrated findings from the Camden County Bicycling & Multi-Use Trails Plan and the Camden County Farmland Preservation Plan elements.

Principles guiding the project included:

- Support the county's economic activity and vitality,
- Improve mobility and accessibility for the county's residents and products,
- Support the goals of the county's Land Use Plan and the region's Long-Range Plan,
- Improve safety conditions for all travelers using the county route network,
- Preserve and modernize key elements of the county route network,
- Mitigate congestion by employing sustainable strategies and solutions that reduce (first), manage (second), or accommodate (last) single-occupant vehicular travel, and
- Identify equitable partners (stakeholders and cosponsors) to help implement the highway element of the Master Plan.

Travel demand modeling was performed to estimate vehicle demands for the 401-mile long county route network for current and 2040 conditions, and ultimately the county's recommended land use plan. Travel, traffic volumes, and congestion will increase in marginal amounts by 2040—generally in line with the growth in population and employment forecasted for the county. Assessment of the demands and transportation conditions was conducted using the model outputs, traffic safety data, and other highway and community planning criteria as inputs to the holistic evaluation methodology of the DVRPC Congestion Management Process. The Congestion Management Process and its outputs support Smart Growth tenets and systematically identify areas needing transportation attention.

Subsequently, recommendations were developed through need and opportunity. Recommendations incorporate projects included on the region's adopted Transportation Improvement Program and Long-Range Plan, and match traffic safety deficiencies in the county with the active Highway Safety Improvement Program. The county is submitting candidate projects to DVRPC for consideration in the Highway Safety Improvement Program.

All but one of the mobility improvement projects for Camden County on the current Transportation Improvement Program and Long-Range Plan are devoted to regionally important transportation facilities. DVRPC staff conducted literature research and independent analysis of the current county route network—using Congestion Management Process indicators and opportunities identified through existing plans and programs—to determine the set of mobility improvement projects for the Master Plan. In addition to recommendations contained in prior transportation studies, the Highway Plan identifies seven major physical/operational mobility improvement projects to support the Land Use Plan, favor multimodal travel, and foster partnerships. Where necessary, the new mobility recommendations have been screened for possible environmental consequences.



Traffic backs up on Laurel Road (County Route 673), through Stratford Borough, during the rush hours. A relief route is proposed to distribute traffic and improve accessibility to the Lindenwold Station. (Photo: DVRPC)



Physical improvement recommendations developed through the Highway Plan's analyses are:

- Create "Bus Streets" along County Route 537 (Federal Street and Market Street) and County Route 551 (Broadway) in the City of Camden – Bus Streets serve more than three scheduled bus routes. Physical and operational improvements are proposed (including corner bus-stop bulb-outs, shelters, benches, pedestrian-scale street lighting, high-visibility crosswalks, and synchronized traffic signals) to promote transit use and operations (\$12 million);
- Rebuild County Route 536 Spur (Williamstown-New Freedom Road) and its interchange with the Atlantic City Expressway to add capacity and expand vehicular access to the Avandale Park-and-Ride Lot, in Winslow Township – Rectifies existing congestion problems and accommodates the proposed South Jersey Bus Rapid Transit project (\$10 million);
- Provide direct vehicular and pedestrian access to the Atlantic City Rail Line's Atco Station from County Route 534 (Jackson Road), in Waterford Township – Addresses nearby congestion, and improves connections to NJTransit's regional rail and bus services (\$2 million for roadway and parking improvements);
- Extend New Road and Medical Center Drive, two local roadways, in association with the "Eds and Meds" Revitalization Area—involving Rowan University, Kennedy Hospital, and the former Bradlees Shopping Center properties—with two vehicular lanes, in Stratford Borough – Supplies an alternate route to County Route 673 (Laurel Road) through the US 30 (White Horse Pike) and County Route 702 (Berlin Road) intersection, and increases accessibility to NJTransit's and PATCO's Lindenwold stations (\$4 million for roadway improvements); and
- Widen County Route 689 (Berlin-Cross Keys Road) to five vehicular lanes through Gloucester and Winslow townships – Reduces existing congestion and serves cross-county mobility for the long term (\$20 million).

By now the county is largely developed, future growth is forecasted at marginal rates, and the proposed Land Use Plan shows a preference for recentralization to accommodate the growth. As such, the Camden County Highway Plan also includes a far-reaching, county-wide, Smart Growth operational recommendation: to implement an interconnected traffic signal system and Traffic Operations Center to monitor and actively manage traffic throughout the county route network. This improvement will have the farthest-reaching transportation benefit—serving more than one million vehicle trips per day—with the least impact on the adjacent environment. The priority network for implementing the recommendation includes the county's principal highways and county route segments that are included in the region's Incident Management Highway Network (\$30 million for approximately 200 signalized intersections). Institutional agreements need to be formalized before the plan proceeds. The Camden County Shared Services Department will manage, monitor, and maintain the system comprised of traffic signals owned by the municipalities.

Camden County owns and maintains an extensive and hardworking highway system that serves local needs and national interests. The recommendations identified through the Highway Plan's analyses, coupled with recommendations from detailed studies performed over the past decade, will attend to the foreseen needs of its transportation system. Vigilance on the part of the county planning staff, and support from its planning partners and the wider community, will be required to implement the long-term vision. Daily practices performed by county staff during the land development application, review, and approval process can help preserve and optimize the county route network on an incremental basis. These include requiring properly designed access points to the network and providing interconnected roadways through adjacent subdivisions (via the county's Subdivision and Site Plan Procedures and Land Development Regulations), and integrating all modes of travel into the design of its streets and highways (through the provisions of the county's Complete Streets Policy).

# Chapter 1:

## INTRODUCTION

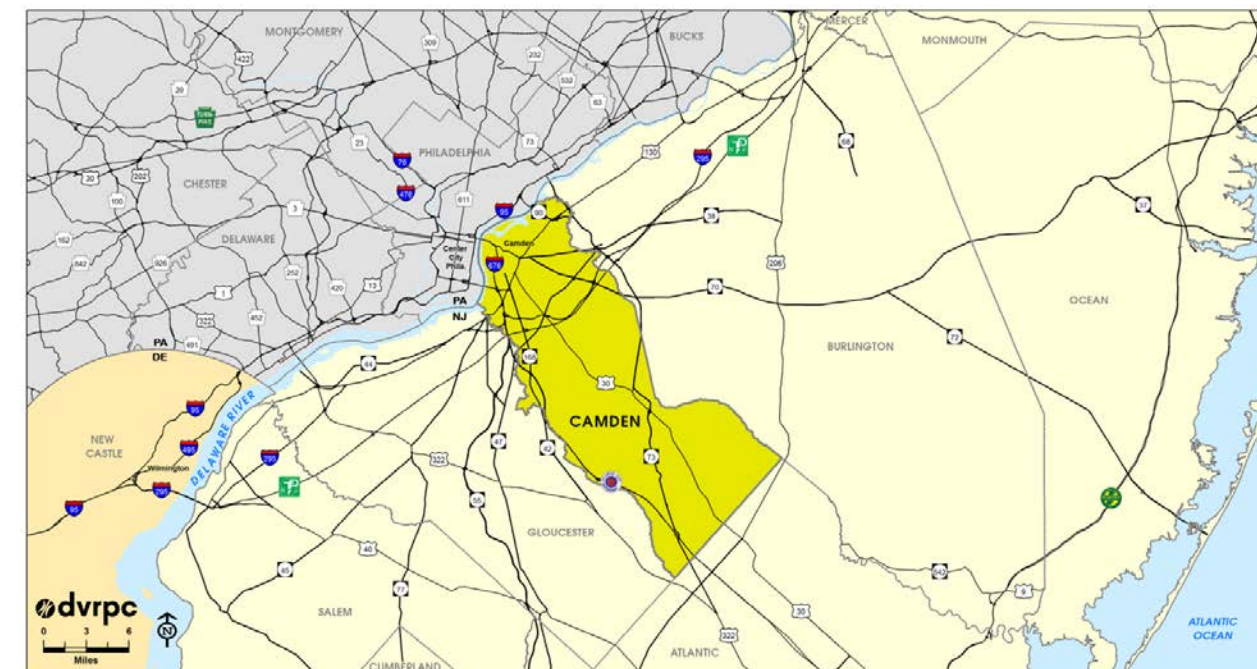
Camden County is situated in southern New Jersey, within the Greater Philadelphia metropolitan area (Figure 1). The county contains a diverse development pattern and a full range of transportation options to serve the movement of its residents and products. Marginal growth in population and employment is foreseen in the county.

Presently, the county is taking steps to update its comprehensive Master Plan.<sup>1</sup> The Master Plan will contain the vision and provide the authority for managing the change that will come. The county commissioned DVRPC to prepare the Highway Plan element of its overall Master Plan. The Highway Plan sets the direction for highway infrastructure—particularly the county route network—to keep pace with the change.

Importantly, DVRPC staff assessed traffic safety and performed travel demand modeling for the 401-mile-long county route network concurrently with the development of the county's Land Use Plan. Consequently, the long-term effect of planned growth was assessed. Transportation improvements were subsequently identified to accommodate the growth in a safe, efficient, and sustainable manner. The highway planning work also considered findings contained in the Bicycling & Multi-Use Trails Plan, and the Farmland Preservation Plan elements of the overall Master Plan.

The Highway Plan project also produced a linked GIS-Transportation Asset Management Database for county staff's use. The tool can be used to centralize and streamline maintenance and project development activities for the county route system and the inventory of county bridges (155). Physical attributes of the county route network and county-owned bridges were loaded into the database, as were relevant outputs from this study.

Figure 1: County Setting



DVRPC, 2015

<sup>1</sup> The Camden County Master Plan Update is being prepared by the Camden County Division of Planning with the assistance of Group Melvin Design. The update is being coordinated with the public at large, the business community, and other stakeholder groups, and with elected officials throughout the county.

## WORK PROGRAM

The following tasks were performed for the Camden County Highway Plan project.

1. Work with county planning staff, and their representatives, to fulfill the project requirements.
2. Establish a linked GIS-database management framework to inventory and track transportation assets (roads, bridges, and traffic signals) along the county route network. Load the database with attributes and performance data available from the county, the New Jersey Department of Transportation, and DVRPC.
3. Prepare DVRPC's regional travel demand forecasting model for the 2011 Base Year—existing transportation conditions in the county.
4. Prepare and conduct the Year 2040 Long-Range Plan scenario travel demand forecasting model reflecting the land use assumptions and transportation recommendations of *CONNECTIONS 2040*, DVRPC's endorsed Long-Range Plan for Greater Philadelphia.
5. Prepare and conduct the Year 2040 Master Plan scenario travel demand forecasting model reflecting the land use assumptions of the Camden County Land Use Plan.
6. Evaluate 2011 Base Year, Year 2040 Long-Range Plan, and Year 2040 Master Plan modeled traffic volumes in accordance with the methodology of the region's mandated Congestion Management Process.
7. Identify transportation projects and land use and community planning strategies to address deficiencies.
8. Develop an endorsed set of recommendations for the county route network that is consistent with existing plans and programs in the region, previous studies performed in the county, and with the other elements of the updated Master Plan.
9. Provide a county route improvement program, including a high-level environmental assessment, cost estimates, and implementation guide for recommended physical infrastructure improvements.
10. Incorporate applicable study data and report recommendations into the linked GIS-asset management database for the county route network and bridge inventory.
11. Provide a report summarizing the project.

## THE REPORT

This report summarizes the undertakings and findings of the work program. An overview of the remaining chapters of the report follows.

**Chapter 2** – The Setting

**Chapter 3** – Existing Transportation Systems

**Chapter 4** – Growth and Development

**Chapter 5** – Travel Demand Forecast Modeling

**Chapter 6** – Assessment of Traffic Conditions

**Chapter 7** – Recommended Improvement Program

**Chapter 8** – Conclusion

**Appendices** –

**A.** Camden County Highway Inventory

**B.** Camden County Bridge Inventory

**C.** Other Traffic and Transportation Studies, and Recommendations for the Camden County Master Plan

**D.** Environmental Screening of Physical Improvements

## Chapter 2:

### THE SETTING

Camden County's northern boundary is situated along the Delaware River, across from the City of Philadelphia, Pennsylvania. Surrounding New Jersey counties are Burlington County (east), Atlantic County (south), and Gloucester County (west). A robust transportation system exists to serve interactions across these boundaries.

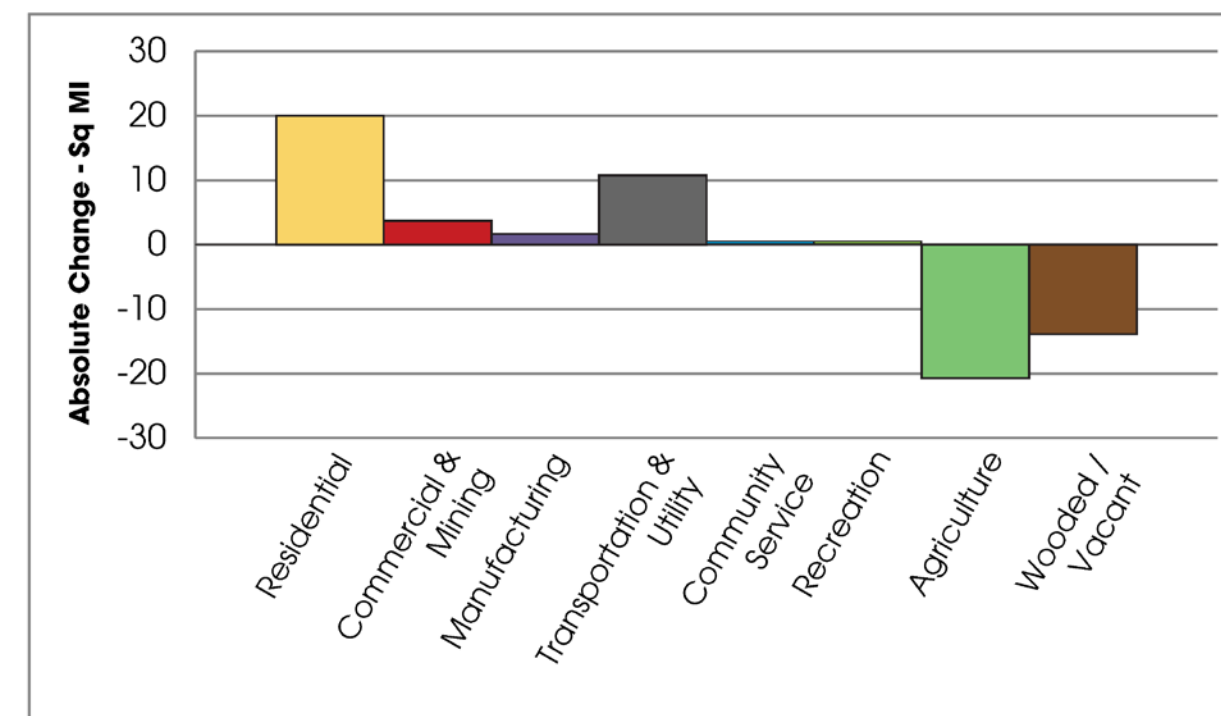
The county covers approximately 227 square miles and includes 37 municipalities. **Figure 2** (page 6) illustrates the county's land use cover in 2010. Generalized patterns of development include:

- The Riverfront – Extending outward from the Delaware River to US 130. Includes the City of Camden and older urban mixed-industrial and residential neighborhoods.
- First Generation Suburbs – Extending from US 130 to the I-295/NJ Turnpike corridor. Includes mature suburban residential communities.
- Post-World War II Suburbs – Extending to the county's southern and eastern boundaries from the I-295/NJ Turnpike corridor. Modern subdivisions, built on former agricultural lands, are typical here.
- The Pinelands National Reserve – At the southern edge of the county and spreading into Burlington, Atlantic, and Gloucester counties. Here, regulations of the New Jersey State Pinelands Commission deflect modern development pressures to preserve unique natural and cultural resources.

### PERSPECTIVES ON GROWTH, DEVELOPMENT, AND TRAVEL

Over the past 40 years, 15 percent of the county's land area has been transformed from agricultural use or undeveloped area to more active uses (**Figure 3**). Total population has risen by 13 percent, while total vehicle ownership has risen by 72 percent.

**Figure 3: Land Use Change 1970 – 2010**



DVRPC, 2015

Dispersed land development patterns and rises in service-sector employment have changed travel patterns and demands. A greater reliance on private automobiles for transportation and an increased use of county routes have been consequences.

In 2010 there were almost 513,700 residents (**Table 1**, page 7).<sup>2</sup> In the same year, slightly more than 263,400 jobs were offered within the county (**Table 1**, page 7).<sup>3</sup> The City of Camden and Cherry Hill and Gloucester townships were the county's most populous municipalities. Employment was highest in Cherry Hill Township and in the City of Camden.

<sup>2</sup> Source: 2010 US Census

<sup>3</sup> Source: Delaware Valley Regional Planning Commission, September 2012. Base employment data from the National Establishments Time Series (NETS) database, 2010.



Figure 2: 2010 Land Use

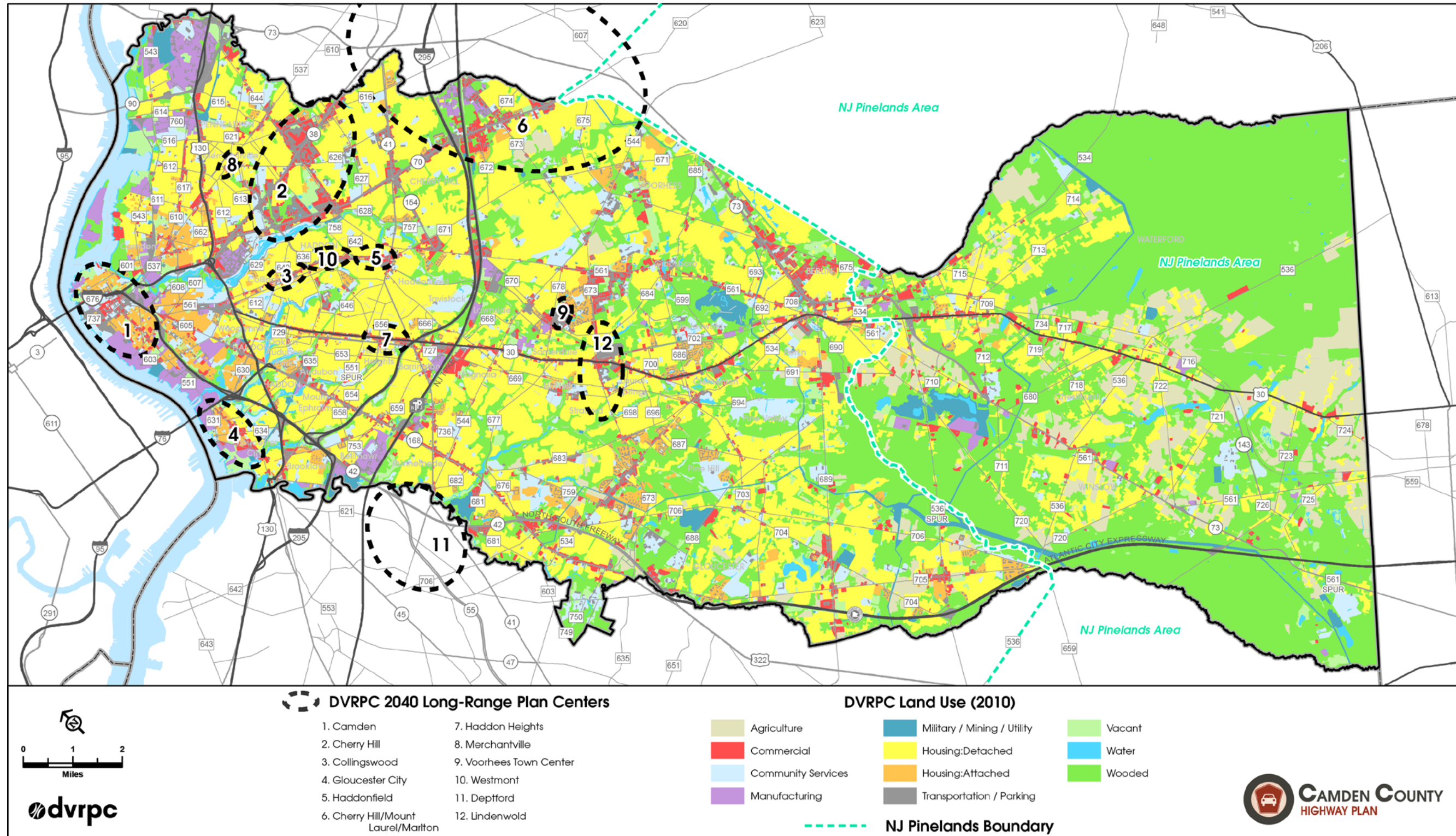




Table 1: Population and Employment (2010 and 2040)

Municipality	Area (square miles)	2010		2040		Absolute Changes (2010 to 2040)		Percent Changes (2010 to 2040)	
		Population	Employment	Population	Employment	Population	Employment	Population	Employment
Audubon Borough	1.49	8,819	2,066	8,668	2,031	-151	-35	-2%	-2%
Audubon Park Borough	0.16	1,023	25	974	24	-49	-1	-5%	-4%
Barrington Borough	1.58	6,983	2,250	6,907	2,226	-76	-24	-1%	-1%
Bellmawr Borough	3.10	11,583	5,093	11,652	5,623	69	530	1%	10%
Berlin Borough	3.61	7,588	5,009	7,789	5,142	201	133	3%	3%
Berlin Township	3.32	5,357	6,778	5,457	6,905	100	127	2%	2%
Brooklawn Borough	0.53	1,955	1,152	1,964	1,157	9	5	0%	0%
Camden City	10.46	77,344	51,435	78,199	55,409	855	3,974	1%	8%
Cherry Hill Township	24.16	70,873	63,171	71,326	63,421	453	250	1%	0%
Chesilhurst Borough	1.73	1,634	318	1,601	312	-33	-6	-2%	-2%
Clementon Borough	1.95	5,000	1,656	5,004	1,697	4	41	0%	2%
Collingswood Borough	1.93	13,926	6,167	13,438	6,167	-488	0	-4%	0%
Gibbsboro Borough	2.20	2,270	2,497	2,263	2,485	-7	-12	0%	0%
Gloucester City	2.79	11,456	3,921	11,488	3,946	32	25	0%	1%
Gloucester Township	23.27	64,634	17,277	69,555	18,592	4,921	1,315	8%	8%
Haddon Heights Borough	1.57	7,473	3,235	7,397	3,235	-76	0	-1%	0%
Haddon Township	2.82	14,707	3,344	14,930	3,395	223	51	2%	2%
Haddonfield Borough	2.84	11,593	6,686	11,753	6,778	160	92	1%	1%
Hi-Nella Borough	0.23	870	197	878	199	8	2	1%	1%
Laurel Springs Borough	0.46	1,908	357	1,892	354	-16	-3	-1%	-1%
Lawnside Borough	1.43	2,945	1,741	2,882	1,704	-63	-37	-2%	-2%
Lindenwold Borough	3.94	17,613	2,925	17,886	2,970	273	45	2%	2%
Magnolia Borough	0.98	4,341	1,006	4,306	998	-35	-8	-1%	-1%
Merchantville Borough	0.60	3,821	1,401	3,832	1,405	11	4	0%	0%
Mount Ephraim Borough	0.91	4,676	950	4,664	948	-12	-2	0%	0%
Oaklyn Borough	0.70	4,038	721	4,004	715	-34	-6	-1%	-1%
Pennsauken Township	12.17	35,885	25,944	36,217	26,749	332	805	1%	3%
Pine Hill Borough	3.95	10,233	1,531	11,141	1,567	908	36	9%	2%
Pine Valley Borough	0.97	12	182	12	182	0	0	0%	0%
Runnemede Borough	2.12	8,468	3,350	8,420	3,331	-48	-19	-1%	-1%
Somerdale Borough	1.39	5,151	1,639	5,187	2,550	36	911	1%	56%
Stratford Borough	1.57	7,040	6,462	7,037	6,459	-3	-3	0%	0%
Tavistock Borough	0.28	5	50	5	50	0	0	0%	0%
Voorhees Township	11.62	29,316	19,276	30,722	20,329	1,406	1,053	5%	5%
Waterford Township	36.16	10,649	3,382	11,359	3,607	710	225	7%	7%
Winslow Township	58.21	39,499	9,880	44,490	11,128	4,991	1,248	13%	13%
Woodlynne Borough	0.22	2,978	332	3,004	335	26	3	1%	1%
Totals	227.42	513,666	263,406	528,303	274,125	14,637	10,719	3%	4%

Sources: 2010 Population – 2010 US Census; 2010 Employment – DVRPC, September 2012, base employment data from the National Establishments Time Series (NETS) database, 2010; 2040 Population and Employment – CONNECTIONS2040, DVRPC, September 2013.

According to the 2010 US Census,<sup>4</sup> 53 percent of the county's 231,800 employed residents worked within the county. The rest of its employed residents commuted to:

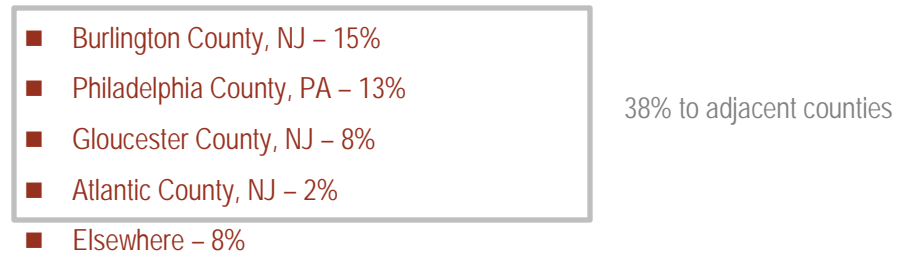
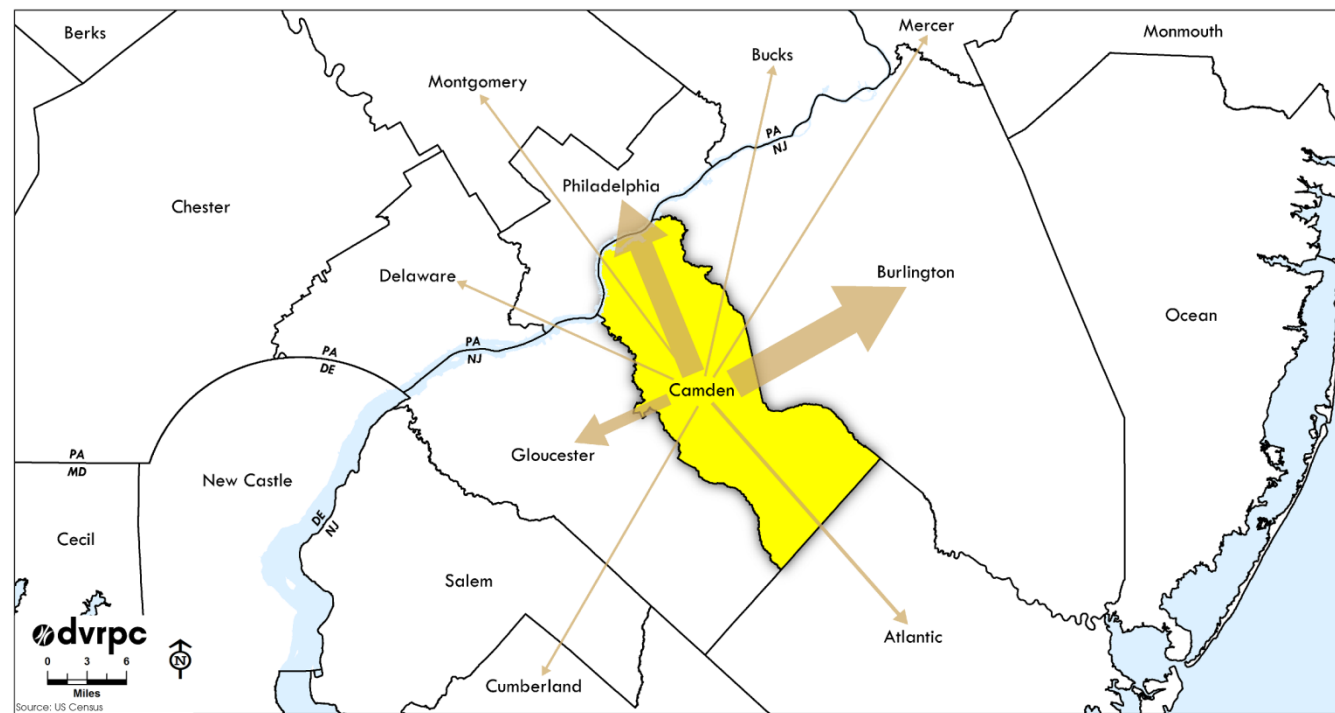


Figure 4: Commuting Patterns

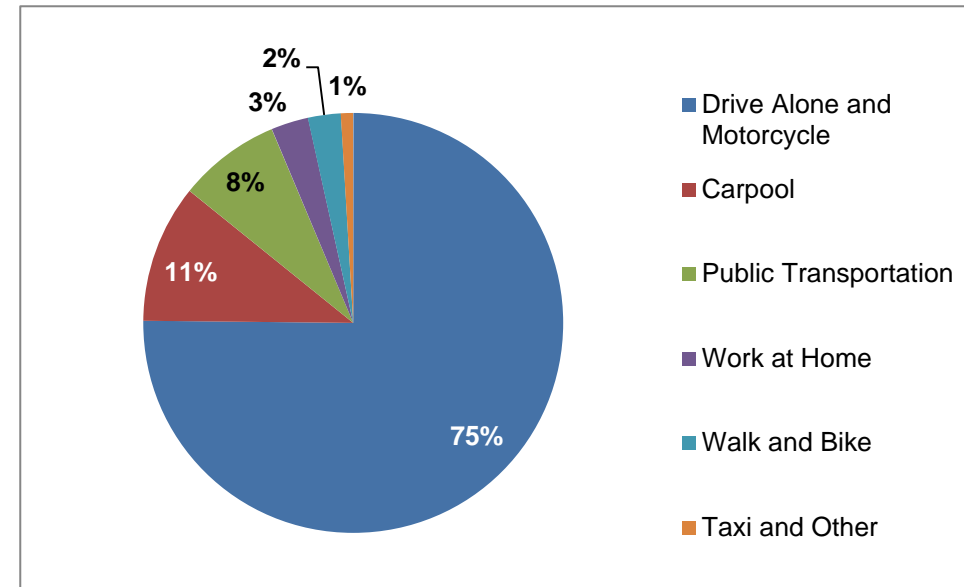


DVRPC, 2015

<sup>4</sup> Source: 2010 US Census' Census Transportation Planning Package (CTPP)

Commuting in Camden County was overwhelmingly performed by private motorized vehicles (75 percent drove alone or used motorcycles, and 11 percent carpoled in private cars, trucks, and vans). Public transportation services carried just eight percent of the county's residents to work.

Figure 5: Means of Transportation to Work



DVRPC, 2015

In contrast to the overall situation, 30 percent of Philadelphia County-bound work trips were primarily accomplished via public transportation modes, and 59 percent of the commuters drove alone.

## Chapter 3:

### EXISTING TRANSPORTATION SYSTEMS

The county benefits from Delaware River waterfront access. Land-side mobility is supported via a regional transportation system (Figure 6, page 10) that includes freight railroads, interstate and authority (toll) expressways, and intercity and regional-rail passenger services. Four bridges link the county with the City of Philadelphia. The county also has the advantage of one public-use, general aviation airport.

- **Port Facilities** – six along the Delaware River.
- **Rail Freight Systems** – owned and operated by Conrail.
- **Interstate and Authority (toll) Expressways** – I-76, I-295, and I-676 (owned and operated by the New Jersey Department of Transportation); the New Jersey Turnpike (owned and operated by the New Jersey Turnpike Authority); and the Atlantic City Expressway (owned and operated by the South Jersey Transportation Authority).
- **Principal Arterial Highways** – US 30, US 130, NJ 38, NJ 41, NJ 42, NJ 70, NJ 73, NJ 154, and NJ 168 (owned and maintained by the New Jersey Department of Transportation); and County Routes 534, 544, 561, 605, 644, and 689 (owned and operated by Camden County).
- **Passenger Rail Systems** – NJTransit's Atlantic City Rail Line and RiverLINE; and the PATCO Hi-Speed Line, owned and operated by the Delaware River Port Authority.
- **Passenger and Freight Intermodal Facilities** – a variety of hubs where multiple transportation modes meet and significant volumes of people and goods transfer between them.
- **Bridges** – the Walt Whitman (I-76), the Ben Franklin (I-676), and the Betsy Ross (NJ 90) bridges (owned and operated by the Delaware River Port Authority), and the Delair Bridge (owned and operated by Conrail).
- **Airport** – the Camden County Airport, in Winslow Township (owned and operated by Albion Airport, Inc.).

#### COUNTY ROUTES

Camden County owns and maintains 179 county routes and 155 bridges. The 401-mile long highway network, complemented by highways maintained by the New Jersey Department of Transportation and local municipal streets and roads, provides land-side access. The county route network (Figure 7, page 11) is aligned in a hierarchical manner; 500-series routes are the highest order highways, followed by 600- and 700-series routes. The 500-series highways are the longest, traverse multiple counties, and typically serve the highest volume of traffic. Selected attributes of the county's highways and bridges are contained in **Appendix A** and **Appendix B**, respectively.

Some county routes, along with state and toll highways, are components of the National Highway System.<sup>5</sup> These include:

- County Route 534 – Blackwood-Clementon Road,
- County Route 544 – Evesham Road,
- County Route 561 – Haddonfield-Berlin Road,
- County Route 605 – Ephraim Avenue,
- County Route 644 – Grove Street/Haddonfield Road, and
- County Route 689 – Berlin-Cross Keys Road.

Mass transit services are also part of the county's fabric (Figure 8, page 12). Three passenger rail lines, 20 train stations, and 33 NJTransit bus routes serve the county's population and support its activity centers. The county route network supplies direct access to many of the transit stations and carries many of the bus routes.



The Ferry Avenue PATCO Station, a regionally significant public transit station, is served by Camden County Routes 561, 603, and 606. (Photo: DVRPC)

<sup>5</sup> The National Highway System is comprised of highways and intermodal facilities. The interconnected network serves the nation's security and defense, and aims to enhance personal mobility and increase the nation's competitiveness. The network is approved by the Federal Highway Administration.



Figure 6: Regional Transportation Facilities

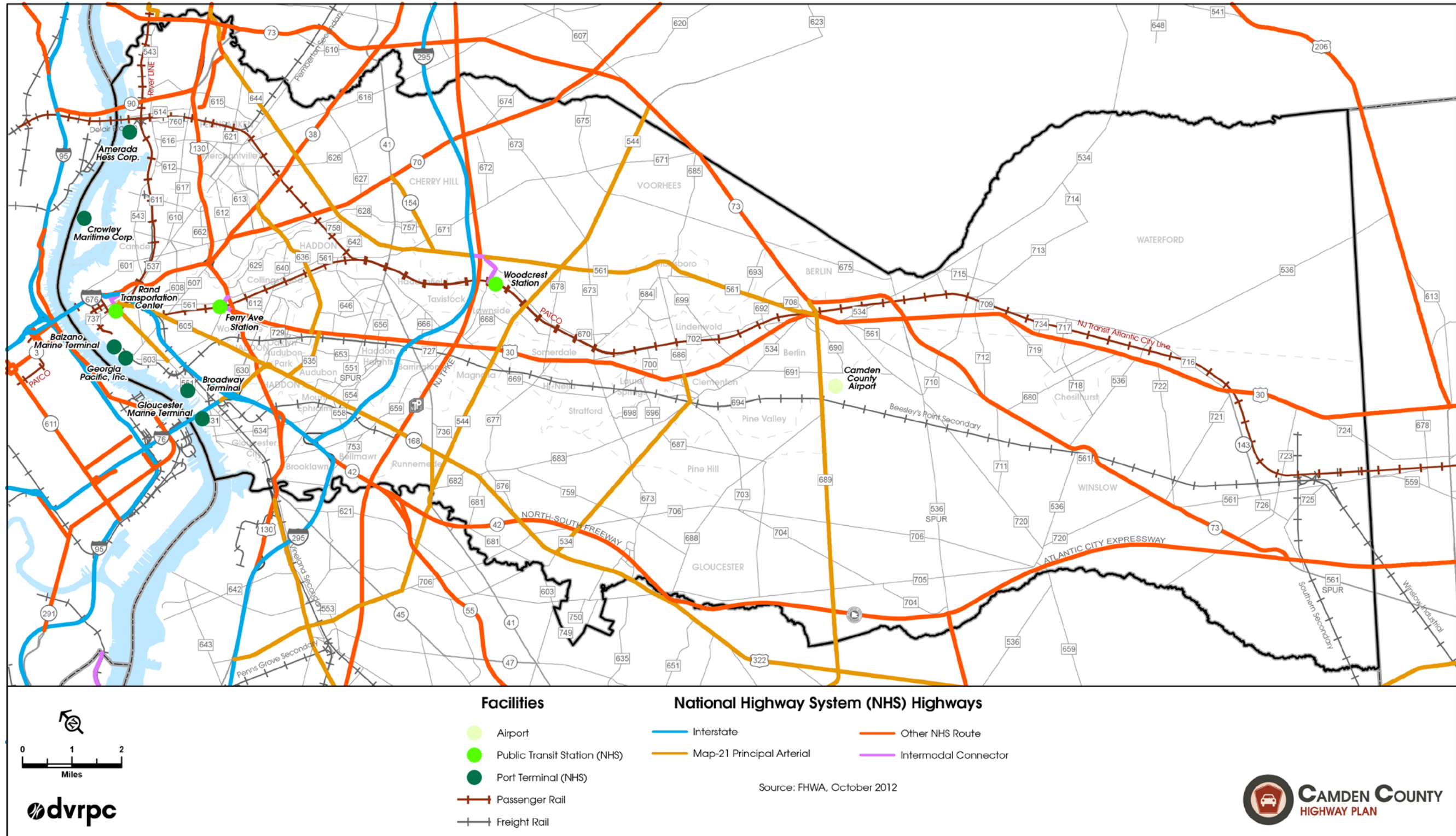




Figure 7: The County Route Network

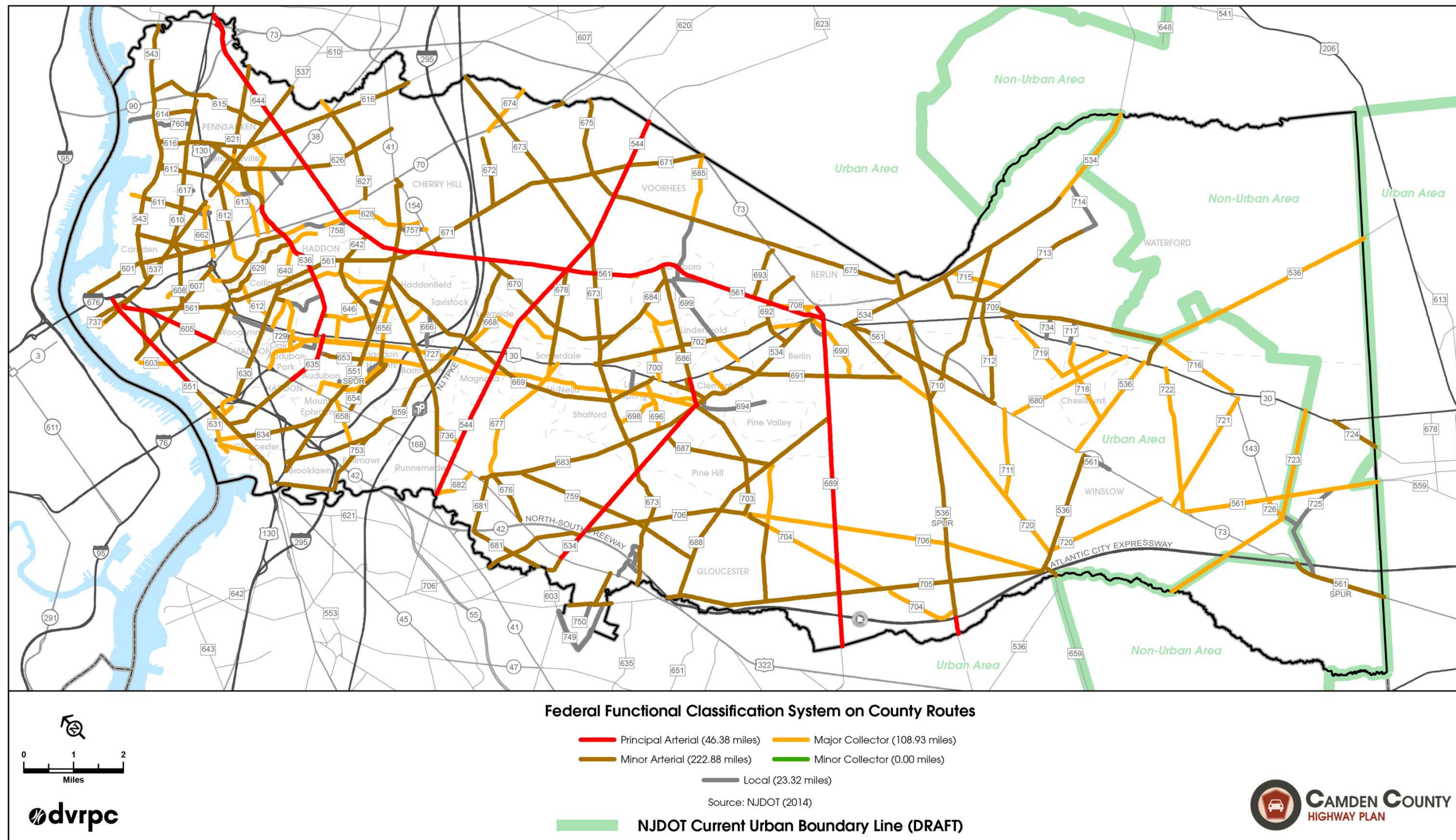
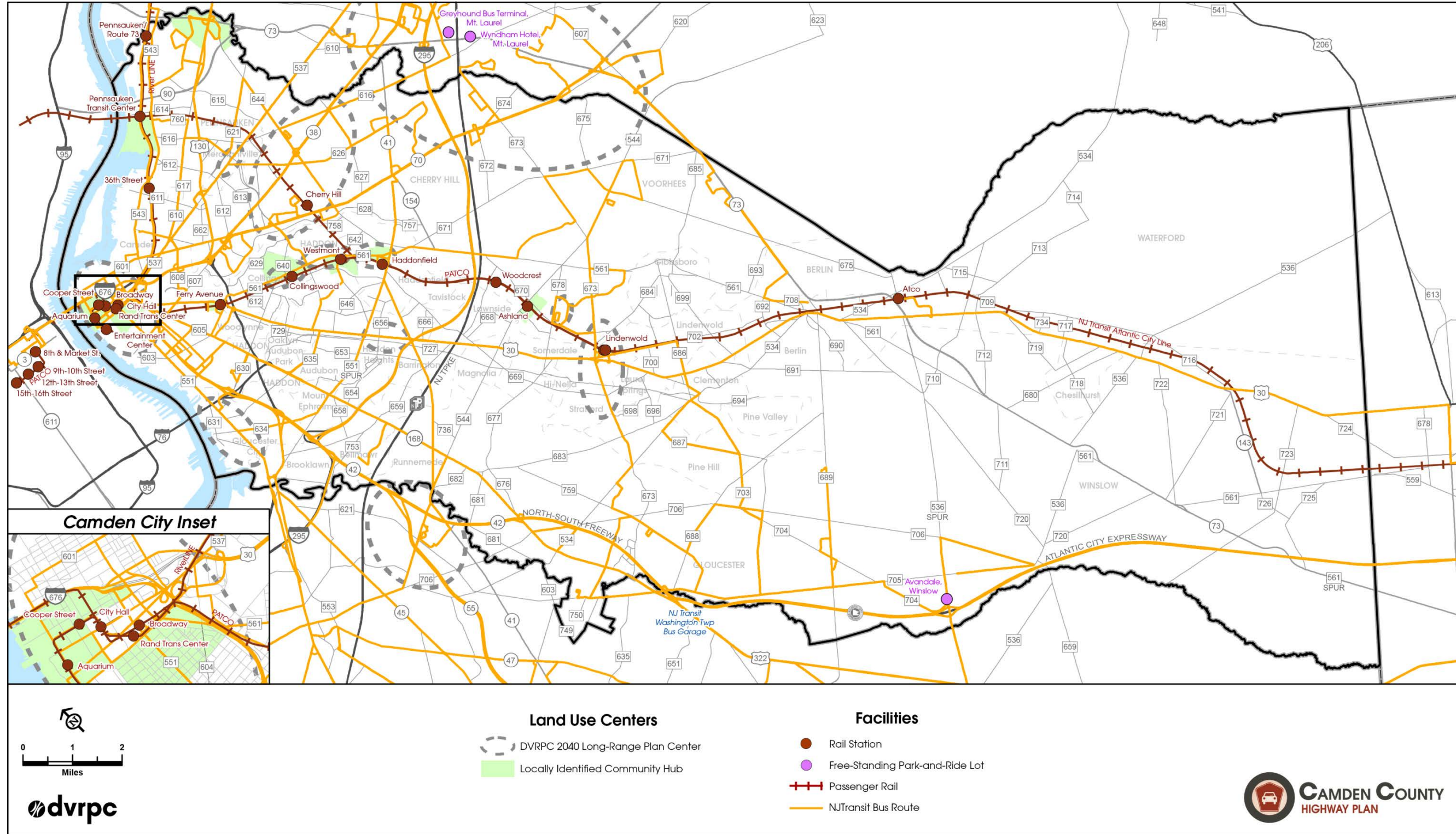




Figure 8: Mass Transit Services

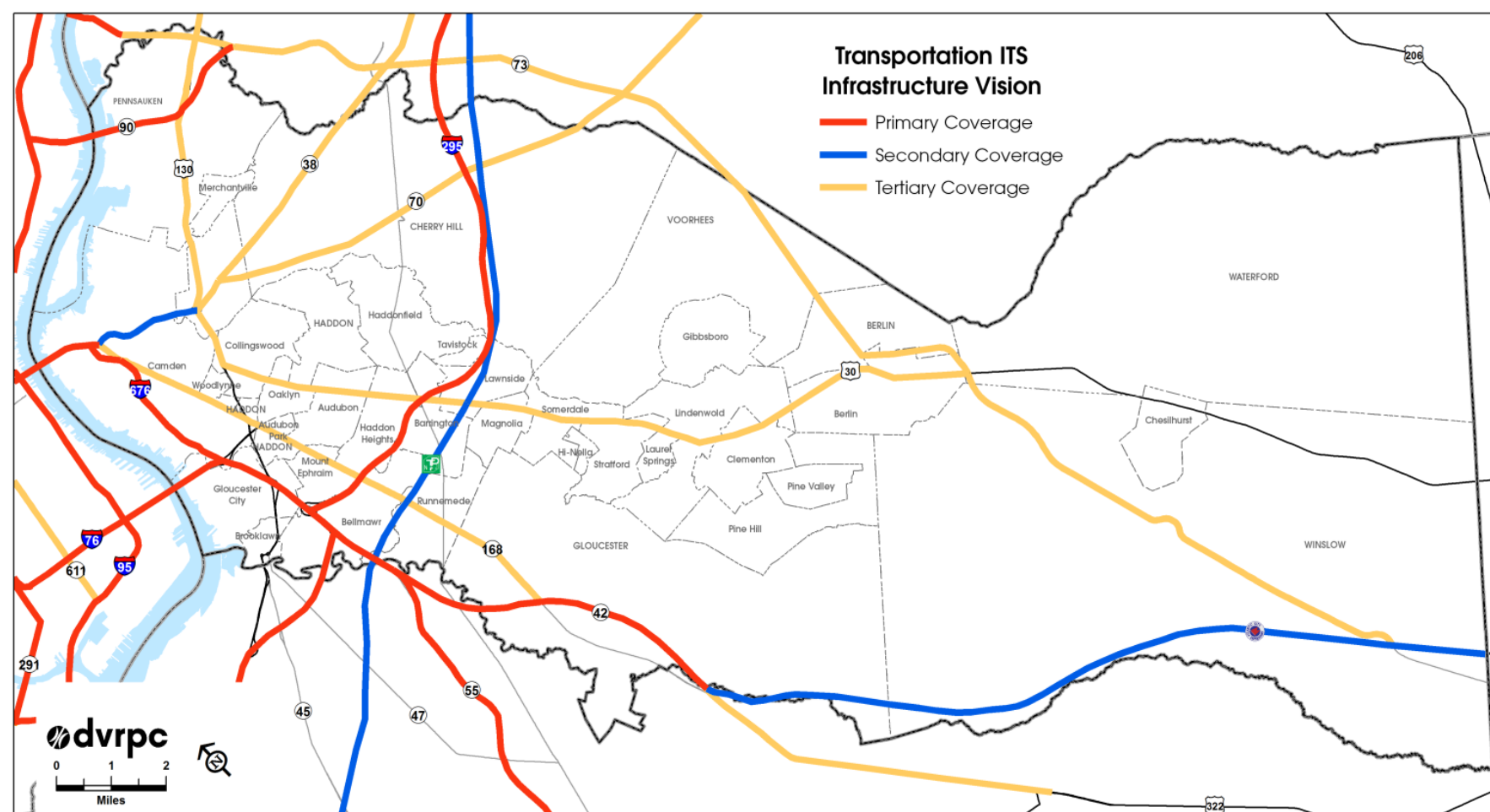


The described transportation facilities and services are available and relied upon on a daily basis. According to the Federal Highway Administration, on any given day, approximately 60 percent of the traffic congestion in major urban areas, like the Philadelphia metropolitan area, is due to temporary or nonrecurring conditions, such as disabled vehicles, crashes, maintenance and construction activity, or adverse weather. In these situations, conventional transportation improvement strategies, such as increasing highway capacity or providing alternative transportation options, are not justified. Instead, transportation operations strategies are more appropriate, targeted to a system of interstate and arterial highways in the region, as is shown on **Figure 9** and was developed for the regional Transportation Operations Master Plan.

Combinations of strategies are utilized to address nonrecurring congestion. Traffic operations strategies include technology, planning, preparedness, and interagency and multijurisdictional coordination.<sup>6</sup> Of these, technology is the backbone. Computers, surveillance and communications equipment, and electronic control systems are employed to detect, and flexibly respond to and mitigate the problem. Portions of the county route network are recognized as official detour and evacuation routes to support the regional highway system during emergencies (**Figure 10**, page 14). They should be properly integrated and equipped to do so.

A robust transportation system serves the county. It is the highway network, and particularly county highways, that is the focus of this project, and the subject of most of this report's content.

**Figure 9: Intelligent Transportation Systems Infrastructure Vision**



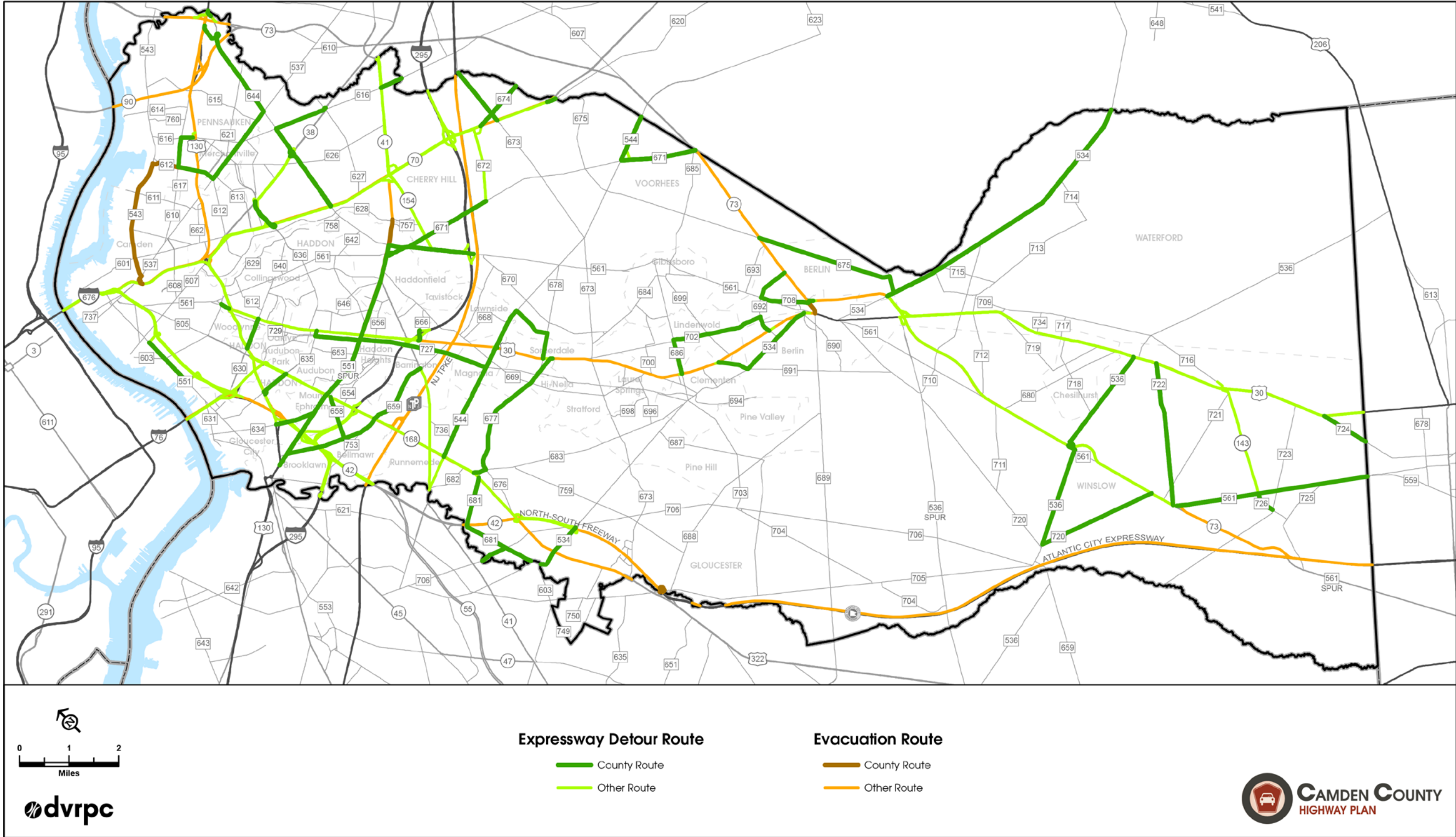
DVRPC, 2009

Some county route segments serve as official detour routes for the region's major highway network (shown). As such, they are also components of the DVRPC vision for Intelligent Transportation Systems (ITS) infrastructure deployment.

<sup>6</sup> Source: Transportation Operations Master Plan, DVRPC July 2009, Publication No. 09049



Figure 10: Incident Management Highway Network (IMHN)



DVRPC, 2015



### CURRENT TRAFFIC DEMAND

Current annual average daily traffic (AADT) volumes were determined from historical traffic counts contained in the DVRPC traffic counts database (2008 through 2012) and from counts conducted for this study in early 2013. The average date of all the traffic count data is 2011—defining the study's baseline year for current conditions. **Figure 11** (on page 16) indicates ranges of AADTs on the highway network in the county.

Traffic count data is useful for general information, and for modeling and analyses.<sup>7</sup> A review of current count data indicates:

- 500-series county routes carry an average of approximately 11,000 vehicles per day,
- 600-series county routes carry an average of approximately 9,000 vehicles per day, and
- 700-series county routes carry an average of approximately 6,000 vehicles per day.

### CURRENT IMPROVEMENT PROPOSALS

Studies, plans, and improvement programs have already been advanced to maintain the transportation infrastructure, remedy existing deficiencies, and manage growth.

- **Highway Safety Improvement Program (Figure 12, page 17)**
  - A competitive, federally funded, annual initiative<sup>8</sup> to build quick-fix safety improvements that will reduce the frequency or severity of crashes at pre-identified (eligible) locations.
- **New Jersey Transportation Improvement Program for FY 2014 to FY 2017 (Figure 13, page 18)**
  - **New Roadway Capacity** – I-295/NJ 42, Add missing moves at interchange; I-295/NJ 42/I-76, Construct Direct Connection; Camden Waterfront Roads, Extend Riverside Drive and Cooper Street.
  - **Intersection/Interchange Improvements** – I-295/NJ 168, Improve interchange.
  - **Traffic Calming/Streetscape Improvements** – County Route 543 (River Road) from State Street in the City of Camden to Sherman Avenue in Pennsauken Township.
  - **Transit** – Construct and serve the Pennsauken Transit Center, Pennsauken Township.<sup>9</sup>
- **DVRPC's YEAR 2040 Long-Range Plan (Figure 13, page 18)**
  - **Highway** – Widen the Atlantic City Expressway; NJ 70, Implement operational and safety improvements.
  - **Transit** – Construct the Gloucester-Camden Line (GCL) passenger rail line (operation anticipated after 2040); Construct and operate the South Jersey Bus Rapid Transit (BRT) service along the Atlantic City Expressway/NJ 55, NJ 42, I-76, and I-676; Rehabilitate the Atlantic City Rail Line's Cherry Hill, Lindenwold, and Atco stations.

<sup>7</sup> Current-year traffic volumes were added as a field in the Camden County Transportation Asset Management database.

<sup>8</sup> Funds provided through the current federal surface transportation funding bill, Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21).

<sup>9</sup> The Pennsauken Transit Center was opened for service on October 14, 2013.



Opened in 2010, the College Drive (County Route 673) interchange with the North-South Freeway (NJ 42) is also planned to serve a park-and-ride lot when the South Jersey BRT project is operational. (Aerial imagery: NJDOT 2012)

The Highway Safety Improvement Program provides a funding opportunity for a broad selection of safety-deficient county route locations. Camden County is submitting projects for participation. Just one capital project for the county route network is included in the Transportation Improvement Program and the Long-Range Plan—a traffic calming improvement along County Route 543 (River Road) through the City of Camden's Cramer Hill neighborhood.



Figure 11: Current Annual Average Daily Traffic Volumes (AADT)

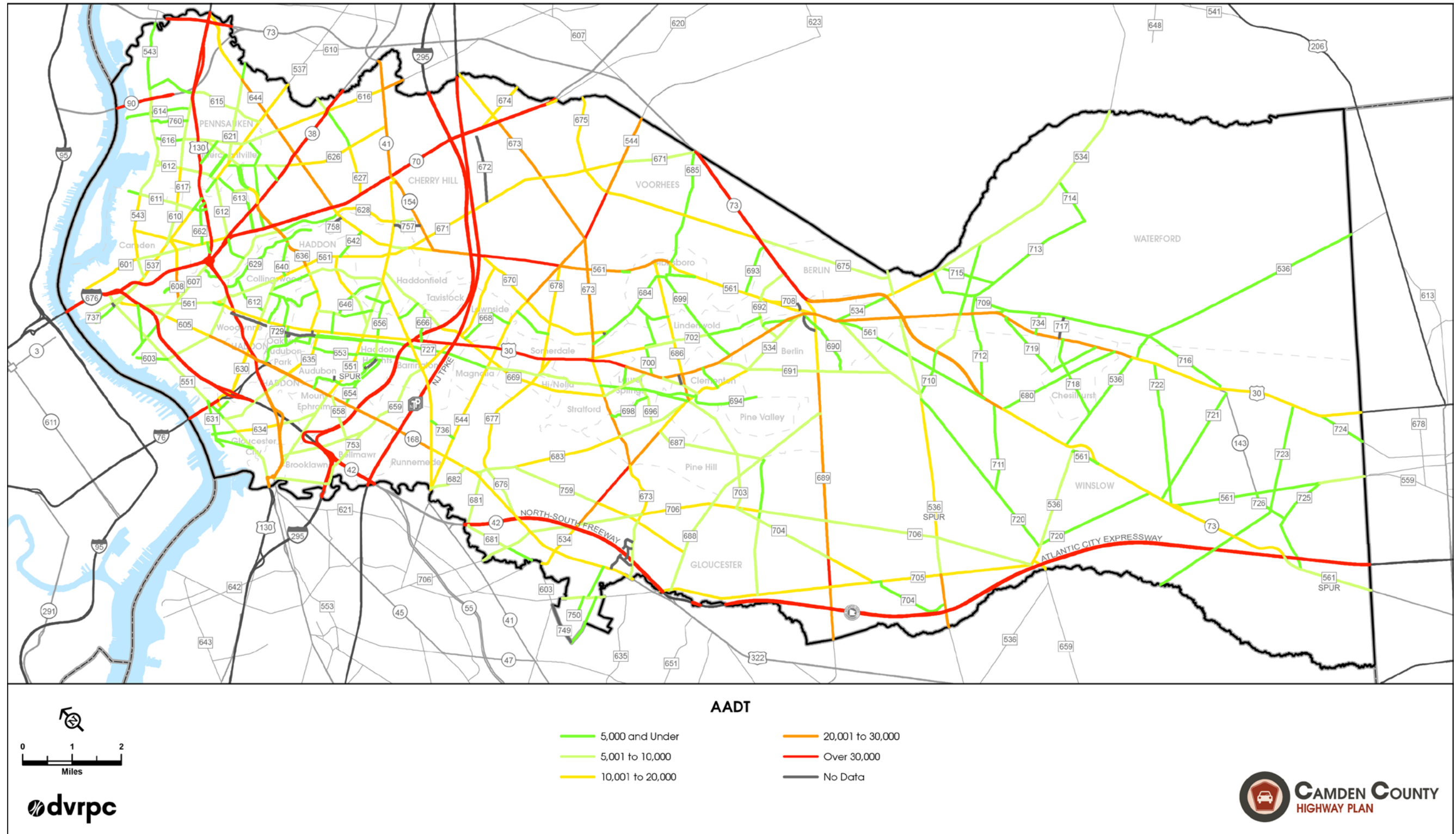




Figure 12: Highway Safety Improvement Program (HSIP)

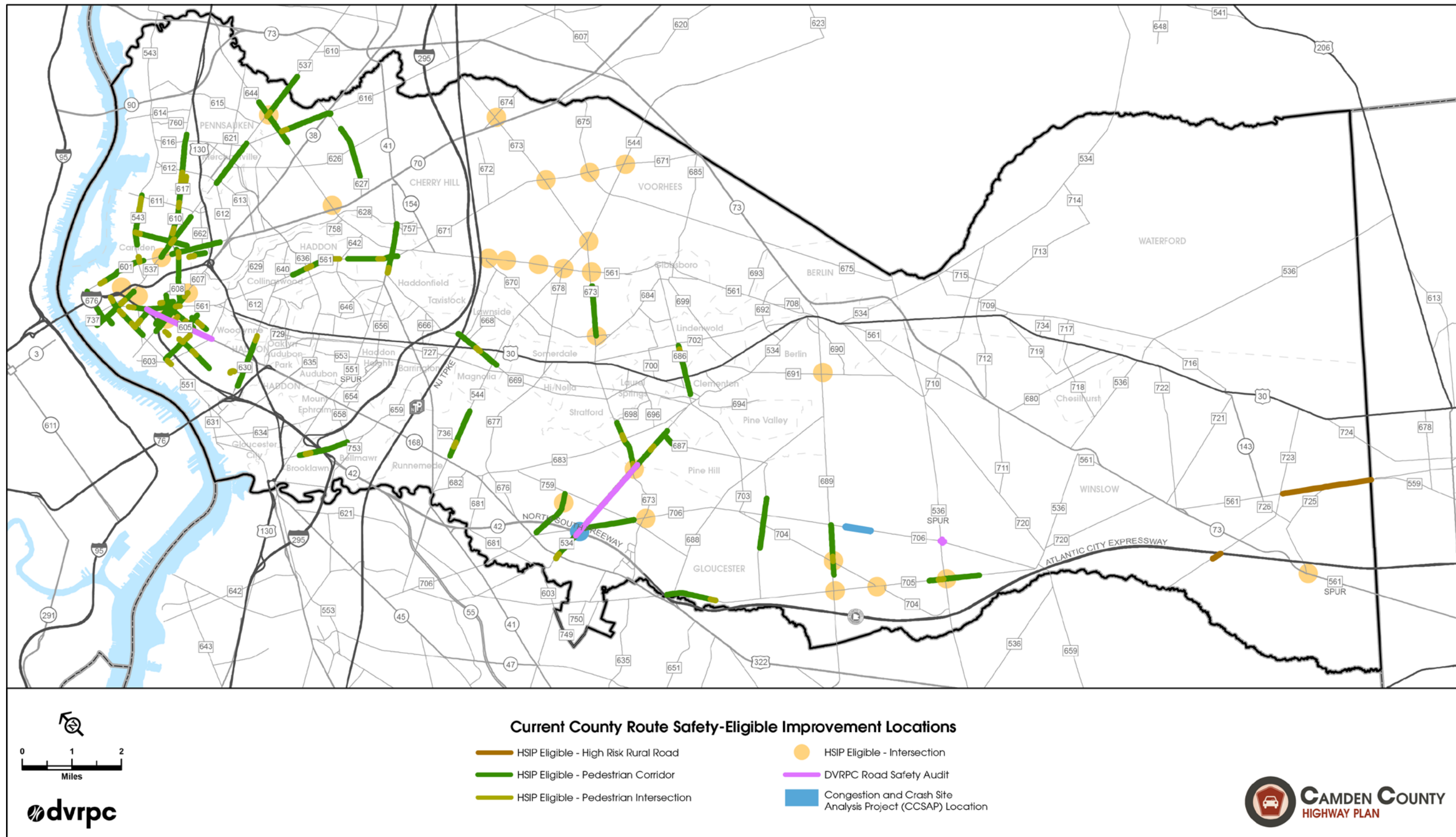
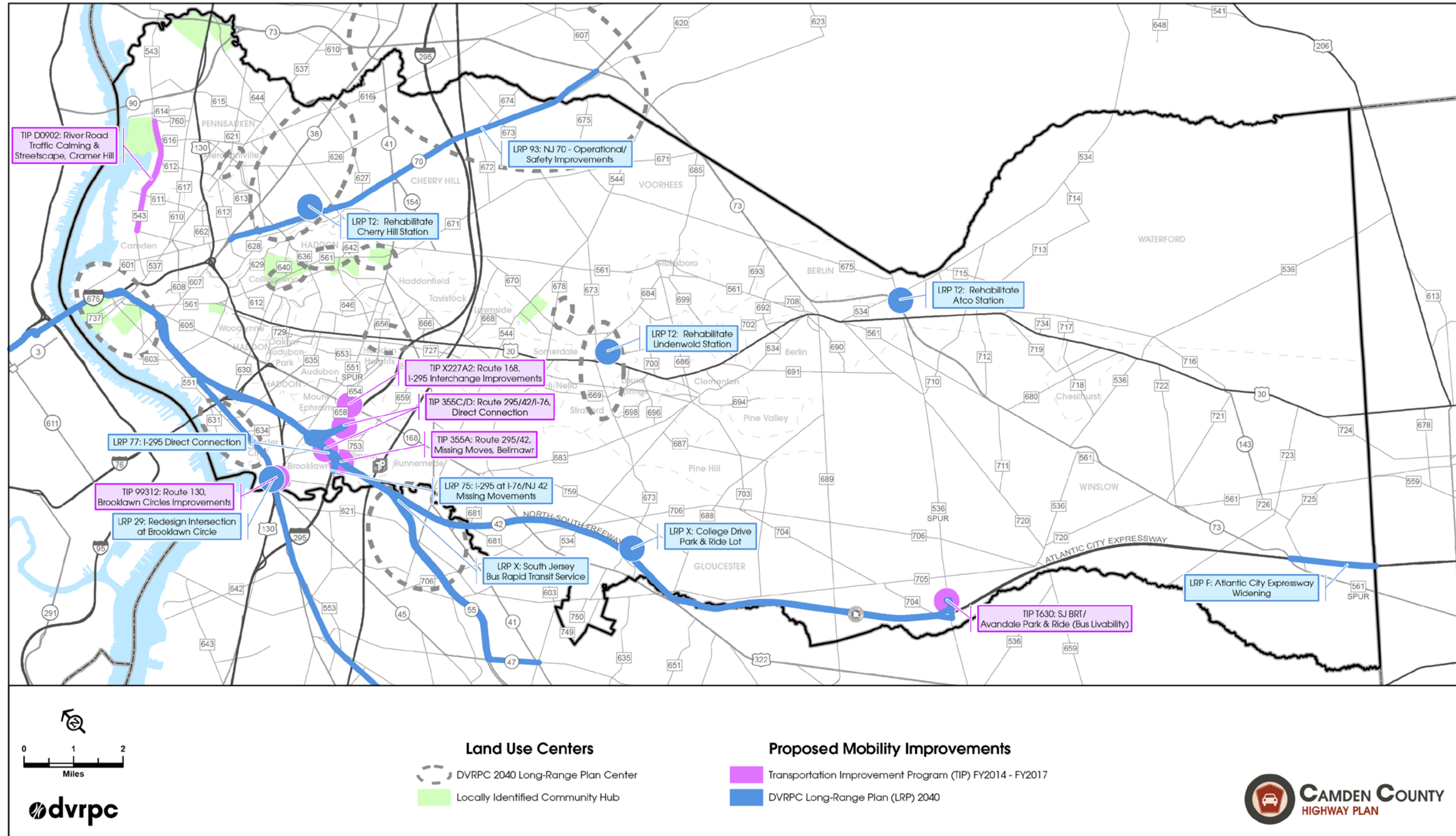


Figure 13: Regional Transportation Improvement Projects on TIP and LRP



## Chapter 4: GROWTH AND DEVELOPMENT

The Master Plan will provide the authority for directing and managing change in the county. Procedures, tools, and principles supporting DVRPC's long-range planning process have been employed—in coordination with the development of the county's Land Use Plan—to forecast the future and assess and chart the course for the Highway Plan.

### FORECASTING GROWTH

Socioeconomic forecasts are developed by DVRPC to support its mandated long-range planning activities for the region. **CONNECTIONS 2040**,<sup>10</sup> DVRPC's current Long-Range Plan, forecasts modest rates of growth for the county. Approximately 528,300 residents (+three percent) and 274,100 jobs (+four percent) are forecasted by 2040 (see **Table 1**, shown previously on page 7).

Just 14,600 new residents will call Camden County home. The largest gains in population will take place in Winslow Township (+5,000 residents), Gloucester Township (+4,900 residents), and Voorhees Township (+1,400 residents). Employment will increase the most in the City of Camden (+4,000 jobs), Gloucester Township (+1,300 jobs), Winslow Township (+1,200 jobs), and Voorhees Township (+1,100 jobs). Each of these strong-growth communities is located along the boundaries of the county.

Similarly, population in the adjacent counties is forecasted for growth—but at higher rates and with higher values (**Table 2**). In all cases, Camden County was the highest work destination beyond the host county's boundary.

**Table 2: County-wide Growth Perspective**

County	Population			
	2010	2040	Change	
			Absolute	Percent
<b>Camden</b>	513,666	528,303	14,637	3%
<b>Burlington</b>	448,734	494,733	45,999	10%
<b>Gloucester</b>	288,288	376,118	87,830	30%
<b>Atlantic</b>	274,549	341,915	67,366	25%

Sources: *CONNECTIONS2040*, DVRPC 2014 (for Camden, Burlington, and Gloucester Counties; and *Regional Transportation Plan 2040*, Technical Appendix #1: Demographic Forecasts, South Jersey Transportation Planning Organization, July 16, 2012 (for Atlantic County)

DVRPC, 2015

These trends are apt to compound traffic growth and congestion on the Camden County highway network.

### MANAGING DEVELOPMENT

DVRPC's Long-Range Plan and the county's Master Plan are multifaceted instruments. They are well suited for identifying and analyzing conditions through wide-angled lenses. Similarly, both are suited for evaluating potential solutions—at a local scale—to manage growth and development.

Federal and state planning guidelines for managing growth and investment also focus on smaller geographic areas. Smart Growth links land use, community, and transportation planning, and investment decisions to foster community building, contain sprawl, and conserve resources. New growth is encouraged to take place in core cities and in outlying "centers"—compact, mixed-use areas, which desirably are already supported with infrastructure. Smart Growth calls for combinations of strategies on multiple scales (large and small) and needs support across multiple jurisdictions (public and private).

<sup>10</sup> *CONNECTIONS2040 – Plan for Greater Philadelphia*, adopted July 2013 and amended July 2014, DVRPC, Publication No. 13042



## Centers

The City of Philadelphia is the region's core; the county's is the City of Camden. Eleven other centers, in or adjacent to the county, are identified in the DVRPC Long-Range Plan as focal points for regional Smart Growth planning:

- **Metropolitan Subcenters** – Cherry Hill/Mount Laurel/Marlton (shared with Burlington County), encompassing the lands surrounding NJ 70, NJ 73, I-295, and the New Jersey Turnpike.
- **Suburban Centers** – Deptford (Gloucester County), encompassing the area surrounding the NJ 42 and NJ 55 interchange.
- **Town Centers** – Collingswood, Gloucester City, Haddonfield, Haddon Heights, Merchantville, and Westmont; traditional business districts along community arterial highways, integrated with the surrounding community, and surrounding PATCO Hi-Speed Line stations.
- **Planned Town Centers** – Voorhees/Lindenwold, The Town Center at Haddon in Haddon Township, Haddon Avenue Transit Village in the City of Camden, and Town Place at Garden State Park in Cherry Hill Township; new, neotraditional developments.
- **Neighborhood Centers** – Fairview and Parkside; embedded neighborhoods, both within the City of Camden.

In developing its updated Land Use Plan, Camden County performed visioning exercises and conducted public opinion surveys to determine what the county should look like in 2040. Survey results indicated preferences for development in distressed areas in need of reinvestment, the City of Camden, and in locations where infrastructure is present to accommodate growth. Following the survey, the county and its consultants analyzed aerial photography to draw and estimate their land use vision.

Subsequently, locally important areas or community hubs were identified as targets for revitalization and reinvestment planning, including:

- Lanning Square and Cooper Plaza neighborhoods adjacent to Downtown Camden,
- The lands surrounding the Pennsauken Transit Center in Pennsauken Township,
- The lands surrounding the US 130, NJ 73, NJ 90, and County Route 644 interchange in Pennsauken Township, and
- Residential areas and commercial districts near the Ferry Avenue, Collingswood, Westmont, Haddonfield, Woodcrest, Ashland, and Lindenwold stations on the PATCO Hi-Speed Line.

The complete set of regionally significant and locally important Land Use Centers, guiding Smart Growth in Camden County, was central to the work conducted in this project. They are identified in many of the figures throughout this plan.

The county's visioning work was accomplished within the general structure of the DVRPC regional plan. In spirit, the centered-development concepts of the county and the region are the same. So are many of the targeted growth areas. Thus, the authority vested in the new Master Plan will direct future investments where they are needed most, be aligned with local objectives, and be consistent with the region's Long-Range Plan.



*Bulb-outs along Haddon Avenue (County Route 561) in Westmont reduce pedestrian crossing distances. They are proposed at corner bus stops along Broadway (County Route 551) and Federal Street/Market Street (County Route 537)—major bus streets in Camden—to promote NJTransit bus operations and favor its riders. (Photo: DVRPC)*

DVRPC maintains a regional travel demand forecasting model. Additionally, DVRPC's Congestion Management Process supplies a complementary methodology for local-level transportation analyses. The Congestion Management Process also contains a defined recommendation structure that supports Smart Growth tenets. DVRPC uses both of these tools to develop the Long-Range Plan and the Transportation Improvement Program—key instruments in the process of obtaining state- and federal-aid transportation funds in the Delaware Valley Region. Both tools were used to assess the highway network serving Camden County.

## Chapter 5:

### TRAVEL DEMAND FORECAST MODELING

Travel demand forecasting was performed expressly for this project. The work supplied direct outputs for measuring the effectiveness of the highway system serving the county. The modeling work also supplied inputs to DVRPC's holistic evaluation procedure supporting the Congestion Management Process.

#### TRAVEL SIMULATION

DVRPC maintains a computer-based highway and public transportation travel simulation model that replicates highways and public transit services throughout the region. It can be used to understand or estimate travel behavior and travel data for differing transportation networks, demographic conditions, and time periods. In turn, the model can be used to locate problem areas, identify future trends and travel conditions, and consider alternative improvement strategies to address existing and emerging problems.

For this project, the regional model was employed to determine and assess traffic mobility conditions on the county's highway network and along state- and authority-owned highways. The following highway systems are included in the modeled network:

- National Highway System highways and connectors,
- Other arterial and collector highways – state ownership, and
- County route network – generally: county routes greater than one mile in length; or where shorter: county routes that have interchanges with higher-order highways, provide access to county parklands, or have been identified as County Route "Turnback" candidates (i.e., candidates for transfer of ownership—from the county to the municipality).

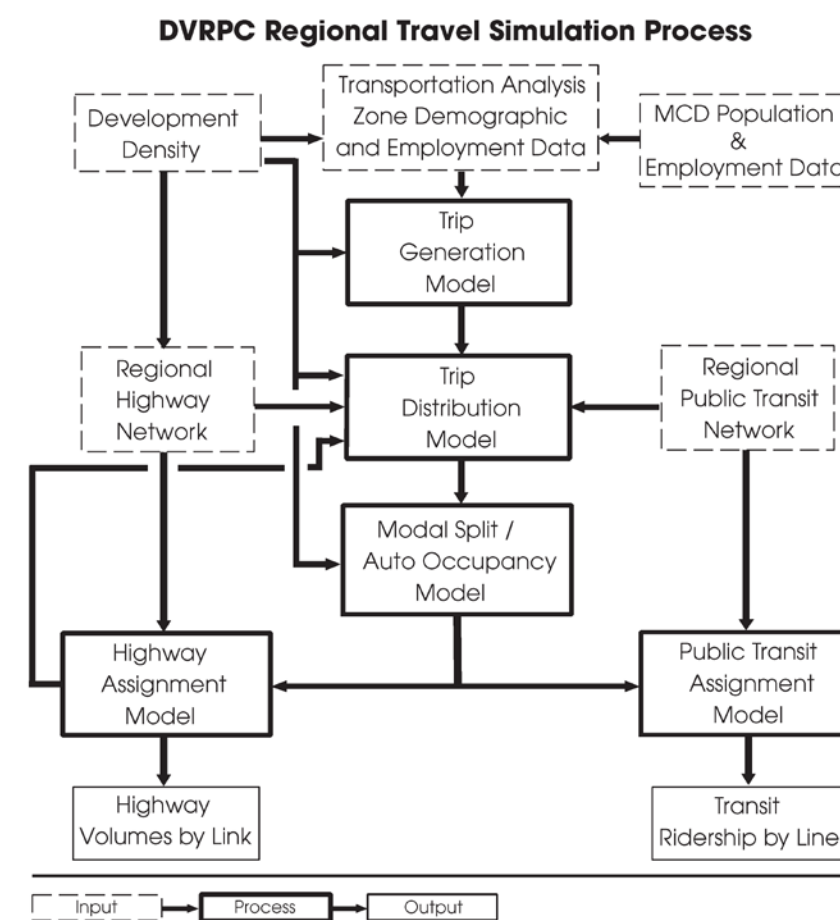
Ultimately, 99 unique county highway facilities satisfying minimum thresholds for length and connectivity, comprising 90 percent of the county route system's overall mileage, were included in the calibrated model. The four bridges to Philadelphia, and selected points on the expressway and state-owned principal arterial highway systems were included for calibration and use as monitoring points alongside the assessment of the county route network.

Multiple simulations were conducted and analyzed. Three are reported in depth: the 2011 Base Year scenario, to establish baseline conditions; a 2040 Long-Range Plan scenario, which is based on forecasted demographic changes and infrastructure investment as stated in the region's Long-Range Plan; and, finally, a 2040 Master Plan scenario, which included the land use vision of the county planners and their consultants. Each scenario is described on the following pages.

DVRPC utilizes PTV AG's VISUM software package for travel demand modeling. The model is a four-step model.

Figure 14 provides a schematic representation of the four-step process. The model network (highways, rails, transit routes, etc.) is defined as the Travel Improvement Model (version 2.0), which was constructed using Open Street Map and Google's General Transit Feed Specification.

Figure 14: Schematic Diagram of Travel Demand Forecasting



DVRPC, 2015

After the model generates trips and distributes them across the network, the model splits the trips to either highway or transit based on numerous factors that are built into the model. This is referred to as mode or modal split. For this project, the transit networks were used only for their utility in the mode split process—to ensure that the proper proportion of trips were assigned to the highway assignment model. Only the results from the highway assignment model were assessed in this project.

Volume-to-capacity (V/C) ratios were used as a key planning indicator. Volume (V) corresponds with number of vehicles during the peak hour, and capacity (C) is defined as the theoretical maximum number of vehicles that can travel along a link in one hour. The maximum volume-to-capacity ratio equals 1.00. Beyond 1.00, breakdown and unstable and unpredictable traffic operations are to be expected. Therefore, a volume-to-capacity ratio threshold equaling or exceeding 0.85, consistent with the Congestion Management Process, was used as a planning indicator of a roadway segment’s approach to capacity and degree of congestion.

### 2011 BASE-YEAR MODEL PREPARATION

Traffic forecasting required a focused network for Camden County. By “focusing” DVRPC’s regional travel demand model, enhancements are accomplished within a detailed study area, while a regional level of detail is maintained elsewhere. Focusing supplies a finer analytical grain in the detailed study area’s transportation analysis zone structure and a denser highway network to support it, and yields greater accuracy in the highway assignment in the focused study area.

Focusing the model for this project required:

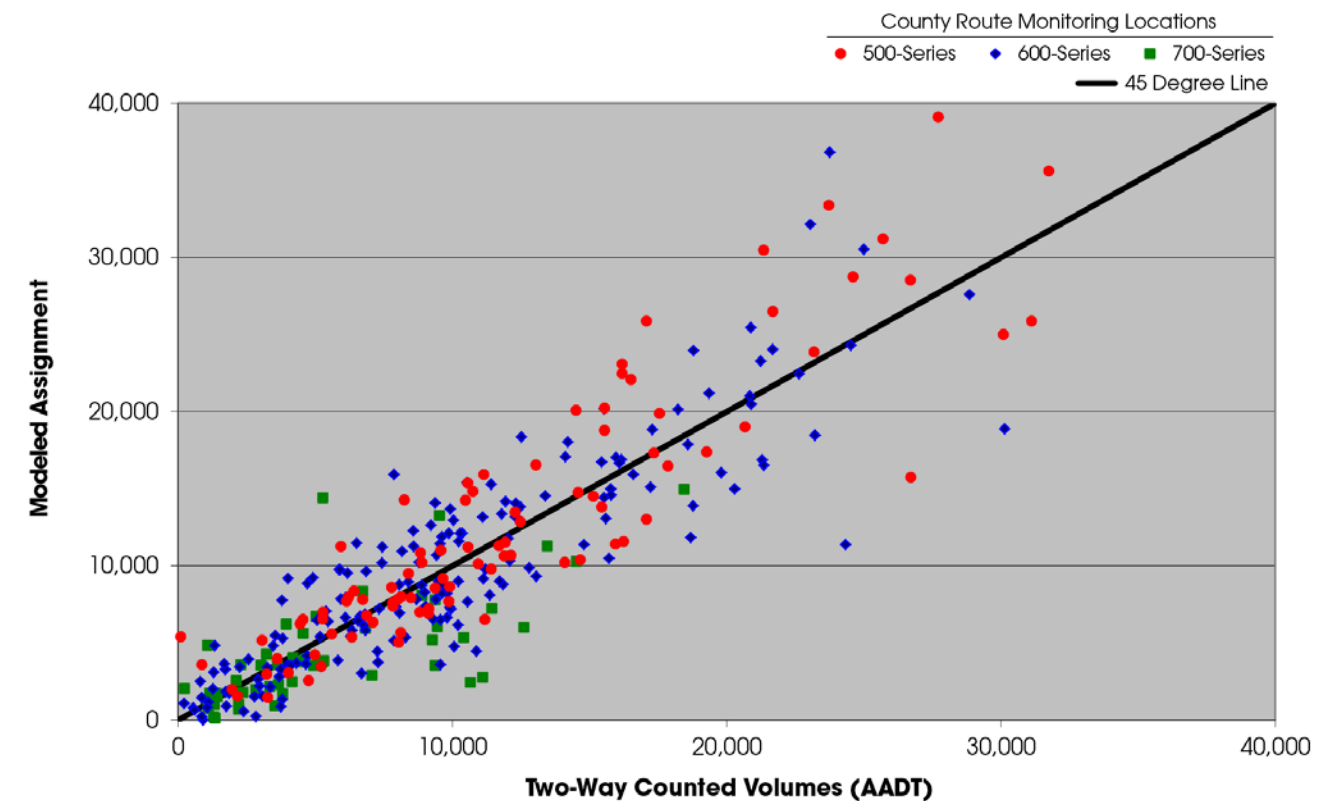
- Adding county routes not represented in the regional model;
- Identifying locally owned roads that impact the county’s highway system, and adding them to the model where important;
- Ensuring that lane configurations and turn restrictions were accurate; and
- Reassigning where trips enter and exit the highway network to better reflect demographic realities.

Following preparation, the model was executed. Traffic assignments for nearly 600 monitoring points on county roads and significant non-county roads were compared with actual ground counts for reasonableness and accuracy. Where necessary, adjustments to the modeled network were performed and the model re-run to calibrate the detailed study area highway network to a “current” average daily traffic volume condition in 2011.

### 2011 BASE-YEAR MODEL PERFORMANCE

Figure 15 illustrates results from the final calibration of the 2011 modeled network for Camden County.

Figure 15: 2011 Model Calibration Results



DVRPC, 2015

Consistent with similar applications of the travel demand forecasting model, the overall calibration goal was to realize model results within 15 percent of counted volumes. This goal was achieved.



## 2040 MODEL PREPARATION

Future-year travel testing was performed iteratively and sequentially for two 2040 travel models: the Long-Range Plan scenario and the Master Plan scenario.

## 2040 LONG-RANGE PLAN SCENARIO

In the Year 2040 Long-Range Plan scenario, DVRPC's official 2040 municipal population and employment forecasts were added to the focused model to reflect the planning horizon's growth and development. An approximate gain of 15,000 people and 11,000 jobs are forecasted in the county. Transportation improvements were also added to the base network corresponding with all mobility projects constructed in the county since September 2011, and the programmed (Transportation Improvement Program) and planned (Long-Range Plan) projects throughout the region that will be operational by 2040. **Figure 13** (shown earlier, on page 18) displays the major projects within the county.

Following preparation, the 2040 Long-Range Plan scenario model was executed—translating the additional residents and jobs into revised travel demand and trips on the transportation network.

## 2040 MASTER PLAN SCENARIO

This scenario builds upon DVRPC's official 2040 Long-Range Plan scenario model.

Camden County and its consultant, Group Melvin Design, developed independent population and employment forecasts for its preferred set of locally important development centers as part of its Land Use Plan update. The revised projections take a different approach than the DVRPC projection methodology. In the Land Use Plan exercise, the community vision estimates what growth *should* look like, rather than predicting what the future *is forecasted to* look like based on past trends.

The resulting population (+7,100 residents) and employment (+1,400 jobs) estimates were then added to DVRPC's official 2040 population and employment forecasts to produce the revised socioeconomic inputs for trip generation and assignment. All transportation improvements corresponding with the 2040 Long-Range Plan model were maintained. Following preparation, a *preliminary* 2040 Master Plan travel model was executed.

## FINDINGS AND CONCLUSIONS

Travel demand forecast modeling supplies the ability to aggregate network-wide performance statistics to assess county-wide travel trends. By way of comparison, 2040 modeled traffic volumes are on the order of six to seven percent higher than the 2011 model's output.

**Table 3** summarizes how well the tested county route networks operate, using the volume-to-capacity (V/C) ratio metric, during the peak traffic hour. As was explained in detail on the previous page, the nearer the volume-to-capacity ratio is to 1.0, the greater the level of congestion. The values given are aggregates. Therefore, individual highways may perform better or worse than the values shown.

**Table 3: Preliminary Modeled Network Performance**

Highways	2011 Base-Year V/C	2040 Long-Range Plan V/C	Preliminary 2040 Master Plan V/C
<b>All County Routes</b>	0.59	0.63	0.63
<b>500-Series</b>	0.61	0.63	0.63
<b>600-Series</b>	0.63	0.68	0.67
<b>700-Series</b>	0.39	0.47	0.48

*DVRPC, 2015*

Generally, travel, traffic volumes, and congestion are forecasted to increase in marginal amounts, as are the population and employment forecasts to which they relate. As would be expected, the higher-level highway systems (500- and 600-series county routes)—carrying the vast majority of the traffic volume—are consistently more congested than 700-series county routes. Growth in congestion, however, is highest for the 700-series routes, where growth and infill will add traffic volume, though they are forecasted to remain less congested than the 500- and 600-series county routes.

Model results can also be used to identify localized congestion hot spots. This work was accomplished in tandem with the Congestion Management Process evaluation methodology to identify preliminary Highway Plan recommendations.



# Chapter 6:

## ASSESSMENT OF TRAFFIC CONDITIONS

Assessment of the highway system serving Camden County was performed in conformance with the methodologies contained in the DVRPC Congestion Management Process.<sup>11</sup> The Congestion Management Process is required in air-quality nonattainment areas and is a mandated step in the process of obtaining state- and federal-aid transportation improvement funds. The Congestion Management Process identifies strategies and actions to reduce (first), manage (second), or accommodate (last) single-occupant vehicular travel.

### THE CONGESTION MANAGEMENT PROCESS

The Congestion Management Process evaluation methodology was used to screen conditions on all state-, authority- and county-owned and maintained highways within Camden County. The Congestion Management Process's analytical framework is established in broad, overlapping travel corridors throughout the region. Camden County's Congestion Management Process framework is represented in the following eight corridors (**Figure 16**, page 26):

1. NJ Corridor #2 – I-295, New Jersey Turnpike (S);
2. NJ Corridor #3 – Atlantic City Expressway/NJ 42;
3. NJ Corridor #5 – US 30;
4. NJ Corridor #6 – US 130;
5. NJ Corridor #10 – NJ 38;
6. NJ Corridor #11 – NJ 41, NJ 47, NJ 55;
7. NJ Corridor #12 – NJ 70; and
8. NJ Corridor #13 – NJ 73.

General improvement strategies are defined for subcorridors within them. Related subcorridor areas are shown on **Figure 16a** and **Figure 16b** (pages 27 and 28, respectively)

Within the analytical framework, existing and future transportation and land use characteristics are assessed via a systematic application of evaluation criteria. Individual criteria (listed next) are weighted and summed into a single score for the modeled highway segment.

1. Recurring Traffic Congestion – Locations with high peak-period volume/capacity ratios ( $\geq 0.85$ ) currently and where growth in congestion is forecasted in the peak-period travel model.
2. Transit Need – Areas where transit service might succeed based on current and forecasted population and employment density, and train stations, as they concentrate people for efficient transit and carpooling.
3. Transportation Facilities – Major transit services, major highways, freight rail and freight facilities, and their connections.
4. Traffic Safety and Nonrecurring Congestion – Highway segments with twice the average crash rate of similar facilities and where crashes are likely to cause congestion problems.
5. Duration of Congestion – Roadways with longer than average peak-period congestion based on archived traffic operations data. (Note: The use of archived data has not been sufficiently developed in the 2012 Congestion Management Process for the lower-order highway system—many of which are county routes. A workable surrogate—double-weighting the traffic congestion parameter—replaced the duration-of-congestion parameter in the scoring methodology for this current study.)
6. Transportation Security – Activity centers (population, employment, and recreational) and key linkages (bridges, etc.) that are critical for potential evacuations.
7. Land Use Centers – Centers and existing or future development areas identified in DVRPC's Long-Range Plan and the Camden County Land Use Plan.
8. Environmental Impact – Areas where transportation investments would have limited impacts to natural, human, and cultural settings.

Highway segments with Congestion Management Process-composite scores equaling or exceeding 6.0 are significant from a Congestion Management Process viewpoint and warrant attention. Additionally, the Congestion Management Process contains a ready program of actions for delivering that attention.<sup>12</sup> These include land use and community planning strategies, multimodal transportation options to manage growth and travel, and combat congestion in the corridor. Implementing combinations of strategies is preferred—in steps that will aid travel, prolong investments, and improve air quality.

<sup>11</sup> Source: DVRPC 2012 Congestion Management Process (CMP) – Limiting Traffic Congestion and Achieving Regional Goals, DVRPC, May 2013, Publication No. 11042

<sup>12</sup> The Congestion Management Process offers over 100 congestion-fighting strategies appropriate to the region. In accordance with federal regulations, other means of solving congestion problems must be considered before using federal funds to build major new road capacity. When major new road capacity is appropriate, a set of supplemental multimodal strategies scaled to the size of the project must be incorporated. To view the appropriate strategies for each subcorridor, visit [www.dvrpc.org/webmaps/CMP/](http://www.dvrpc.org/webmaps/CMP/).



Figure 16: Congestion Management Process (CMP) Corridors

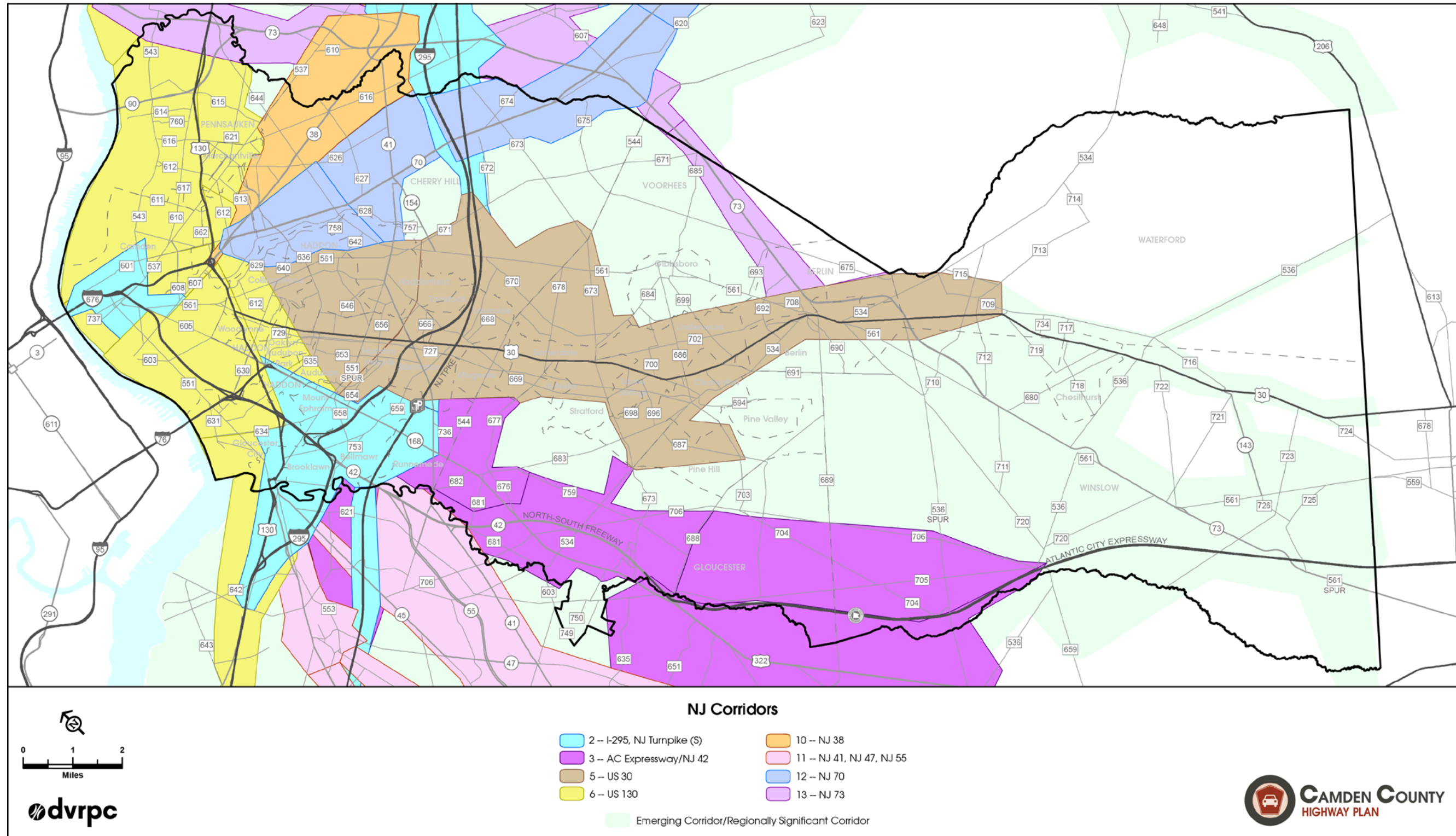


Figure 16a: Subcorridor Areas for CMP Corridors 2, 3, 5, 6

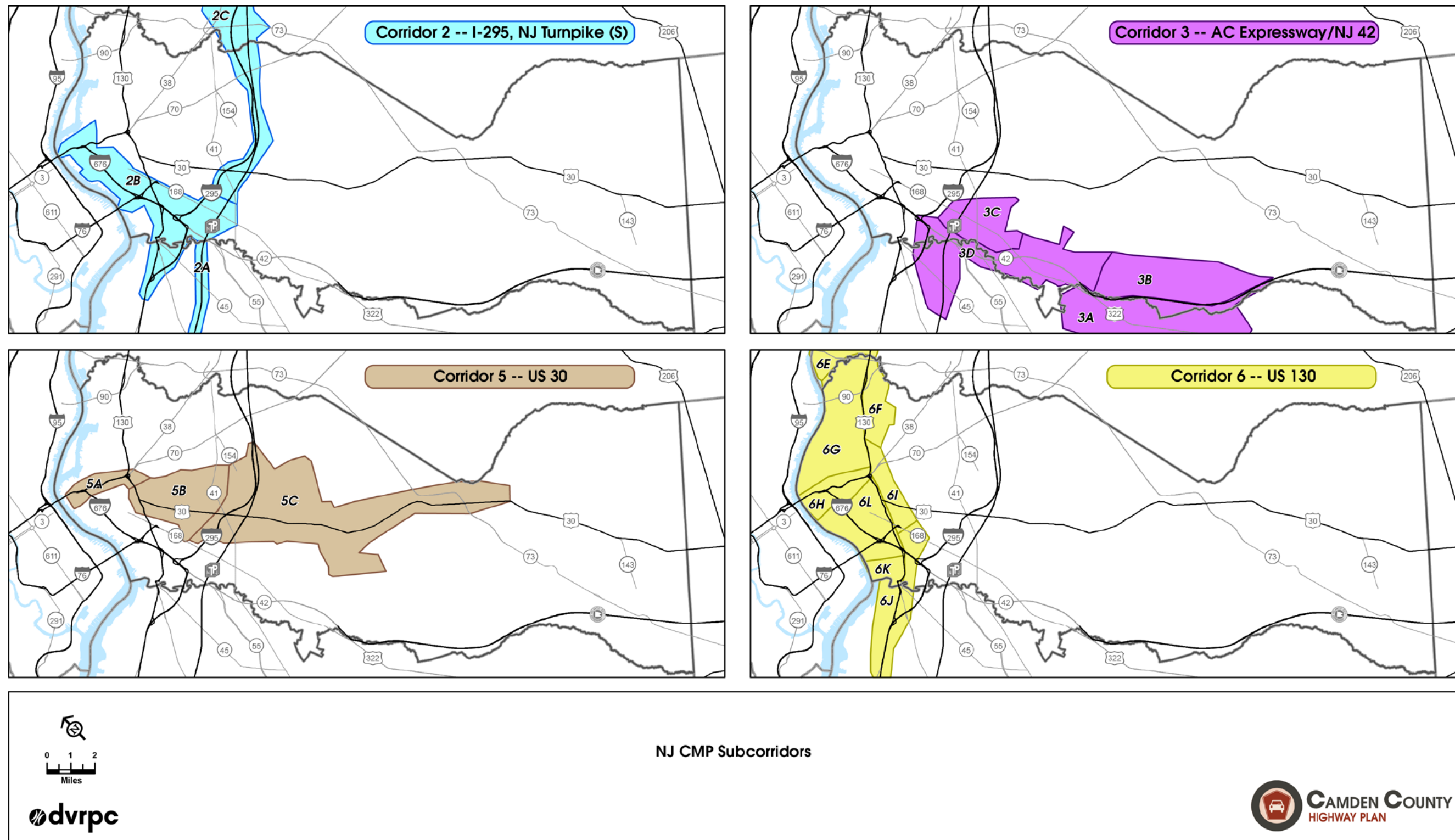
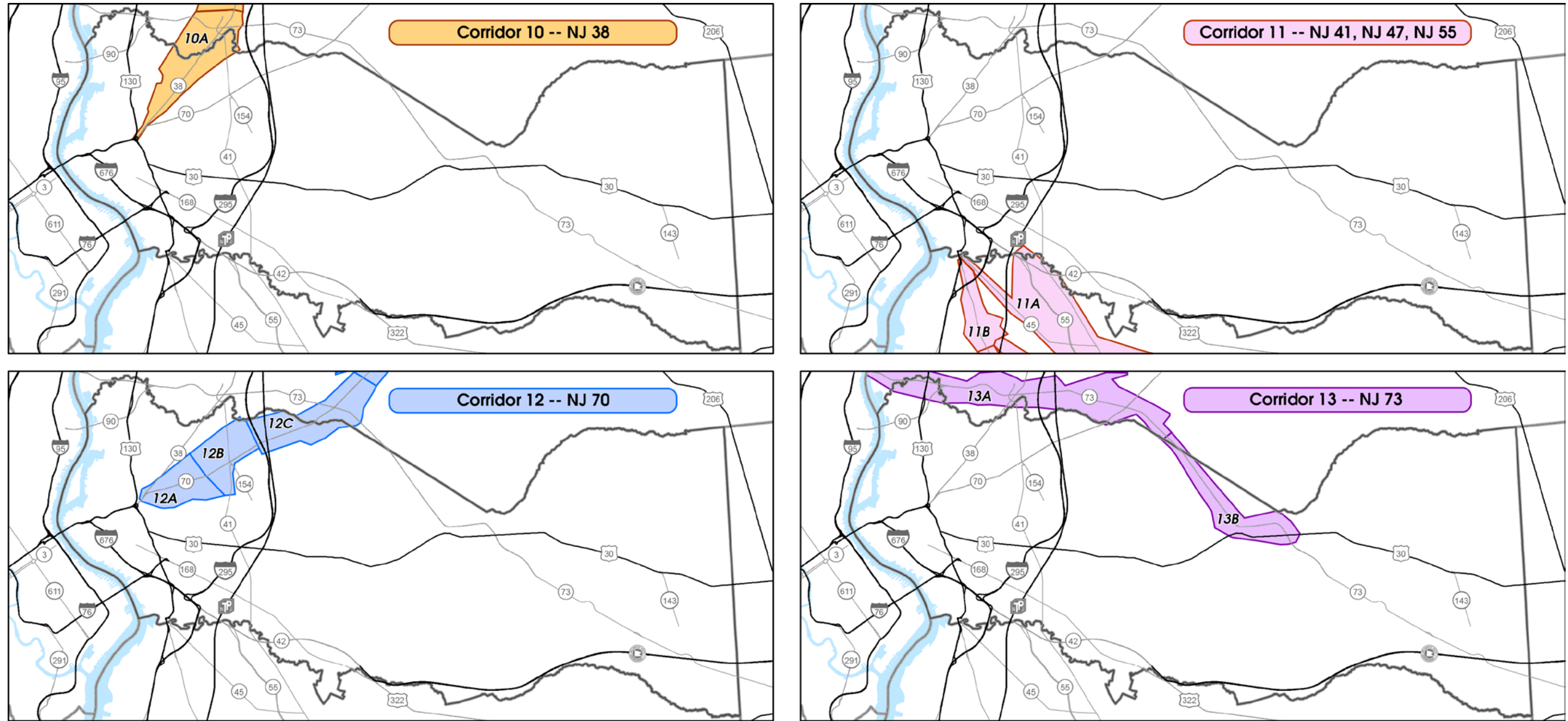




Figure 16b: Subcorridor Areas for CMP Corridors 10, 11, 12, 13



**NJ CMP Subcorridors**

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Miles



## ANALYSES

Sequential screening was performed to assess and winnow transportation information for 600 monitoring points throughout the county to a more useable set—those areas warranting transportation attention.

The procedure screened link-based outputs from the travel simulations and geographic data associated with the Congestion Management Process criteria and the other elements of the county's Master Plan (i.e., Land Use, Bikeways & Multi-Use Trails, and Farmland Preservation), reducing the set to 153 segments. The eight candidate County Route Turnback segments were also maintained as a matter of due diligence.

**Table 4** (pages 30 through 33) summarizes the screening methodology's content and results for the county route network. Column headings, across the top of the table, provide an overall perspective of the screening process. The segments listed on the left side of the table include county route segments that meet or exceed one of the technical screening thresholds (described on page 34) *and* the eight candidate County Route Turnbacks.

### CAMDEN COUNTY'S COUNTY ROUTE TURNBACKS:

Camden County directed DVRPC staff to pay particular attention to a set of county routes that are being considered for transfer of ownership from the county to the municipality. These included:

1. Camden County Route 612 (Browning Road) – between County Routes 630 and 561, in Collingswood;
2. Camden County Route 644 (Potter Street) – between County Routes 561 and 573, in Haddonfield Borough;
3. Camden County Route 644 (Haddonfield Road) – between NJ 70 and NJ 38, in Cherry Hill;
4. Camden County Route 646 (Breslin Avenue/Avondale Avenue) – between County Routes 647 and 551, in Haddon Township and Haddonfield Borough;
5. Camden County Route 651 (Congress Avenue) – between County Routes 743 and 650, in Oaklyn;
6. Camden County Route 696 (Park Avenue) – between County Routes 683 and 669, in Lindenwold;
7. Camden County Route 697 (Broadway) – between County Route 669 and US 30, in Laurel Springs; and
8. Camden County Route 698 (Lake Boulevard) – between County Routes 673 and 696, in Lindenwold.

DVRPC staff included the segments in the modeled network and subjected them to the Highway Plan's analytical procedures as a matter of due diligence.

Table 4: Summary of Camden County Route Transportation Analyses

				Technical Analysis Results					Community Planning Considerations							
County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	2x Crash	2011 VC	Preliminary 2040 Master Plan VC	Top CMP	Turnback	CMP Corridors / Subcorridors / Emerging Areas Involved				IMHN	Land Use Centers	Bikes on Road	Protected Lands (Farms & Parks)
534	CR 759 to CR 673 (5.7)	Blackwood-Clementon Road	Gloucester	x		0.87			3D	5C	Emerging				x	
534	CR 683 to CR 733 (8.4)	Clementon Road	Clementon	x					5C	Emerging					x	
534	NJ 73 to CR 713 (13.4)	Jackson Road	Waterford		0.86	0.88	x		13B	5C	Emerging	x		x		
536	County Line to Atlantic City Expressway (27.5)	Malaga Road	Winslow	x		1.00			3A	3B	Emerging					x
536	CR 705 to CR 720 (27.9)	Causeways Road	Winslow		0.97	1.25			3B	Emerging				x		x
536	US 30 to CR 716 (32.8)	Pennington Avenue	Winslow	x					Emerging							
536 Spur	County Line to CR 705 (1.4)	Williamstown-New Freedom Road	Winslow		1.93	2.03	x		3A	3B	Emerging			x		x
536 Spur	CR 705 to CR 706 (2.8)	Williamstown-New Freedom Road	Winslow	x					3B	Emerging				x		
537	CR 737 to CR 551 (0.3)	Federal Street	Camden	x					5A	6H	2B		x			x
537	CR 551 to I676 (0.7)	Federal Street	Camden	x			x		5A	6H	2B		x			
537	US 30 to CR 601 (1.5)	Federal Street	Camden	x	1.08	1.07	x		5A	6H	2B			x		
537	CR 601 to CR 609 (2.0)	Federal Street	Camden	x	0.87	0.87	x		5A	6G	6H			x		
537	CR 611 to CR 612 (3.3)	Federal Street/Maple Avenue	Pennsauken/Merchantville	x					6G	6F	6I		x	x		x
543	CR 537 to CR 601 (0.2)	River Road	Camden	x					5A	6G	6H	2B	x			
543	CR 601 to CR 609 (0.7)	River Road	Camden		1.06	1.14	x		5A	6G	2B		x		x	
543	CR 609 to CR 611 (1.5)	River Road	Camden		0.88	0.92	x		6G				x			x
544	US 168 to CR 736 (3.0)	Evesham Road	Runnemede		1.25	1.29	x		3C				x		x	x
544	CR 736 to CR 727 (4.0)	Evesham Road	Runnemede		1.23	1.26	x		3C	5C			x		x	x
544	CR 727 to US 30 (5.1)	Evesham Road	Magnolia		0.94	0.97	x		5C				x		x	
544	CR 668 to CR 670 (6.1)	Evesham Road	Cherry Hill		1.29	1.38	x		5C				x	x	x	
544	CR 673 to CR 675 (8.6)	Evesham Road	Cherry Hill		1.12	1.12	x		5C	Emerging					x	x
551	CR 632 to CR 634 (30.7)	New Broadway	Brooklawn			1.05			6K	6L				x		
551	CR 634 to CR 635 (31.0)	Broadway	Gloucester City	x					2B	6L				x		
551	CR 607 to CR 537 (34.0)	Broadway	Camden	x			x		5A	6H	2B	6L		x		
561	CR 725 to CR 723 (25.5)	Cedarbrook Road	Winslow			0.98			Emerging				x			x
561	CR 710 to CR 536 Spur (34.0)	Cedarbrook Road	Winslow	x					Emerging							x
561	US 30 to CR 692 (37.0)	Haddon Avenue	Berlin						13B	5C	Emerging		x		x	
561	CR 692 to CR 693 (37.8)	Haddon Avenue	Voorhees			0.91			5C	Emerging						
561	CR 686 to CR 699 (39.8)	Foster Avenue	Gibbsboro	x					Emerging						x	
561	CR 685 to Nicholson Road (40.5)	Haddon Avenue	Voorhees	x					Emerging							
561	CR 544 to CR 670 (42.8)	Haddonfield-Berlin Road	Cherry Hill		0.86		x		2C	5C						x
561	CR 670 to I295 (43.5)	Haddonfield-Berlin Road	Cherry Hill	x	1.30	1.19	x		2C	5C						
561	NJ 41 to CR 642 (45.8)	Haddon Avenue	Haddonfield		0.87		x		5B					x	x	
561	CR 642 to CR 636 (46.9)	Haddon Avenue	Haddon	x	0.89		x		5B					x	x	
561	CR 636 to CR 630 (47.4)	Haddon Avenue	Collingswood		0.95		x		5B					x	x	
561	I676 to CR 537 (50.8)	Haddon Avenue	Camden		1.29	1.50	x		5A	6H	2B			x	x	
601	Start to CR 543 (0.8)	Estate Street	Camden		1.06	1.11	x		5A	6G	6H	2B		x	x	x
601	CR 537 to CR 609 (2.2)	Beacon Avenue	Camden	x					5A	6G	6H					
601	CR 609 to US 130 (2.6)	Beacon Avenue	Pennsauken		0.85	0.87	x		6G	6I	10A	12A			x	
604	CR 551 to CR 561 (0.6)	Newton Avenue	Camden	x					6H	2B	6L			x		

Continued on next page

Table 4: Summary of Camden County Route Transportation Analyses (continued)

				Technical Analysis Results									Community Planning Considerations			
County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	2x Crash	2011 VC	Preliminary 2040 Master Plan VC	Top CMP	Turnback	CMP Corridors / Subcorridors / Emerging Areas Involved				IMHN	Land Use Centers	Bikes on Road	Protected Lands (Farms & Parks)
									6H	2B	6L					
605	CR 603 to CR 607 (0.7)	Mount Ephraim Avenue	Camden	x						6H	2B	6L				x
605	CR 607 to CR 561 (1.2)	Mount Ephraim Avenue	Camden	x						6H	2B			x		
607	l676 to CR 551 (1.8)	Kaighns Avenue	Camden	x						2B	6L			x	x	
607	CR 551 to End (2.2)	Kaighns Avenue	Camden	x						2B	6L			x	x	x
608	CR 607 to US 30 (0.4)	Baird Boulevard	Camden		1.20	1.25	x			5A	6H	2B			x	x
611	CR 543 to End (1.3)	36th Street	Camden	x						6G					x	
612	CR 630 to CR 561 (0.3)	Browning Road	Collingswood	x					x	5B	6I			x	x	x
612	CR 630 to CR 629 (0.5)	Browning Road	Collingswood	x						5A	6I	12A			x	
612	CR 537 to US 130 (1.3)	Browning Road	Pennsauken	x						6F			x	x	x	x
612	US 130 to CR 610 (1.7)	Browning Road	Pennsauken	x						6G	6F		x		x	
613	NJ 38 to CR 537 (1.0)	Lexington Boulevard	Pennsauken	x						6F	10A	12A		x	x	
615	CR 621 to US 130 (1.1)	Union Avenue	Pennsauken		0.92	0.96				6G	6F				x	
615	US 130 to CR 543 (2.1)	Union Avenue	Pennsauken	x						6G					x	
616	CR 610 to US 130 (0.8)	Cove Road	Pennsauken	x						6G	6F		x		x	
616	NJ 41 to End (5.0)	Church Road	Cherry Hill		1.47	1.51	x			10A			x	x	x	x
619	CR 612 to CR 622 (0.3)	Chesnut Avenue	Merchantville	x						6F				x		
622	CR 616 to CR 626 (0.4)	Center Street	Merchantville/Pennsauken	x						6F				x	x	x
623	NJ 70 to NJ 38 (0.3)	Hampton Road	Cherry Hill	x						10A	12A		x	x		
623	NJ 38 to CR 626 (1.0)	Hampton Road	Cherry Hill	x						10A				x		
626	CR 537 to CR 624 (0.3)	Chapel Avenue	Merchantville	x						6F	10A			x	x	x
626	NJ 38 to CR 644 (1.4)	Chapel Avenue	Cherry Hill	x						10A				x	x	
626	CR 644 to CR 627 (2.2)	Chapel Avenue	Cherry Hill		0.94	1.00	x			12B	10A	12A		x	x	x
626	CR 627 to NJ 41 (3.0)	Chapel Avenue	Cherry Hill		1.17	1.23	x			12B				x	x	
627	CR 626 to NJ 38 (1.5)	Cooper Landing Road	Cherry Hill	x						12B	10A			x		x
628	CR 607 to US 30 (0.2)	North Park Drive	Pennsauken	x						5A	6H	6L				x
628	Start to CR 644 (0.2)	Park Boulevard	Cherry Hill	x		1.80	x			12A				x	x	x
628	CR 644 to NJ 41 (1.0)	Park Boulevard	Cherry Hill		0.96	1.03	x			12B	12A	Emerging		x		x
628	CR 612 to CR 636 (1.8)	North Park Drive	Cherry Hill		0.85	0.93	x			5A	6I	12A		x	x	x
628	NJ 41 to End (2.0)	Park Boulevard	Cherry Hill			0.93				12B	Emerging					x
630	NJ 168 to US 30 (1.9)	Collings Avenue	Collingswood		0.90	0.89	x			5B	6I	2B	6L	x	x	x
632	CR 551 to CR 631 (0.4)	Jersey Avenue	Gloucester City	x						6K				x		x
633	CR 632 to End (0.1)	Water Street	Gloucester City	x						6K				x		
634	CR 631 to CR 551 (0.3)	Market Street	Gloucester City	x						6L				x	x	x
635	NJ 168 to US 30 (2.2)	West Nicholson Road	Audubon		0.93	0.99	x			5B	6J	2B			x	

Legend	
<b>CR:</b>	County Route
<b>VC:</b>	Volume/Capacity Ratio
<b>CMP:</b>	Congestion Management Process
<b>IMHN:</b>	Incident Management Highway Network

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Table 4: Summary of Camden County Route Transportation Analyses (continued)

				Technical Analysis Results					Community Planning Considerations							
County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	2x Crash	2011 VC	Preliminary 2040 Master Plan VC	Top CMP	Turnback	CMP Corridors / Subcorridors / Emerging Areas Involved				IMHN	Land Use Centers	Bikes on Road	Protected Lands (Farms & Parks)
636	US 30 to CR 730 (0.4)	Cuthbert Boulevard	Haddon			0.89			5B						X	X
636	CR 730 to CR 561 (1.1)	Cuthbert Boulevard	Haddon		1.01	1.06	X		5B				X	X	X	
639	CR 636 to CR 613 (0.1)	Wistoria Avenue	Pennsauken	X					6F	10A			X			
643	CR 641 to CR 561 (1.4)	Crystal Lake Avenue	Haddon		0.97	0.99	X		5B				X	X	X	
644	CR 561 to NJ 41 (0.2)	Potter Street	Haddonfield					X	5B			X	X	X		
644	NJ 70 to NJ 38 (2.3)	Haddonfield Road	Cherry Hill			0.91		X	10A	12A		X	X	X		
646	CR 647 to CR 643 (0.3)	Breslin-Avondale Avenue	Haddon					X	5B				X	X		
650	CR 649 to CR 651 (0.9)	Kendall Boulevard	Oaklyn	X					5B	6I						
651	CR 650 to CR 743 (0.1)	Congress Avenue	Oaklyn					X	5B							
656	CR 655 to US 30 (0.2)	Station Avenue	Haddon Heights		0.90	1.44	X		5B	5C			X	X	X	
656	US 30 to NJ 41 (1.0)	Station Avenue	Haddon Heights	X					5B				X	X		
660	NJ 168 to CR 551 Spur (0.4)	Valley Road/East Lake Road	Mount Ephraim/Audobon	X					5B	6J	2B		X	X	X	
662	CR 601 to US 130 (0.4)	Highland Avenue/Myrth Avenue	Pennsauken	X					6G	6I						
663	US 130 to CR 537 (0.1)	Terrace Avenue	Pennsauken	X					6G	6I						
669	CR 673 to CR 677 (2.0)	Warwick Road	Somerdale		0.89	0.92	X		5C				X	X		
669	CR 677 to CR 727 (2.8)	Warwick Road	Somerdale		0.97	0.98			5C					X	X	
669	CR 727 to CR 533 (3.3)	Warwick Road	Magnolia		0.89	0.91			5C					X	X	
669	US 30 to CR 667 (4.1)	Warwick Road	Lawnside		1.43	1.53			2C	5C				X		
670	CR 673 to CR 678 (0.8)	Burnt Mill Road	Voorhees		1.13	1.20	X		5C	Emerging			X	X		
670	CR 678 to CR 544 (1.6)	Burnt Mill Road	Voorhees		1.13	1.13	X		5C				X			
670	CR 544 to CR 561 (2.3)	Burnt Mill Road	Cherry Hill		1.02	1.04	X		2C	5C			X			X
671	NJ 154 to CR 673 (2.0)	Kresson Road	Cherry Hill		1.01	1.05			5B	2C	5C	Emerging	X	X	X	
671	R 675 to CR 544 (4.3)	Kresson Road	Cherry Hill	X					Emerging					X	X	
673	CR 759 to CR 534 (2.0)	College Road	Gloucester	X					3D	5C	Emerging			X	X	
673	CR 534 to CR 683 (2.8)	Laurel Road	Lindenwold		1.64	1.70			5C	Emerging				X		
673	CR 683 to CR 669 (3.5)	Laurel Road	Lindenwold		1.51	1.53	X		5C	Emerging			X	X	X	
673	CR 669 to US 30 (4.4)	Laurel Road	Stratford		1.32	1.33	X		5C				X	X		
673	US 30 to CR 670 (5.0)	Glendale Road	Voorhees		1.20	1.21	X		5C	Emerging			X	X		
673	CR 544 to CR 671 (8.2)	Springdale Road	Cherry Hill		1.53	1.69			5C	Emerging				X	X	
673	CR 671 to NJ 70 (9.5)	Springdale Road	Cherry Hill		0.86	0.90			12C	Emerging			X	X	X	
675	Start to NJ 73 (2.0)	Cooper Road	Berlin/Voorhees						13B	5C	Emerging	X		X	X	
675	NJ 73 to CR 685 (3.5)	Cooper Road	Voorhees		1.20	1.28			13B	Emerging				X	X	
675	CR 544 to CR 671 (6.2)	Cropwell Road	Cherry Hill		1.13	1.22			Emerging					X	X	
675	CR 671 to End (7.2)	Cropwell Road	Cherry Hill		0.94	0.95			12C	Emerging			X	X	X	
677	CR 683 to CR 669 (1.1)	Somerdale Road	Gloucester		1.07	1.13			3C	5C		X		X	X	
677	CR 689 to US 30 (2.4)	Somerdale Road	Somerdale		0.86	0.92			5C			X				
678	US 30 to CR 670 (0.6)	Somerdale Road	Somerdale		1.03	1.06	X		5C			X		X		
678	CR 670 to CR 544 (1.5)	Somerdale Road	Voorhees			0.86			5C				X	X		
681	CR 706 to NJ 42 (1.1)	Lower Landing Road	Gloucester	X					3D	3C	Emerging	X				
682	NJ 41 to NJ 168 (0.4)	Station Avenue/Woodbury Road	Gloucester	X					3D	3C				X	X	

Continued on next page

Table 4: Summary of Camden County Route Transportation Analyses (continued)

				Technical Analysis Results					Community Planning Considerations						
County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	2x Crash	2011 VC	Preliminary 2040 Master Plan VC	Top CMP	Turnback	CMP Corridors / Subcorridors / Emerging Areas Involved			IMHN	Land Use Centers	Bikes on Road	Protected Lands (Farms & Parks)
684	CR 673 to CR 701 (0.5)	Gibbsboro Road	Voorhees	x					5C	Emerging			x	x	x
685	CR 561 to CR 675 (0.7)	Kresson-Gibbsboro Road	Voorhees	x					13B	Emerging					x
686	CR 534 to US 30 (0.3)	Gibbsboro Road	Clementon	x	1.51	1.53	x		5C	Emerging				x	
686	US 30 to CR 708 (0.9)	Gibbsboro Road	Lindenwold	x					5C	Emerging	x			x	
686	CR 708 to CR 561 (2.0)	Gibbsboro Road	Gibbsboro		1.12	1.12			5C	Emerging				x	
687	CR 704 to CR 688 (2.2)	Jarvis Road	Gloucester	x					3B	Emerging				x	
689	Start to CR 705 (0.6)	Berlin-Cross Keys Road	Gloucester	x	0.89	1.04	x		3A	3B	Emerging				
689	CR 705 to CR 704 (1.4)	Berlin-Cross Keys Road	Gloucester	x	1.09	1.14	x		3B	Emerging				x	x
689	CR 704 to CR 706 (2.1)	Berlin-Cross Keys Road	Gloucester		0.88	0.95	x		3B	Emerging				x	
689	CR 688 to CR 690 (6.0)	Berlin-Cross Keys Road	Berlin		1.51	1.58	x		3B	Emerging				x	
689	CR 690 to US 30 (6.5)	Berlin-Cross Keys Road	Berlin		1.34	1.40	x		13B	5C	Emerging			x	x
696	CR 683 to CR 669 (0.5)	Park Avenue	Lindenwold			0.85		x	5C					x	x
697	CR 669 to US 30 (0.2)	Broadway	Laurel Springs	x				x	5C						
698	CR 673 to CR 696 (0.4)	Lake Boulevard	Lindenwold	x				x	5C					x	
699	CR 702 to Cr 561 (1.5)	United States Avenue	Gibbsboro	x					5C	Emerging					x
702	US 30 to CR 700 (0.8)	Berlin Avenue	Lindenwold			0.89			5C	Emerging		x		x	
703	CR 687 to CR 534 (2.0)	Erial Avenue	Clementon	x					5C	Emerging				x	
704	CR 536 Spur to CR 705 (0.8)	Erial-Williamstown Road	Winslow	x					3A	3B				x	
704	CR 705 to CR 689 (2.1)	Erial-Williamstown Road	Winslow			0.89			3B	Emerging					x
704	CR 689 to CR 687 (3.6)	Erial-Williamstown Road	Gloucester		0.89	0.97			3B	Emerging				x	x
705	CR 536 to CR 536 Spur (1.0)	Sicklerville Road	Winslow		0.91	0.99			3B	Emerging				x	x
705	CR 704 to CR 689 (3.8)	Sicklerville Road	Winslow		1.05	1.23			3B					x	x
705	CR 697 to NJ 42 (6.7)	Sicklerville Road	Gloucester		1.33	1.46			3A	3D	3B	Emerging		x	x
706	CR 536 Spur to CR 689 (3.0)	New Brooklyn-Blackwood Road	Winslow						3B	Emerging					x
706	CR 687 to CR 688 (6.0)	New Brooklyn-Blackwood Road	Gloucester		0.97	1.05			3D	Emerging				x	x
711	CR 720 to NJ 73 (1.0)	Norcross Road	Winslow	x					Emerging						x
721	NJ 73 to NJ 143 (1.3)	East Central Avenue	Winslow	x					Emerging						x
723	NJ 73 to CR 561 (2.2)	Williamstown-Winslow Road	Winslow			0.90			Emerging						
723	NJ 561 to US 30 (4.0)	Fleming Pike	Winslow	x					Emerging						x
724	Start to US 30 (0.5)	Wiltseys Mill Road	Winslow	x					Emerging		x				x
725	NJ 73 to CR 726 (0.6)	Hall Street	Winslow	x					Emerging					x	x
725	CR 726 to CR 561 (1.8)	Albertson Road	Winslow	x					Emerging					x	x
729	CR 551 Spur to CR 635 (0.5)	East Atlantic Avenue	Audubon						5B				x	x	
730	Start to CR 636 (0.3)	Lakeshore Drive	Collingswood/Haddon	x					5B				x		x
733	CR 534 to US 30 (0.3)	Higgins Avenue	Clementon	x					5C						x
747	CR 707 to NJ 168 (0.3)	Lakeland Road	Gloucester	x					3D	Emerging				x	
755	CR 561 to End (0.1)	Essex Street	Gloucester	x					2B	6L			x		
759	CR 688 to CR 673 (0.5)	Peter Cheeseman Lane	Gloucester						3D	Emerging				x	x
759	CR 673 to CR 534(1.7)	Little Gloucester Road	Gloucester			0.93			3D	Emerging				x	

## Technical Analysis Results

Quantitative-traffic indicators within the Congestion Management Process's methodology were isolated and considered independently for deeper analysis within the work. The technical parameters focus on safety and congestion factors, as these conditions are most often experienced and understood by the average driver. These included: segment safety (crash rates on the segment that meet or exceed twice the average for similar facilities in 2012), 2011 and 2040 congestion (peak-hour volume-to-capacity ratios  $\geq 0.85$ ), and top Congestion Management Process composite scores (i.e., scores  $\geq 6.0$ ). Individual county route segments are checked with 'X's in **Table 4** where the technical-indicator threshold is satisfied.

The following figures supply visual context to the technical analysis results contained in **Table 4**.

- **Figure 17** (page 35) – 2011 travel modeling and 2012 traffic safety results on *all highways* (i.e., county routes, and state and authority highways). Links are color-coded where volume-to-capacity ratios equal or exceed 0.85, or have a minimum of two times the average crash rate.
- **Figure 18** (page 36) – Preliminary 2040 Master Plan travel modeling results on *all highways*. Links are color-coded where volume-to-capacity ratios equal or exceed 0.85.
- **Figure 19** (page 37) – Top Congestion Management Process composite score results for all highways. (Note: this layer repeats in many of the following exhibits.) Segments with scores equaling or exceeding 6.0 are color-coded in pink or red.
  - Pink segments are state- or authority-jurisdiction highways. The county should monitor and advocate for ameliorating treatments at these locations.
  - Red segments are county routes. Treatments are recommended to be actively advanced and financed by the county. Priorities could be guided by the total Congestion Management Process composite score. (Composite scores have been added to the Transportation Asset Management Database).
- **Figure 20** (page 38) – The eight County Route Turnback candidates, color-coded for issues identified in the CMP evaluation methodology.
  - Blue segments (4) indicate a traffic safety issue. Here, the crash rates are two or more times the average, or have been pre identified for eligibility within the Highway Safety Improvement Program. County Routes 612, 644 (between 70 and 38), 697, and 698 are the cases. Recommendation: examine a wider range and deeper set of crash data, perform a road safety audit, and identify and implement countermeasures before turning over the segment.
  - Purple segments (1) indicate a congestion issue. Here, the 0.85 threshold is met/marginally exceeded in 2040 only. County Route 696 is the case
  - Green segments (3) are clear of identifiable safety and congestion issues. County Routes 644 (between 561 and 573), 646, and 651 are the cases.

## Congestion Management Process Corridors

Top-rated county route segments are indicated with X's in **Table 4** relative to Congestion Management Process planning corridors (shown earlier on **Figure 16**, page 26). Congestion Management Process-endorsed improvement strategies correspond with subcorridors within them (refer to **Figure 16a** and **Figure 16b** shown earlier on pages 27 and 28, respectively). More information on the CMP's corridor and subcorridor structure, and menu of strategies is available at [www.dvrpc.org/webmaps/CMP/](http://www.dvrpc.org/webmaps/CMP/).

## Incident Management Highway Network

Key county route segments that are also designated as official detour routes to the regional highway network or as emergency evacuation routes are identified with 'X's in **Table 4** for relevance to the region's Intelligent Transportation Systems vision and its recommended levels for infrastructure deployment (refer to **Figure 9**, shown previously on page 13).<sup>13</sup>

## Community Planning Considerations

Other Camden County Master Plan elements are matched for consistency in this group of columns. 'X's in **Table 4** are indicated where top-rated county route segments:

- Intersect DVRPC and county land use centers;
- Carry, or have been proposed to carry, on-road bicycling facilities<sup>14</sup> (see **Figure 21**, page 39); or
- Serve, traverse, or abut protected lands, including public parks and preserved farmlands.<sup>15</sup>

Results were analyzed. DVRPC staff preliminarily identified mobility improvements pertaining to the county route network and the county Master Plan to account for collateral multimodal and land use opportunities; localized or systemic congestion deficiencies; current plans, programs, and ongoing studies; and existing infrastructure conditions. The preliminary recommendations were presented to county planning staff for decision making. County planning staff was able to remove or add projects to reflect the county's goals. Next, the Final Year 2040 Master Plan simulation incorporating the approved projects was prepared. Details are reported in the following two chapters.

<sup>13</sup> DVRPC will begin updating the 2009 Transportation Operations Master Plan in July 2014. Visit: [www.dvrpc.org/Operations/](http://www.dvrpc.org/Operations/) for more information.

<sup>14</sup> Source: *Camden County Bicycling & Multi-Use Trails Plan*, DVRPC, January 2015, Publication No. 13036

<sup>15</sup> Sources: DVRPC's 2011 GIS files, and a 2013 inventory update for the *Camden County Farmland Preservation Plan*, DVRPC, January 2009, Publication No. 08029



Figure 17: Current Traffic Congestion and Traffic Safety – Segments of Concern

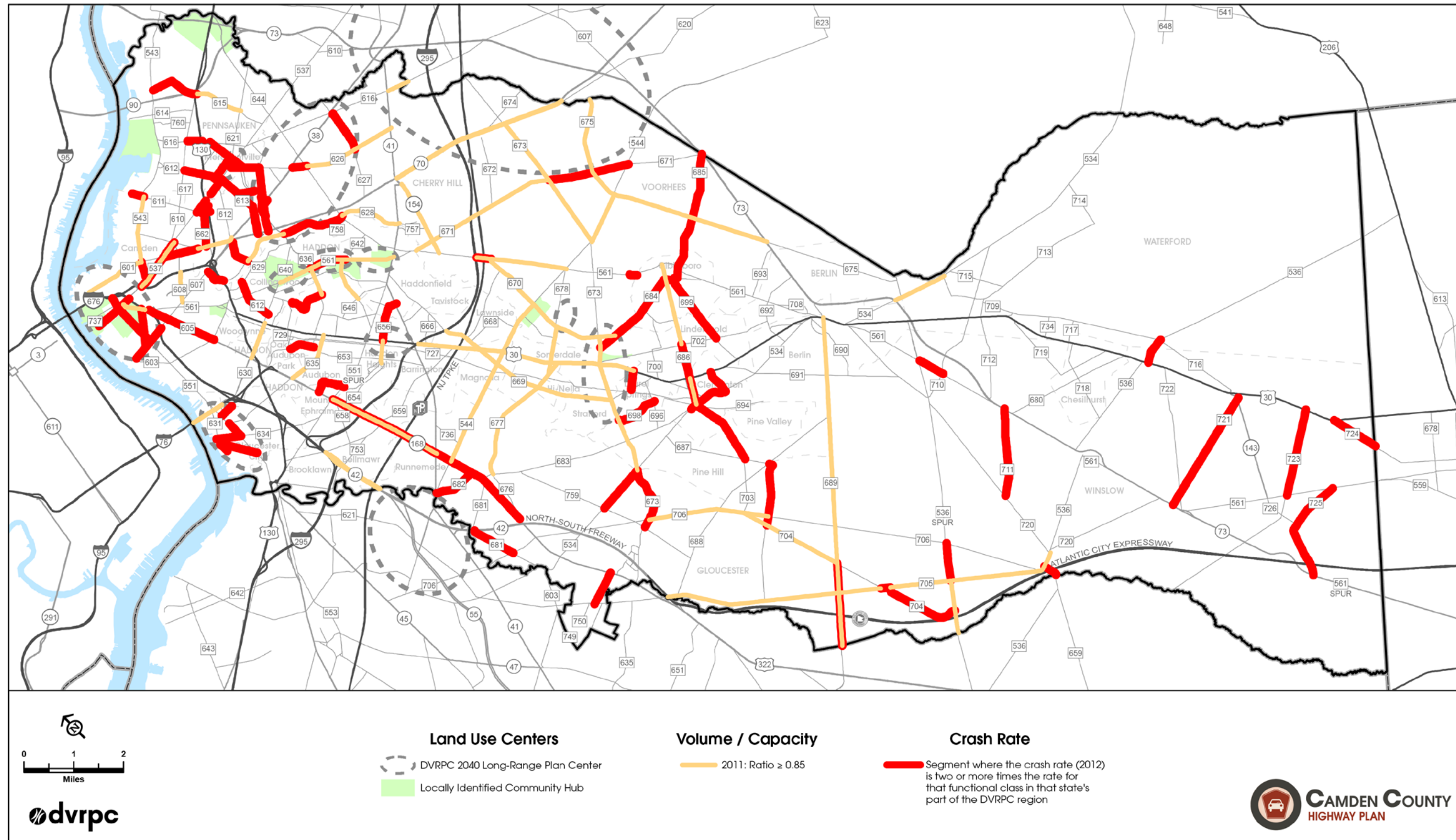


Figure 18: Year 2040 Traffic Congestion – Segments of Concern

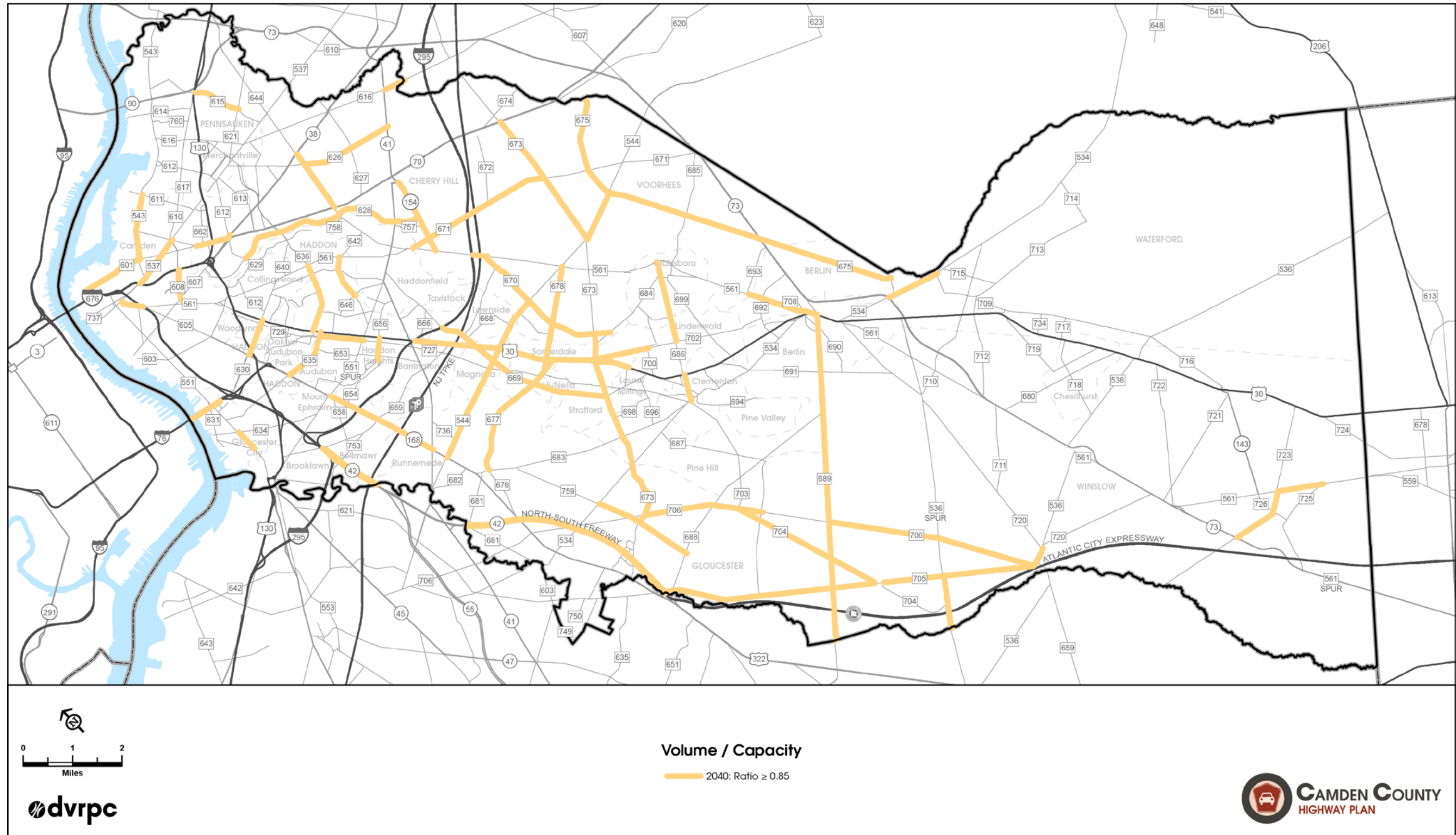




Figure 19: Top Congestion Management Process Composite Score Segments

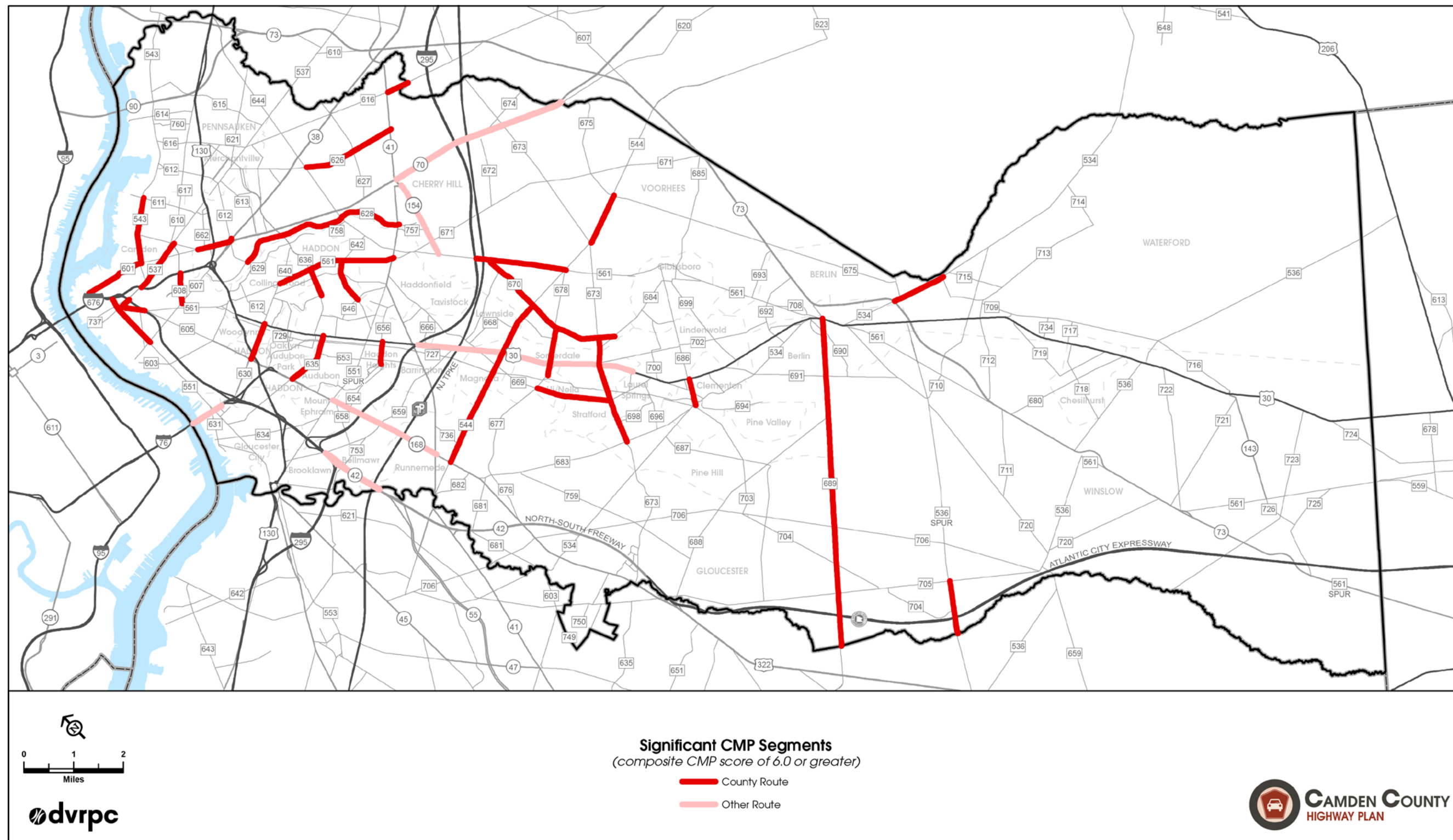




Figure 20: Candidate County Route Turnbacks

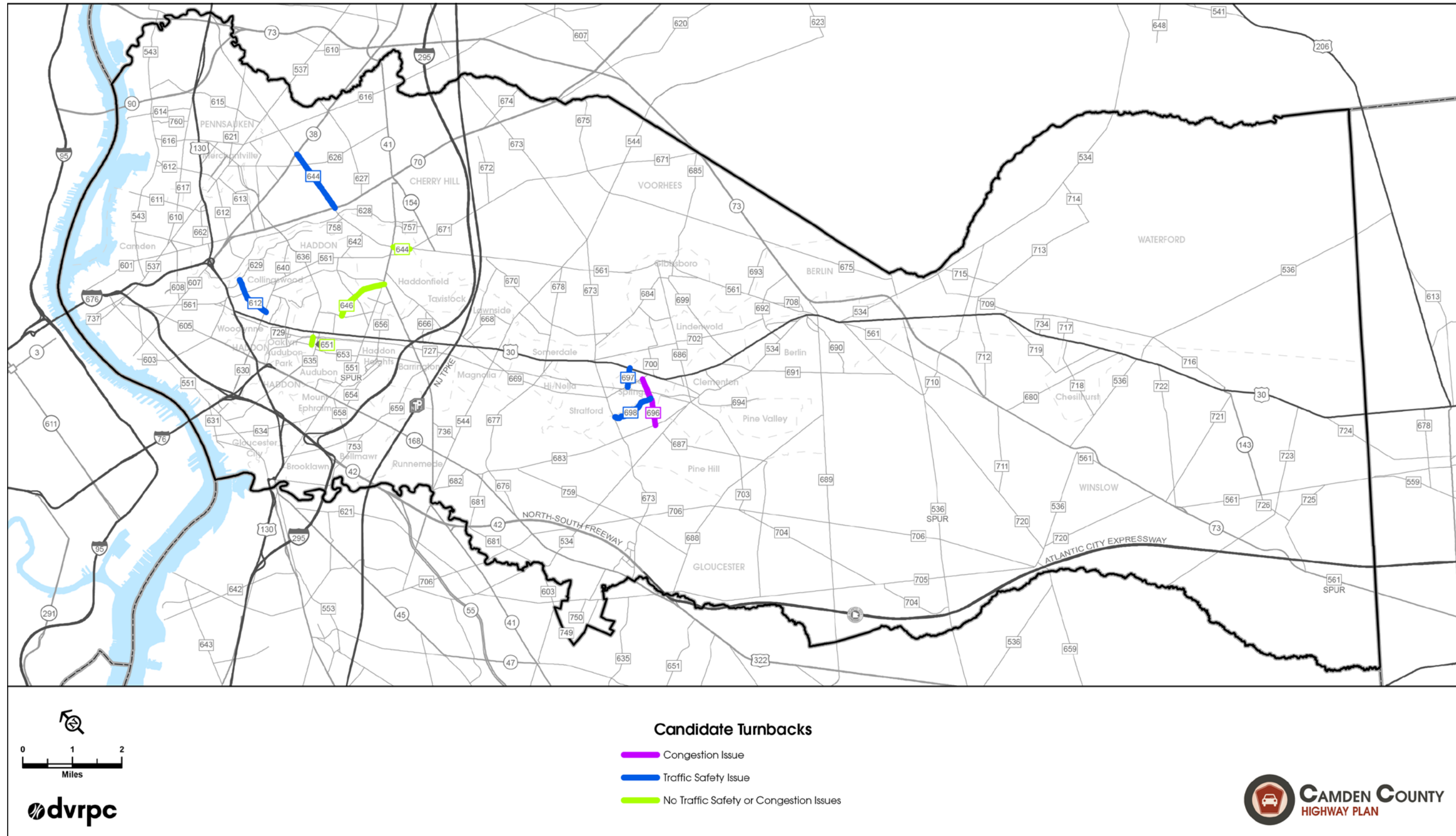
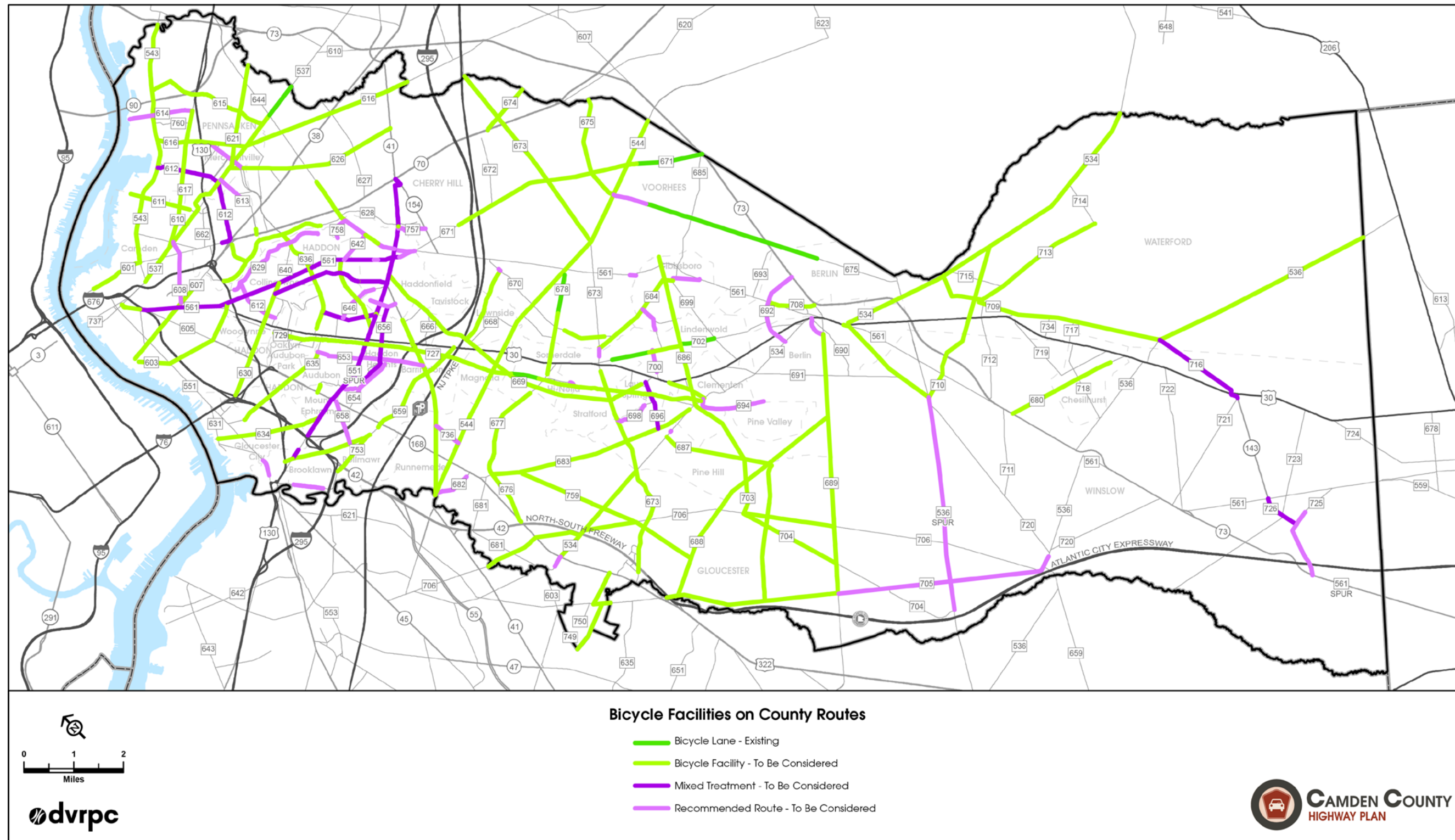


Figure 21: Bike Facilities on County Routes (Existing, Proposed, and Planned)



Source: Camden County Cycling & Multi-Use Trails Plan, DVRPC, January 2015, Publication No. 13036

DVRPC, 2015





## Chapter 7: RECOMMENDED IMPROVEMENT PROGRAM

Master Plan recommendations emanate from the analytical screening process of the Camden County Highway Plan, standing recommendations contained in recent, detailed traffic and transportation reports prepared in the county, and independent observations obtained through the course of the study.

Recommendations from the Highway Plan were developed in conformance with the DVRPC Congestion Management Process and established following approval by county staff. Final modeling for the Master Plan Scenario was conducted to derive future benefits.<sup>16</sup> Program implementation assistance is supported with cost estimates, partnership information, and environmental screening.

Table 5 (pages 42 through 45) supplies an overview of the final improvement program as it relates to the county route network. Yellow-shaded rows in the table highlight the Highway Plan's significant recommendations for improving mobility along the county route system. Recommendations for "Signal System" and "Arterial Management" appear throughout the table, and the recommendation for "Bus Streets" is made in a few circumstances.

The recommendation for Signal Systems is based on traffic signal density along the route. It makes sense to provide coordinated signal operations to foster traffic flow where traffic signals are numerous and closely spaced. The county's principal highways are the priority network for implementing the computerized signal system. Arterial Management is cited where the county routes do double duty as detour and evacuation routes. Deploying more robust Intelligent Transportation System infrastructure, including closed-circuit television cameras and variable message signs, is recommended for integrated corridor management. (Visit: [www.dvrpc.org/Operations/](http://www.dvrpc.org/Operations/) for more information.) Bus Streets include county route segments that have more than three scheduled routes operating on the segment. In these areas, physical improvements are proposed to promote the presence and priority of transit vehicles and transit patrons, including corner bus-stop bulb-outs, shelters, benches, pedestrian-scale street lighting, and high-visibility crosswalks. Traffic signal systems are also recommended for these corridors.

Actions for the eight candidate County Route Turnbacks are included in the table. Blue-shaded rows (4) indicate Turnback candidates where a traffic-safety issue has been identified and further analyses and amelioration is recommended before turning the route over to another jurisdiction. Green-shaded rows (4) are county route segments that are free from identified traffic safety, or critical long-term congestion conditions, and are recommended for transfer of ownership.

<sup>16</sup> Mobility improvements that are anticipated to be operational by 2040 were incorporated in the final modeling run. The GCL will not be operational by 2040.



Traffic personnel in the Burlington County Traffic Operations Center, in Mount Laurel, New Jersey, are able to monitor 282 intersections and adjust signal timing at 112 intersections to respond to or regulate traffic flow along their county route system. Similar traffic signal systems are recommended for the Camden County route network. (Photo: DVRPC)

Table 5: Camden County Route Mobility Recommendations

ID # (see Fig. 24)	County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	Recommendations				Final 2040 Master Plan VC	Implementation/ Construction Cost Estimate (\$ millions)	Co-Sponsors
					HSIP Eligible	TIP	LRP	Other - Camden County Highway Plan			
	534	CR 759 to CR 673 (5.7)	Blackwood-Clementon Road	Gloucester	x				0.82		
	534	CR 683 to CR 733 (8.4)	Clementon Road	Clementon							
<b>1</b>	534	NJ 73 to CR 713 (13.4)	Jackson Road	Waterford			ACRL Stations Rehab (MRP #T2) - Atco	Atco Station Improvements: Add North-side Access & Parking Lot, Restore & Rehab Pedestrian Tunnel, Enhance Transit Services	0.88	\$2.0	NJTransit, NJDOT, CCC-TMA, Municipality, Developer
	536	County Line to Atlantic City Expressway (27.5)	Malaga Road	Winslow					0.47		
	536	CR 705 to CR 720 (27.9)	Causeways Road	Winslow					1.24		
	536	US 30 to CR 716 (32.8)	Pennington Avenue	Winslow							
<b>2</b>	536 Spur	County Line to CR 705 (1.4)	Williamstown-New Freedom Road	Winslow	x	South Jersey BRT Park-Ride - Avandale (T630)	South Jersey BRT (MRP #X)	Rebuild ACE Bridge & Interchange, Add Capacity & Bike Lanes, Expand & Improve Access at Avandale Park-and Ride Lot, Signal System	0.98	\$10.0	NJTransit, NJDOT, SJTA, CCC-TMA, Municipality
	536 Spur	CR 705 to CR 706 (2.8)	Williamstown-New Freedom Road	Winslow	x						
<b>3</b>	537	CR 737 to CR 551 (0.3)	Federal Street	Camden	x			Bus Street between CR 610 & CR 551 (include Market Street pair), Signal System		\$4.0	NJTransit, Municipality
<b>3</b>	537	CR 551 to I676 (0.7)	Federal Street	Camden	x			Bus Street between CR 610 & CR 551 (include Market Street pair), Signal System			NJTransit, Municipality
<b>3</b>	537	US 30 to CR 601 (1.5)	Federal Street	Camden	x			Bus Street between CR 610 & CR 551 (include Market Street pair), Signal System	1.11		NJTransit, Municipality
<b>3</b>	537	CR 601 to CR 609 (2.0)	Federal Street	Camden	x			Bus Street between CR 610 & CR 551 (include Market Street pair), Signal System	0.90		NJTransit, Municipality
	537	CR 611 to CR 612 (3.3)	Federal Street/Maple Avenue	Pennsauken/Merchantville							
	543	CR 537 to CR 601 (0.2)	River Road	Camden							
	543	CR 601 to CR 609 (0.7)	River Road	Camden	x	Traffic calming & streetscape (D0902)		Signal System, Arterial Management	1.17		NJDOT, NJTransit, Municipality
	543	CR 609 to CR 611 (1.5)	River Road	Camden	x	Traffic calming & streetscape (D0902)		Signal System, Arterial Management	0.94		NJDOT, NJTransit, Municipality
	544	US 168 to CR 736 (3.0)	Evesham Road	Runnemede	x			Signal System, Arterial Management	1.27		
	544	CR 736 to CR 727 (4.0)	Evesham Road	Runnemede	x			Signal System, Arterial Management	1.27		
	544	CR 727 to US 30 (5.1)	Evesham Road	Magnolia				Signal System, Arterial Management	0.96		
<b>4</b>	544	CR 668 to CR 670 (6.1)	Evesham Road	Cherry Hill				Signal System, Arterial Management, Master Plan Ashland Station Center Area	1.39	TBD	Municipality
	544	CR 673 to CR 675 (8.6)	Evesham Road	Cherry Hill	x			Signal System	1.11		
	551	CR 632 to CR 634 (30.7)	New Broadway	Brooklawn					0.93		
	551	CR 634 to CR 635 (31.0)	Broadway	Gloucester City							
<b>5</b>	551	CR 607 to CR 537 (34.0)	Broadway	Camden	x			Bus Street between CR 607 & CR 551, Signal System, Arterial Management		\$8.0	NJTransit, Municipality
	561	CR 725 to CR 723 (25.5)	Cedarbrook Road	Winslow	x				1.14		
	561	CR 710 to CR 536 Spur (34.0)	Cedarbrook Road	Winslow				Signal System			
	561	US 30 to CR 692 (37.0)	Haddon Avenue	Berlin				Signal System, Arterial Management	0.98		
	561	CR 692 to CR 693 (37.8)	Haddon Avenue	Voorhees				Signal System	0.94		
	561	CR 686 to CR 699 (39.8)	Foster Avenue	Gibbsboro							
	561	CR 685 to Nicholson Road (40.5)	Haddon Avenue	Voorhees							
	561	CR 544 to CR 670 (42.8)	Haddonfield-Berlin Road	Cherry Hill	x			Signal System			
	561	CR 670 to I295 (43.5)	Haddonfield-Berlin Road	Cherry Hill	x			Signal System	1.17		
	561	NJ 41 to CR 642 (45.8)	Haddon Avenue	Haddonfield	x			Signal System			
	561	CR 642 to CR 636 (46.9)	Haddon Avenue	Haddon	x			Signal System			
	561	CR 636 to CR 630 (47.4)	Haddon Avenue	Collingswood	x			Signal System			
	561	I676 to CR 537 (50.8)	Haddon Avenue	Camden	x			Signal System	1.41		
	601	Start to CR 543 (0.8)	Estate Street	Camden	x				1.16		
	601	CR 537 to CR 609 (2.2)	Beacon Avenue	Camden	x						
	601	CR 609 to US 130 (2.6)	Beacon Avenue	Pennsauken	x				0.88		
	604	CR 551 to CR 561 (0.6)	Newton Avenue	Camden							

Continued on next page

Table 5: Camden County Route Mobility Recommendations (continued)

ID # (see Fig. 24)	County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	Recommendations				Final 2040 Master Plan VC	Implementation/ Construction Cost Estimate (\$ millions)	Co-Sponsors
					HSIP Eligible	TIP	LRP	Other - Camden County Highway Plan			
605		CR 603 to CR 607 (0.7)	Mount Ephraim Avenue	Camden	x						NJTransit, NJDOT, SJTA, CCC-TMA, Municipality
605		CR 607 to CR 561 (1.2)	Mount Ephraim Avenue	Camden	x						
607		I676 to CR 551 (1.8)	Kaighns Avenue	Camden	x						
607		CR 551 to End (2.2)	Kaighns Avenue	Camden							
608		CR 607 to US 30 (0.4)	Baird Boulevard	Camden	x				1.27		
611		CR 543 to End (1.3)	36th Street	Camden							
<b>6</b>	612	CR 630 to CR 561 (0.3)	Browning Road	Collingswood				Road Safety Audit, Install Countermeasures, Turnback		TBD	Municipality
	612	CR 630 to CR 629 (0.5)	Browning Road	Collingswood							
	612	CR 537 to US 130 (1.3)	Browning Road	Pennsauken							
	612	US 130 to CR 610 (1.7)	Browning Road	Pennsauken							
	613	NJ 38 to CR 537 (1.0)	Lexington Boulevard	Pennsauken							
	615	CR 621 to US 130 (1.1)	Union Avenue	Pennsauken					0.91		
	615	US 130 to CR 543 (2.1)	Union Avenue	Pennsauken							
	616	CR 610 to US 130 (0.8)	Cove Road	Pennsauken							
<b>7</b>	616	NJ 41 to End (5.0)	Church Road	Cherry Hill				Church Road / NJ 73 Alternatives: DVRPC Pub. No. 14012 & NJDOT	1.49	TBD	Burlington Co., Municipality, Developers, NJDOT, CCC-TMA
	619	CR 612 to CR 622 (0.3)	Chesnut Avenue	Merchantville							
	622	CR 616 to CR 626 (0.4)	Center Street	Merchantville/Pennsauken							
	623	NJ 70 to NJ 38 (0.3)	Hampton Road	Cherry Hill							
	623	NJ 38 to CR 626 (1.0)	Hampton Road	Cherry Hill							
	626	CR 537 to CR 624 (0.3)	Chapel Avenue	Merchantville				Signal System			
	626	NJ 38 to CR 644 (1.4)	Chapel Avenue	Cherry Hill				Signal System			
	626	CR 644 to CR 627 (2.2)	Chapel Avenue	Cherry Hill				Signal System	1.02		
	626	CR 627 to NJ 41 (3.0)	Chapel Avenue	Cherry Hill				Signal System	1.16		
	627	CR 626 to NJ 38 (1.5)	Cooper Landing Road	Cherry Hill	x						
	628	CR 607 to US 30 (0.2)	North Park Drive	Pennsauken							
	628	Start to CR 644 (0.2)	Park Boulevard	Cherry Hill					1.82		
	628	CR 644 to NJ 41 (1.0)	Park Boulevard	Cherry Hill					0.94		
	628	CR 612 to CR 636 (1.8)	North Park Drive	Cherry Hill					0.87		
	628	NJ 41 to End (2.0)	Park Boulevard	Cherry Hill					0.96		
	630	NJ 168 to US 30 (1.9)	Collings Avenue	Collingswood	x				0.87		
	632	CR 551 to CR 631 (0.4)	Jersey Avenue	Gloucester City							
	633	CR 632 to End (0.1)	Water Street	Gloucester City							
	634	CR 631 to CR 551 (0.3)	Market Street	Gloucester City							
	635	NJ 168 to US 30 (2.2)	West Nicholson Road	Audubon					0.97		

Legend	
<b>CR:</b> County Route	Mobility Improvement (construction/study)
<b>HSIP:</b> Highway Safety Improvement Program	County Route Turnback Candidate - Resolve identified traffic-safety deficiency
<b>TIP:</b> Transportation Improvement Program for NJ (2014-2017)	County Route Turnback Candidate - Recommended for transfer of ownership
<b>LRP:</b> DVRPC 2040 Long-Range Plan	

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Table 5: Camden County Route Mobility Recommendations (continued)

ID # (see Fig. 24)	County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	Recommendations				Final 2040 Master Plan VC	Implementation/ Construction Cost Estimate (\$ millions)	Co-Sponsors
					HSIP Eligible	TIP	LRP	Other - Camden County Highway Plan			
	636	US 30 to CR 730 (0.4)	Cuthbert Boulevard	Haddon					0.88		
	636	CR 730 to CR 561 (1.1)	Cuthbert Boulevard	Haddon				Signal System	1.03		
	639	CR 636 to CR 613 (0.1)	Wistoria Avenue	Pennsauken							
	643	CR 641 to CR 561 (1.4)	Crystal Lake Avenue	Haddon					1.04		
<b>8</b>	644	CR 561 to NJ 41 (0.2)	Potter Street	Haddonfield				Turnback, Signal System, Arterial Management			Municipality, NJDOT
<b>9</b>	644	NJ 70 to NJ 38 (2.3)	Haddonfield Road	Cherry Hill	x			Road Safety Audit, Install Countermeasures, Turnback, Signal System, Arterial Management	0.89	TBD	Municipality, NJDOT
<b>10</b>	646	CR 647 to CR 643 (0.3)	Breslin-Avondale Avenue	Haddon				Turnback			Municipality
	650	CR 649 to CR 651 (0.9)	Kendall Boulevard	Oaklyn							
<b>11</b>	651	CR 650 to CR 743 (0.1)	Congress Avenue	Oaklyn				Turnback			Municipality
	656	CR 655 to US 30 (0.2)	Station Avenue	Haddon Heights					1.32		
	656	US 30 to NJ 41 (1.0)	Station Avenue	Haddon Heights							
	660	NJ 168 to CR 551 Spur (0.4)	Valley Road/East Lake Road	Mount Ephraim/Audobon							
	662	CR 601 to US 130 (0.4)	Highland Avenue/Myrth Avenue	Pennsauken							
	663	US 130 to CR 537 (0.1)	Terrace Avenue	Pennsauken							
	669	CR 673 to CR 677 (2.0)	Warwick Road	Somerdale				Signal System	0.93		
	669	CR 677 to CR 727 (2.8)	Warwick Road	Somerdale	x			Signal System	1.01		
	669	CR 727 to CR 533 (3.3)	Warwick Road	Magnolia	x			Signal System	0.94		
	669	US 30 to CR 667 (4.1)	Warwick Road	Lawnside	x			Signal System	1.48		
	670	CR 673 to CR 678 (0.8)	Burnt Mill Road	Voorhees	x			Signal System	1.17		
<b>4</b>	670	CR 678 to CR 544 (1.6)	Burnt Mill Road	Voorhees				Signal System, Master Plan Ashland Station Center Area	1.22	TBD	Municipality
	670	CR 544 to CR 561 (2.3)	Burnt Mill Road	Cherry Hill	x			Signal System	1.05		
	671	NJ 154 to CR 673 (2.0)	Kresson Road	Cherry Hill	x			Signal System, Arterial Management	1.06		
	671	R 675 to CR 544 (4.3)	Kresson Road	Cherry Hill	x			Signal System			
	673	CR 759 to CR 534 (2.0)	College Road	Gloucester	x		South Jersey BRT (MRP #X)		1.20		NJTransit, NJDOT, SJTA, CCC-TMA, Municipality
	673	CR 534 to CR 683 (2.8)	Laurel Road	Lindenwold	x			Signal System	1.68		
	673	CR 683 to CR 669 (3.5)	Laurel Road	Lindenwold	x			Signal System	1.55		
<b>12</b>	673	CR 669 to US 30 (4.4)	Laurel Road	Stratford			ACRL Stations Rehab (MRP #T2) - Lindenwold	New Rd / Medical Ctr Rd Extension & Bike Lanes from CR 673 through "Eds and Meds" Revitalization Area to Lindenwold Station ( <b>See Figure 25</b> ), Signal System	1.32	\$4.0	Municipality, Rowan University, Kennedy Hospital, Developer, DRPA, NJTransit, NJDOT, CCC-TMA
<b>12</b>	673	US 30 to CR 670 (5.0)	Glendale Road	Voorhees	x		ACRL Stations Rehab (MRP #T2) - Lindenwold	New Rd / Medical Ctr Rd Extension & Bike Lanes from CR 673 through "Eds and Meds" Revitalization Area to Lindenwold Station ( <b>See Figure 25</b> ), Signal System	1.17		Municipality, Rowan University, Kennedy Hospital, Developer, DRPA, NJTransit, NJDOT, CCC-TMA
	673	CR 544 to CR 671 (8.2)	Springdale Road	Cherry Hill	x			Signal System	1.63		
	673	CR 671 to NJ 70 (9.5)	Springdale Road	Cherry Hill	x			Signal System	0.88		
	675	Start to NJ 73 (2.0)	Cooper Road	Berlin/Voorhees					0.87		
	675	NJ 73 to CR 685 (3.5)	Cooper Road	Voorhees				Signal System	1.23		
	675	CR 544 to CR 671 (6.2)	Cropwell Road	Cherry Hill	x			Signal System	1.21		
	675	CR 671 to End (7.2)	Cropwell Road	Cherry Hill	x			Signal System	0.92		
	677	CR 683 to CR 669 (1.1)	Somerdale Road	Gloucester					1.10		
	677	CR 689 to US 30 (2.4)	Somerdale Road	Somerdale					0.90		
	678	US 30 to CR 670 (0.6)	Somerdale Road	Somerdale					1.00		
	678	CR 670 to CR 544 (1.5)	Somerdale Road	Voorhees					0.85		
	681	CR 706 to NJ 42 (1.1)	Lower Landing Road	Gloucester							
	682	NJ 41 to NJ 168 (0.4)	Station Avenue/Woodbury Road	Gloucester							

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Table 5: Camden County Route Mobility Recommendations (continued)

ID # (see Fig. 24)	County Route Number	Limits (Midpoint Milepost)	Local Name	Municipality	Recommendations				Final 2040 Master Plan VC	Implementation/ Construction Cost Estimate (\$ millions)	Co-Sponsors
					HSIP Eligible	TIP	LRP	Other - Camden County Highway Plan			
684		CR 673 to CR 701 (0.5)	Gibbsboro Road	Voorhees							
685		CR 561 to CR 675 (0.7)	Kresson-Gibbsboro Road	Voorhees							
686		CR 534 to US 30 (0.3)	Gibbsboro Road	Clementon	x			Signal System	1.47		
686		US 30 to CR 708 (0.9)	Gibbsboro Road	Lindenwold	x			Signal System, Arterial Management			
686		CR 708 to CR 561 (2.0)	Gibbsboro Road	Gibbsboro					1.13		
687		CR 704 to CR 688 (2.2)	Jarvis Road	Gloucester	x						
689		Start to CR 705 (0.6)	Berlin-Cross Keys Road	Gloucester	x			Signal System	1.06		
689		CR 705 to CR 704 (1.4)	Berlin-Cross Keys Road	Gloucester	x			Signal System	1.18		
689		CR 704 to CR 706 (2.1)	Berlin-Cross Keys Road	Gloucester	x			Signal System	1.16		
13	689	CR 688 to CR 690 (6.0)	Berlin-Cross Keys Road	Berlin	x			Five-lane Cross Section & Bike Lanes between CR 706 & US 30, Signal System	1.05	\$20.0	Municipality, Developers
13	689	CR 690 to US 30 (6.5)	Berlin-Cross Keys Road	Berlin	x			Five-lane Cross Section & Bike Lanes between CR 706 & US 30, Signal System	0.95		Municipality, Developers
14	696	CR 683 to CR 669 (0.5)	Park Avenue	Lindenwold				Turnback	0.74		Municipality
15	697	CR 669 to US 30 (0.2)	Broadway	Laurel Springs				Road Safety Audit, Install Countermeasures, Turnback		TBD	Municipality
16	698	CR 673 to CR 696 (0.4)	Lake Boulevard	Lindenwold				Road Safety Audit, Install Countermeasures, Turnback		TBD	Municipality
699		CR 702 to Cr 561 (1.5)	United States Avenue	Gibbsboro							
702		US 30 to CR 700 (0.8)	Berlin Avenue	Lindenwold					1.12		
703		CR 687 to CR 534 (2.0)	Erial Avenue	Clementon							
704		CR 536 Spur to CR 705 (0.8)	Erial-Williamstown Road	Winslow	x						
704		CR 705 to CR 689 (2.1)	Erial-Williamstown Road	Winslow	x				0.89		
704		CR 689 to CR 687 (3.6)	Erial-Williamstown Road	Gloucester	x				0.90		
705		CR 536 to CR 536 Spur (1.0)	Sicklerville Road	Winslow	x			Signal System	0.94		
705		CR 704 to CR 689 (3.8)	Sicklerville Road	Winslow	x			Signal System	1.19		
705		CR 697 to NJ 42 (6.7)	Sicklerville Road	Gloucester	x			Signal System	1.43		
706		CR 536 Spur to CR 689 (3.0)	New Brooklyn-Blackwood Road	Winslow					0.90		
706		CR 687 to CR 688 (6.0)	New Brooklyn-Blackwood Road	Gloucester	x			Signal System	1.04		
711		CR 720 to NJ 73 (1.0)	Norcross Road	Winslow							
721		NJ 73 to NJ 143 (1.3)	East Central Avenue	Winslow							
723		NJ 73 to CR 561 (2.2)	Williamstown-Winslow Road	Winslow					1.06		
723		NJ 561 to US 30 (4.0)	Fleming Pike	Winslow							
724		Start to US 30 (0.5)	Witseys Mill Road	Winslow							
725		NJ 73 to CR 726 (0.6)	Hall Street	Winslow	x						
725		CR 726 to CR 561 (1.8)	Albertson Road	Winslow							
729		CR 551 Spur to CR 635 (0.5)	East Atlantic Avenue	Audubon					1.18		
730		Start to CR 636 (0.3)	Lakeshore Drive	Collingswood/Haddon							
733		CR 534 to US 30 (0.3)	Higgins Avenue	Clementon							
747		CR 707 to NJ 168 (0.3)	Lakeland Road	Gloucester							
755		CR 561 to End (0.1)	Essex Street	Gloucester							
759		CR 688 to CR 673 (0.5)	Peter Cheeseman Lane	Gloucester					0.91		
759		CR 673 to CR 534(1.7)	Little Gloucester Road	Gloucester					0.92		
17	County-wide: Principal Arterial and Incident Management Highway Network County Routes							Integrated County / Municipal Traffic Signal Management System (See Figure 26)		\$30.0	Municipalities, NJDOT, CCC-TMA, Adjacent NJ Counties

### CONGESTION MANAGEMENT PROCESS STRATEGY COMPLIANCE

Consistency with the Congestion Management Process is a prerequisite for obtaining and using federal-aid highway funds through the long-range planning and transportation improvement programming processes in the Delaware Valley. Therefore, DVRPC staff's evaluation was conducted in agreement with the adopted Congestion Management Process's order of priorities for identifying transportation projects and programs.

1. Maintain and modernize.
2. Manage demand.
3. Increase capacity of the existing multimodal system, limiting the addition of through-travel lanes.
4. Add new capacity where necessary, limiting the addition of new roads.

### RECOMMENDATIONS

Highway Plan recommendations are stratified for safety along the county route network and mobility throughout the county. Mobility improvements are divided into regional projects and county route improvements. Regional projects are included on the Transportation Improvement Program and in the Long-Range Plan; the bulk of these projects are improvements to state- and authority-owned transportation facilities. For these, the county acts as an advocate and monitors project development. Safety and mobility improvements to the county route network are the county's direct responsibility to advance and implement.

**Figure 22** (page 47) illustrates the findings of the study's traffic safety analysis along the county route system (i.e., segments with twice, plus, the average crash rate) in relation to locations that are already eligible for safety improvement funding. Where there is overlap between the crash-rate parameter and improvement program eligibility, the county should act to establish a county-wide action plan to advance engineering studies, identify countermeasures (and installation costs), and ready an improvement program to correct the traffic safety deficiencies via the Highway Safety Improvement Program,<sup>17</sup> or independently. Segment-level crash rates, computed in the Highway Plan, have been loaded into the Transportation Asset Management Database which can be used to establish implementation priorities.

Transportation projects in the current Transportation Improvement Program and the Long-Range Plan generally address regional-level facilities and not county-owned routes. **Figure 23** (page 48) illustrates the interrelationship between the mobility and safety improvements included in the current parent documents and the top-rated county route segments.

Finally, **Figure 24** (page 49) illustrates the county-approved Highway Plan mobility recommendations. All locations are top-rated Congestion Management Process segments on the county route network. (*Note:* Improvement areas highlighted in yellow on the figure correspond with color-shaded rows in **Table 5**.)

The eight candidate County Route Turnback segments are color-coded on the figure as blue (4) and green (4) lines. Blue segments indicate that a traffic safety issue has been identified. For these, further analyses and amelioration is recommended before turning the route over to another jurisdiction. Green segments are free from crucial existing and long-term deficiency. Ownership of these routes can be transferred. One point of distinction concerns County Route 644. County Route 644 is a candidate Turnback in two locations: Potter Street, between County Route 561 and NJ 41, in Haddonfield; and Haddonfield Road, between NJ 70 and NJ 38, in Cherry Hill. Both segments are components of the Incident Management Highway Network—serving as detour routes for nearby state highways (Potter Street for NJ 154, and Haddonfield Road for NJ 70 and NJ 38). Regardless of ownership, those functional attributes should be maintained, and the segments should ultimately be integrated into the county-wide traffic signal system as a means of regulating normal peak-hour traffic operation and accommodating detoured traffic.

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<sup>17</sup> The county is participating in the Highway Safety Improvement Program.



Figure 22: Recommended Traffic Safety Program

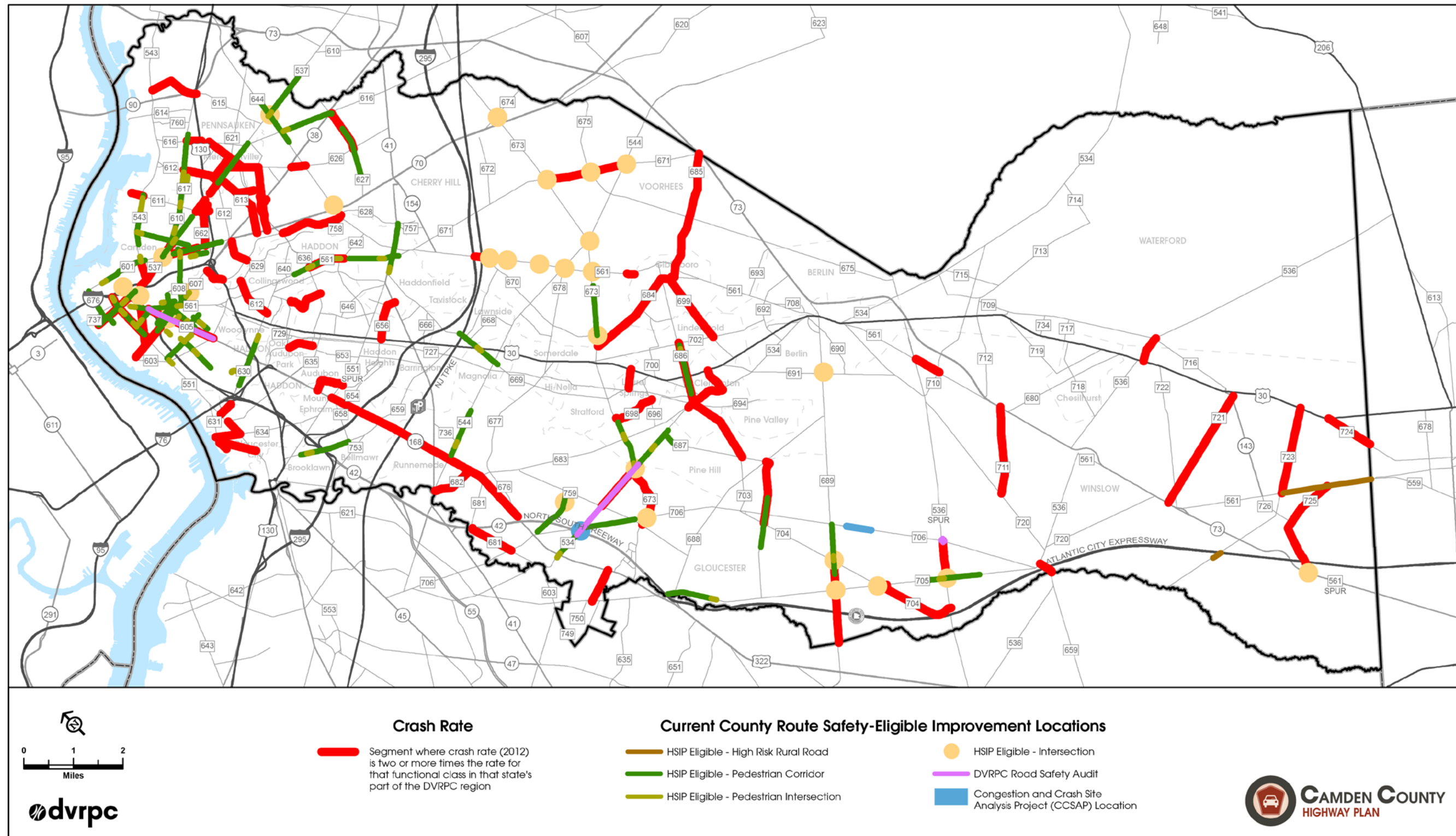


Figure 23: Regional Mobility Improvement Program

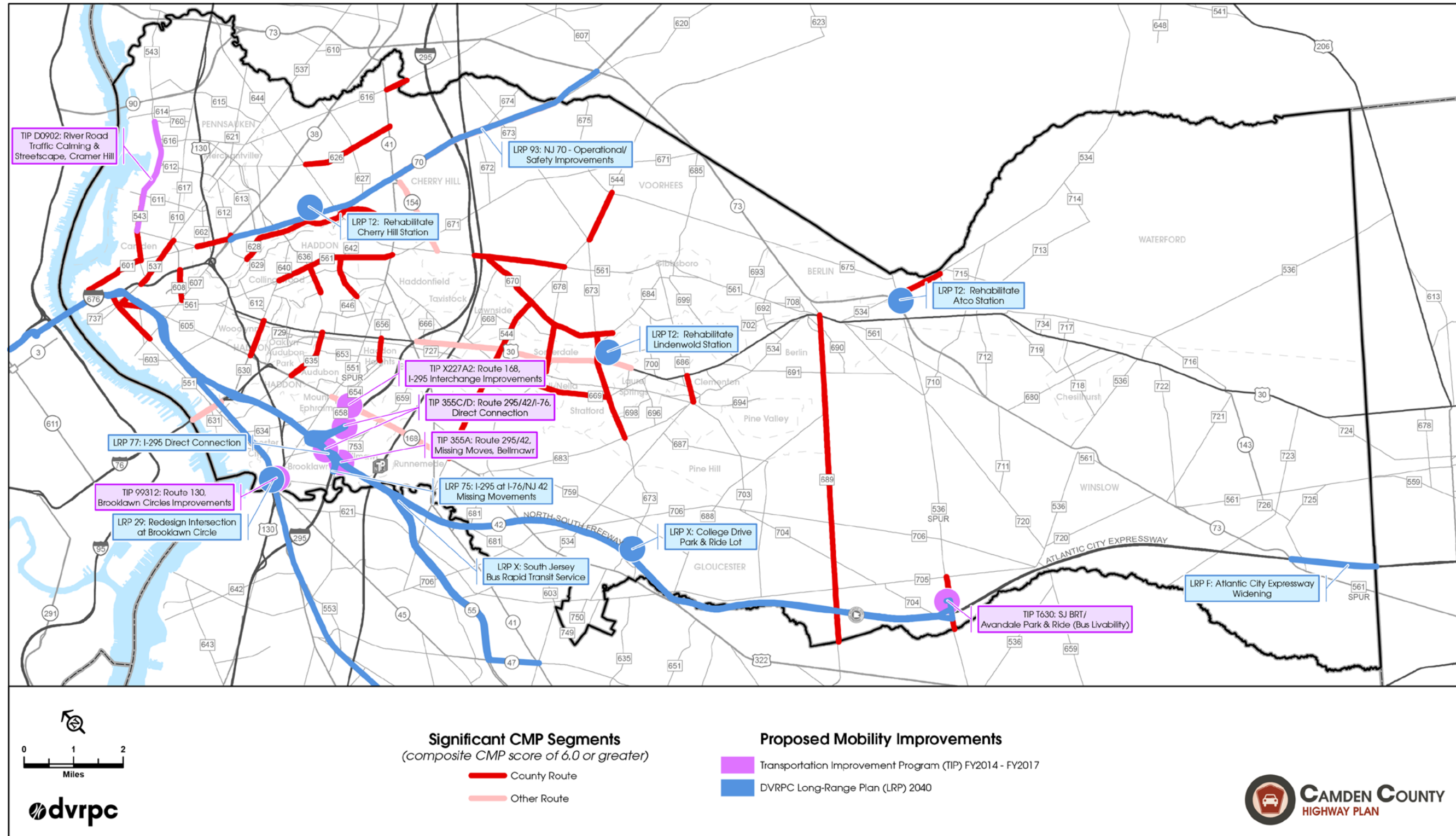
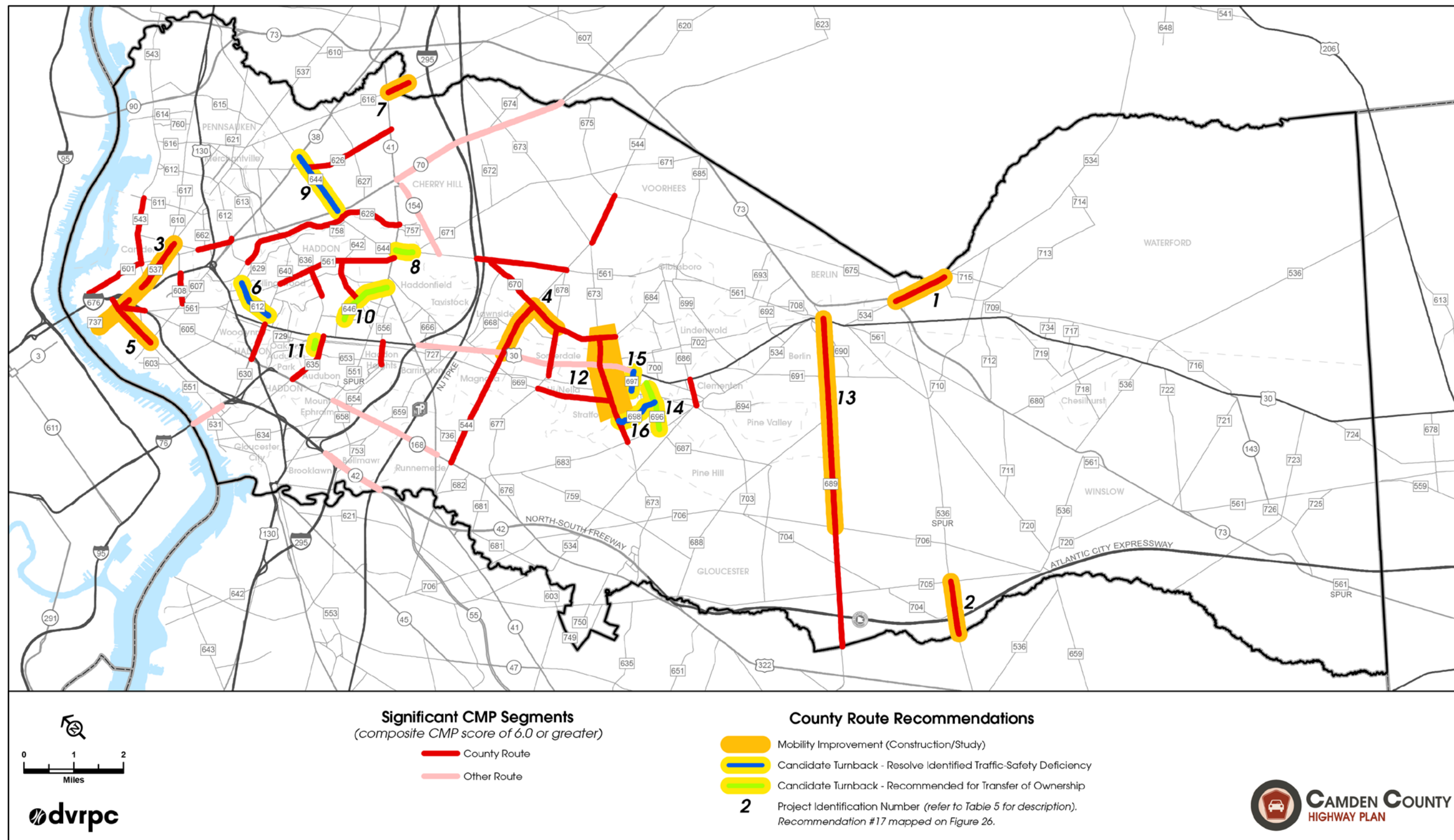




Figure 24: County Route Mobility Improvement Recommendations





A descriptive summary of the county route mobility recommendations, generated through the Camden County Highway Plan work, follows.

- **Transit vehicle priority**
  - County Route 537 (one-way couplet of Federal Street and Market Street) and County Route 551 (Broadway), in the City of Camden – Provide corner bulb-outs and high-visibility crosswalks, shelters, and pedestrian-scale street lighting to favor transit operations and promote transit use.
- **Intermodal improvements**
  - County Route 534 (Jackson Road), in Waterford – Expand vehicular and pedestrian access and parking, restore and rehabilitate pedestrian tunnel, and increase frequency of interconnecting transit services at the Atco Station.
  - County Route 536 Spur (Williamstown-New Freedom Road), in Winslow – Rebuild County Route 536 Spur and its interchange with the Atlantic City Expressway, expand vehicular access to the Avandale Park-and-Ride lot in support of the South Jersey Bus Rapid Transit service.
- **Minor roadway improvements**
  - County Route 673 (Laurel Road), in Stratford – Extend New Road and Medical Center Drive from the Lindenwold Station to Laurel Road in association with the “Eds and Meds” Revitalization Plan involving Rowan University, Kennedy Hospital, and the former Bradlees Shopping Center properties (see **Figure 25**, page 51).
- **Major roadway widening**
  - County Route 689 (Cross Keys Road), through Gloucester and Winslow – Widen to five-lane cross-section to match improved sections and serve as a continuous cross-county traffic route for the long term.
- **Closed-loop computerized traffic signals**
  - County-wide – Implement an integrated traffic signal system to control traffic operations at county- and municipal-owned traffic signals.

There are more than 450 traffic signals throughout the county. Approximately 350 traffic signals are located along the county and municipal roadway system. Of these, as many as 200 signal installations are on the county's principal highways. The most far-reaching improvement—to the benefit of existing and future traffic conditions, with the least impact on the landscape—would be implementing a county-wide integrated traffic signal control system and Traffic Operations Center, manned to control the signals and manage traffic flow throughout the network. **Figure 26** (page 52) illustrates the priority network for implementing that recommendation. These include the county's principal highways and its component segments of the region's Incident Management Highway Network.



*Bike lanes on Somerdale Road (County Route 678) in Voorhees Township are pictured. Camden County's Complete Street Policy will ensure that all modes of travel are considered in engineering, design, and construction of physical improvements to the county route system. (Photo: DVRPC)*

The screening methodology employed in the Highway Plan is a broad-based technique for capturing, assimilating, and assessing county-wide data. Ultimately, the full set of Master Plan recommendations must also include transportation projects that have been identified in detailed traffic and transportation studies performed in the county over the past decade (see **Appendix C**) and anecdotal information obtained during the course of the study, including recommendations such as:

- County Route 659 (Browning Road) at its intersection with the Black Horse Pike (NJ 168) should be improved in connection with improvements to NJ 168, between County Route 573 (Clements Bridge Road) and County Route 551 Spur (Kings Highway), and
- The New Jersey Turnpike Interchange (#3) with the Black Horse Pike (NJ 168) should incorporate commercial-vehicle-only ramps in connection with improvements to NJ 168, between County Route 573 (Clements Bridge Road) and County Route 551 Spur (Kings Highway).



Figure 25: Concept of the New Road/Medical Center Drive Extension (County Route 673 Relief Route)

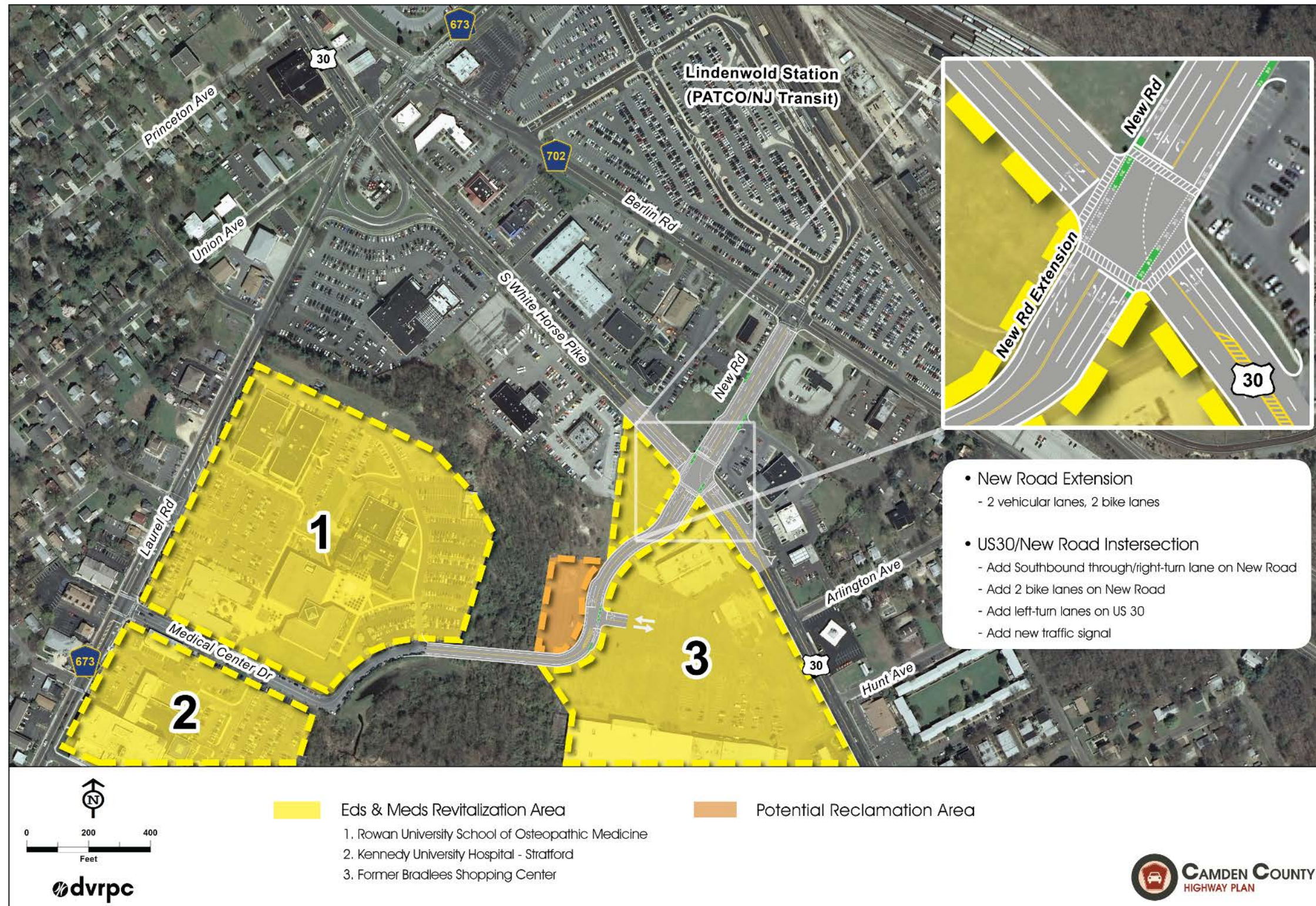
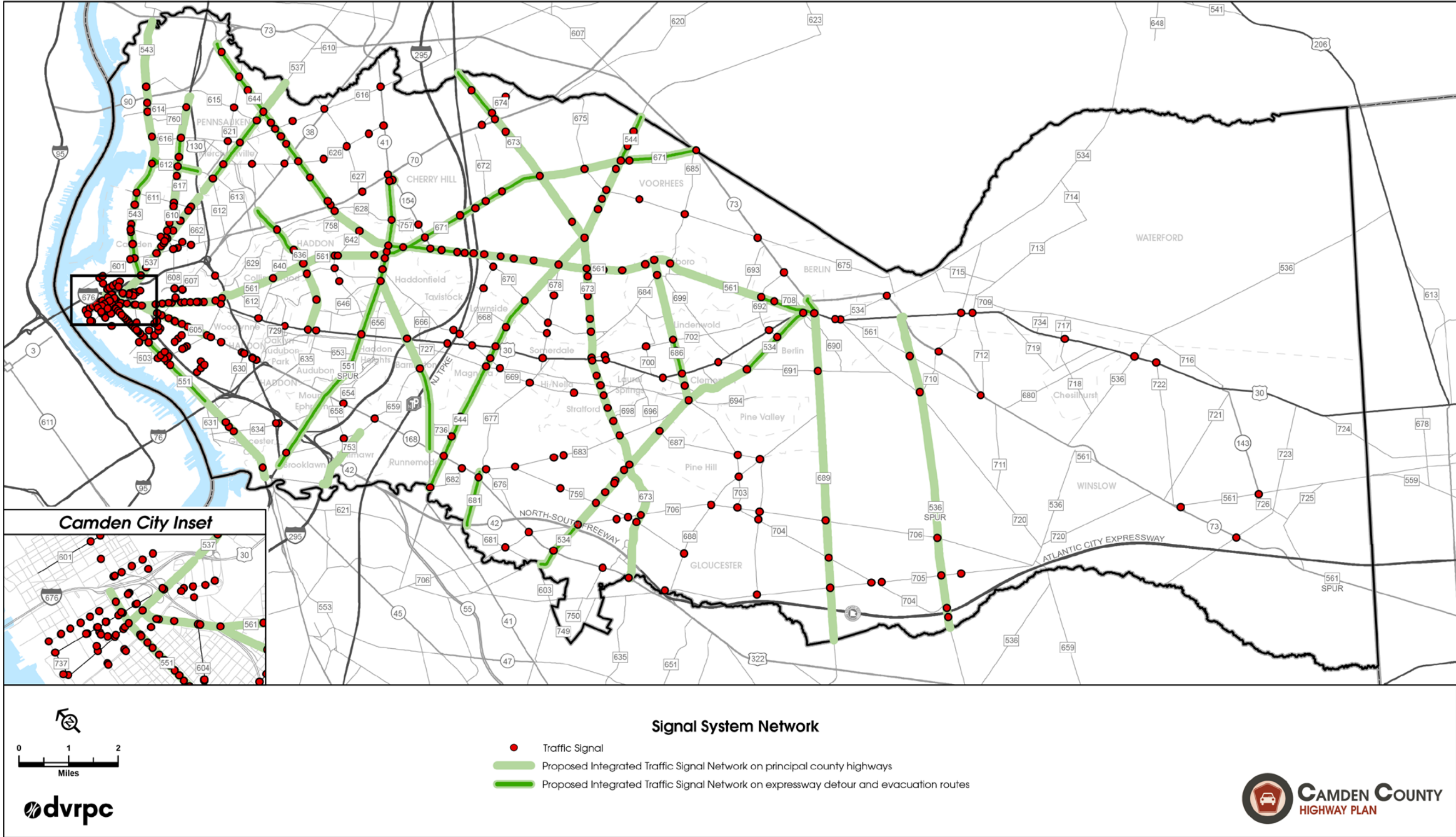




Figure 26: Interconnected Traffic Signal System Priority Network



DVRPC, 2015



## FINAL TRAVEL TESTING

Travel simulations were conducted with the final improvements serving as inputs to the Year 2040 Master Plan model. Results for the county route segments are posted in **Table 5** (shown previously on pages 42 through 45). An overall perspective of the benefit of the modeled Highway Plan recommendations is provided in **Table 6**.

**Table 6: Final Modeled Network Performance**

Highways	2011 Base Year		2040 Long-Range Plan		2040 Master Plan	
	V/C	PM-peak Speed	V/C	PM-peak Speed	V/C	PM-peak Speed
<b>All County Routes</b>	0.59	27.8	0.63	27.3	0.64	28.0
<b>500-Series</b>	0.61	29.2	0.63	28.6	0.63	29.1
<b>600-Series</b>	0.63	26.3	0.68	25.8	0.69	26.7
<b>700-Series</b>	0.39	31.3	0.47	30.7	0.48	31.6

*DVRPC, 2015*

In summary, congestion will rise due to overall socioeconomic growth and consequent growth in travel. Enlisting a new performance measure—PM peak-period speeds—supplies a deeper view into the operating characteristics of the networks and changes between scenarios. Constructing the physical improvements and implementing a coordinated traffic signal system along the top-rated county route network as recommendations for the 2040 Master Plan will offset the demographic changes and deliver overall faster operating speeds.

## IMPLEMENTATION

Order-of-magnitude cost estimates for constructing or implementing the mobility improvements were prepared for budgeting and programming purposes and are included in **Table 5**. Priorities have not been assigned, as funding availability needs to be determined prior to budgeting and programming. It is recommended to concurrently implement improvements where mobility projects overlap with safety-deficient locations.

Study-produced data has been loaded into the Camden County Transportation Asset Management Database (prepared for this project) to assist in determining relative needs. For example, county staff might screen the database for Congestion Management Process-composite scores, 2012 crash rates, or current and future volume-to-capacity ratios, or AADTs, etc., for help in establishing priorities. Projects that do, or may, fit potential future categorical improvement programs can be structured using the inventory of Congestion Management Process subcorridors in the database.

To initiate support and partnerships in project development, cosponsoring agencies are identified in the last column of the table. To maximize funding opportunities, federal-aid eligibility of the county route network has been identified (see the last column of **Table A-1**, pages A-2 through A-11 in **Appendix A**). Finally, a high-level environmental assessment was prepared for the recommended physical improvements along the county route network (**Appendix D**). This was prepared to call out potential impacts to natural and human environments and to assist communication with regulatory agencies to improve project delivery.



## Chapter 8:

### CONCLUSION

Transportation modeling and an endorsed screening methodology have been used to incorporate and assess county-wide transportation conditions for the Highway Plan. Final recommendations for the overall Camden County Master Plan incorporate regional transportation projects on the Transportation Improvement Program and Long-Range Plan, and match traffic safety deficiencies throughout the county with an active safety improvement program. Mobility projects have been identified for top-rated locations on the county route network to support the county's updated Land Use Plan. They incorporate highway and community planning considerations, favor multimodal travel, and foster partnerships.

Transportation projects in the current Transportation Improvement Program and Long-Range Plan almost exclusively address regional-level transportation facilities, not county routes. Still, the county is recommended to advocate and monitor TIP and Plan progress so that the bulk of travel is efficiently served and the county route network protected.

The county is recommended to develop an action plan for improving traffic safety and mobility on the network that it is principally responsible for: the county route network. Engineering studies can be advanced for traffic-safety-deficient locations to pre-identify countermeasures that can be implemented through the federally aided Highway Safety Improvement Program first, or with county resources second.

Mobility recommendations for the county route system include site-specific physical improvements at locations warranting attention, which are not apparently precluded by neighborhood or environmental constraints. There are not many, and they are not cheap. At the same time, the county is reaching the limits of its growth potential and is envisioning a smart, more sustainable future—focusing growth within its developed landscapes. Of all the recommendations from the Highway Plan's work, the county-wide interconnected and coordinated traffic signal system operational improvement is the smartest and farthest reaching.

Vigilance on the part of the county planning staff, and support from its planning partners and the wider community, will be required to implement the plan. The county is just one of many institutions influencing the path to the future. In such an environment, intergovernmental coordination will be necessary to achieve the vision of the overall Master Plan. Typically, the individual municipality and the development community have a more direct role in land use decisions. More often than not, federal and state agencies determine the direction and design of major transportation investments. Where possible, the county may lobby to integrate functionally or geographically related county route recommendations into the scopes of the regional projects, or be ready to partner with other stakeholders to finance the improvements.

Where the county can have a direct effect on the vision is through its ability to direct redevelopment and revitalization investments, and through its regulatory control governing access to and design of its county route network. The county has adopted a Complete Streets Policy. Initial considerations for improving the county route system must account for all modes of travel—not just cars. The Camden County Bicycling & Multi-Use Trails Plan will be a valuable resource for those evaluations. Additionally, the county's Subdivision and Site Plan Procedures and Land Development Regulations requires developers to examine opportunities to build grids before granting access for new roads or driveways to the county route system. Interconnected circulation systems, serving adjacent neighborhoods or developments, can forestall congestion and roadway widening by maximizing the distribution of development traffic. Interconnected street networks also reduce trip lengths and can provide more suitable options for walking and bicycling.





## Appendices:

**A: CAMDEN COUNTY HIGHWAY INVENTORY**

**B: CAMDEN COUNTY BRIDGE INVENTORY**

**C: OTHER TRAFFIC AND TRANSPORTATION STUDIES, AND RECOMMENDATIONS FOR THE CAMDEN COUNTY MASTER PLAN**

**D: ENVIRONMENTAL SCREENING OF PHYSICAL IMPROVEMENTS**





# Appendix A:

## CAMDEN COUNTY HIGHWAY INVENTORY

Selected characteristics of the county route network are inventoried on **Table A-1** (see pages A-2 through A-10) to provide an overview of the system. Key among the fields is FHWA's Highway Functional Classification—a federally designated and interconnected system of the nation's most important highways. In 2014, NJDOT completed a comprehensive statewide evaluation of the functional classification system for the FHWA. That effort updated the pre-existing functional classification system for the results of the 2010 US Census, and transportation system changes that have taken place since 2000 (e.g., system connectivity, traffic volumes carried, and land use served, etc.). The outcome resulted in the network illustrated in **Figure 7** (on page 11 in the main body of this report) and the classifications identified in **Table A-1**. All of the county's routes are included in the FHWA Highway Functional Classification system.

MAP-21, the current federal surface transportation assistance act extends federal-aid for road and bridge improvements within that system (**Table A-2**, below). Most of the county's roads are eligible for federal-aid highway funding assistance.

More information for the network, including relevant outputs from the current project, is contained in the database.

**Table A-2: Federal Highway Administration (FHWA) Highway Functional Classification and Federal-Aid Funding Eligibility**

<b>FHWA Functional Classification (Code)</b>	<b>Federal-Aid Funding Program</b>
<b>Interstate Highways (1)</b>	National Highway Performance Program (NHPP), Surface Transportation Program (STP), Surface Transportation Program – Urban Allocation (STU)
<b>Other Freeways and Expressways (2)</b>	National Highway Performance Program (NHPP), Surface Transportation Program (STP), Surface Transportation Program – Urban Allocation (STU)
<b>Other Principal Arterial Highways (3)</b>	National Highway Performance Program (NHPP), Surface Transportation Program (STP), Surface Transportation Program – Urban Allocation (STU)
<b>Minor Arterial Highways (4)</b>	Surface Transportation Program (STP), Surface Transportation Program – Urban Allocation (STU)
<b>Major Collector Highways (5)</b>	Surface Transportation Program (STP), Surface Transportation Program – Urban Allocation (STU)
<b>Minor Collector Highways (6)</b>	None
<b>Bridges on Minor Collector Highways (6)</b>	Bridges Off the Federal-Aid System (BOF)
<b>Local Roads (7)</b>	None
<b>Bridges on Local Roads (7)</b>	Bridges Off the Federal-Aid System (BOF)

Source: Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), effective October 1, 2012

DVRPC, 2015

Table A-1: Inventory of Camden County's Highways

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
534	Co line - NJ 168	Church St	0.41	variable	49.5	Minor Arterial	yes
	NJ 168 - NJ 42	Blackwood-Clementon Rd	0.61	49.5	66	Principal Arterial - Other	yes
	NJ 42 - CR 673	Blackwood-Clementon Rd	1.70	49.5	74	Principal Arterial - Other	yes
	CR 673 - CR 683	Blackwood-Clementon Rd	1.63	60	66	Principal Arterial - Other	yes
	CR 683 - US 30	Clementon-Berlin Rd	3.13	66	66	Principal Arterial - Other / Minor Arterial	yes
	US 30 - CR 714	Jackson Rd	5.37	49.5	74	Minor Arterial / Major Collector	yes
	CR 714 - Co line	Jackson Rd	1.75	49.5	74	Major Collector	yes
			14.60				
536	Co line - NJ 73	Cedarbrook-New Brooklyn Rd	2.79	49.5	74	Minor Arterial	yes
	NJ 73 - US 30	Waterford Rd	2.23	49.5	74	Major Collector	yes
	US 30 - CR 716	Chew Rd	0.53	49.5	74	Minor Arterial	yes
	CR 716 - Co line	Chew Rd	4.58	49.5	74	Major Collector	yes
			10.13				
536 Spur	Co line - AC Expy	Williamstown-New Freedom Rd	0.33	49.5	74	Principal Arterial - Other	yes
	AC Expy - CR 561	Williamstown-New Freedom Rd	5.29	49.5	74	Minor Arterial	yes
	CR 561 - CR 534	Taunton Rd	1.31	49.5	74	Minor Arterial	yes
	CR 534 - Co line	Taunton Rd	0.46	49.5	74	Minor Arterial	yes
			7.39				
537	CR 737 - Cr 537 Spur	Federal St	1.12	66	66	Minor Arterial / Major Collector	yes
	CR 537 Spur - CR 601	Federal St	0.78	66	66	Minor Arterial	yes
	CR 601 - CR 644	Federal St	3.42	66	66	Minor Arterial	yes
	CR 644 - Co line	Moorestown Pk	0.73	66	66	Minor Arterial	yes
			6.05				
537 Spur	CR 737 - CR 537	Market St	1.10	80	80	Minor Arterial	yes
543	Co line - CR 612	River Rd	2.91	variable	66	Minor Arterial	yes
	CR 612 - CR 537	River Rd	2.39	variable	60	Minor Arterial	yes
			5.30				
544	NI 41 - CR 561	Evesham Rd	5.24	66	66	Principal Arterial - Other	yes
	CR 561 - Co line	Evesham Rd	3.44	66	74	Principal Arterial - Other	yes
			8.68				
551	Franklin Br - Morgan Blvd	Broadway	2.41	66	66	Principal Arterial - Other	yes
	Morgan Blvd - US 130	Broadway	2.52	66	66	Minor Arterial	yes
			4.93				
551 Spur	US 130 - CR 573	Kings Hwy	4.32	66	66	Minor Arterial	yes
561	CR 537 - CR 605	Haddon Ave	0.66	66	66	Principal Arterial - Other	yes
	CR 605 - CR 573	Haddon Ave	5.15	66	66	Minor Arterial	yes
	CR 573 - CR 671	Haddonfield-Berlin Rd	0.47	49.5	66	Minor Arterial	yes
	CR 671 - NJ TPK	Haddonfield-Berlin Rd	1.38	66	66	Principal Arterial - Other	yes
	NJ TPK - CR 544	Haddonfield-Berlin Rd	1.66	60	66	Principal Arterial - Other	yes
	CR 544 - CR 673	Haddonfield-Berlin Rd	0.56	66	66	Principal Arterial - Other	yes

Continued on next page

Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
	CR 673 - CR 561A	Haddonfield-Berlin Rd	0.71	74	74	Principal Arterial - Other	yes
	CR 561A - US 30	Haddonfield-Berlin Rd	4.11	60	66 - 74	Principal Arterial - Other	yes
	US 30 - NJ 73	Cedarbrook Rd	3.35	49.5	74	Minor Arterial	yes
	NJ 73 - Co line	Cedarbrook Rd	3.88	49.5	74	Major Collector	yes
			21.93				
561 Spur	NJ 73 - Co line	Mays Landing Rd	1.91	49.5	66	Minor Arterial	yes
561A	CR 561 - Gibbsboro line	Haddon Ave	0.15	49.5 - 49.5	49.5 - 49.5	Major Collector	yes
561B	CR 684 - CR 699	Foster Ave	0.16	50	50	Local	no
561C	CR 536 - NJ 73	South Cedarbrook Rd	0.58	49.5	49.5	Local	no
561D	CR 699 - CR 561	Berlin Ave	0.57	50	50	Local	no
573	NJ 168 - CR 665	Clements Bridge Rd	2.88	49.5	66	Minor Arterial	yes
	CR 665 - CR 551 Spur	Clements Bridge Rd	0.83	66	66	Minor Arterial	yes
	CR 551 Spur - CR 644	Kings Hwy	0.72	49.5	66 - 74	Minor Arterial	yes
	CR 644 - NJ 70	Kings Hwy	1.80	66	74	Minor Arterial	yes
			6.23				
600	NJ 70 - Co line	Old Marlton Pk	0.20	60	60	Minor Arterial	yes
601	2nd St - CR 543	State St	1.23	70	60	Minor Arterial	yes
	CR 543 - CR 537	State St	0.45	80	60	Minor Arterial	yes
	CR 537 - NJ 38	Marlton Ave	1.46	60	66	Minor Arterial	yes
			3.14				
603	Mechanic St - CR 561	Ferry Ave	2.42	50	50	Minor Arterial / Major Collector	yes
604	CR 607 - CR 561	Newton Ave	0.75	50	50	Minor Arterial	yes
605	CR 561 - CR 603	Mt. Ephraim Ave	1.44	66	66	Principal Arterial - Other	yes
606	CR 561 - US 30	White Horse Pk	0.30	70	70	Minor Arterial	yes
606A	CR 561 - CR 606	Old White Horse Pk	0.19	66	66	Major Collector	yes
607	Second Ave - US 30	Kaign Ave	2.38	66	66	Minor Arterial	yes
608	CR 537 - CR 607	Baird Blvd	2.00	110	110	Minor Arterial	yes
609	CR 543 - CR 601	27th St	1.26	50	60	Minor Arterial	yes
610	CR 537 - US 130	Westfield Ave	3.00	66	66	Minor Arterial	yes
611	Farragut Ave - CR 543	36th St	0.25	50	50	Major Collector	yes
	CR 543 - CR 537	36th St	1.11	50	50	Minor Arterial	yes
			1.36				
612	CR 543 - CR 537	Browning Rd	1.42	49.5	49.5	Minor Arterial	yes
	CR 537 - NJ 38	Browning Rd	1.12	49.5 - 60	49.5 - 60	Minor Arterial	yes
	NJ 38 - CR 628	Browning Rd	0.54	66	66	Major Collector	yes
	CR 629 - CR 630	Browning Rd	0.87	66	66	Major Collector	yes
			3.95				
613	NJ 70 - CR 537	Lexington Ave	1.72	80	80	Major Collector	yes

Continued on next page



Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
614	Delaware River - CR 543 CR 543 - CR 610	Derousse Ave	0.50	49.75	49.75	Local	no
		Derousse Ave	0.81	49.5 - 49.75	49.5 - 49.75	Minor Arterial	yes
			1.31				
615	CR 543 - US 130 US 130 - CR 621 CR 621 - CR 537	Union Ave	1.02	50 - 60	60	Minor Arterial	yes
		Union Ave	0.96	33 - 50	60	Minor Arterial	yes
		Union Ave	0.53	45 - 50	66	Minor Arterial	yes
			2.51				
616	CR 543 - US 130 US 130 - CR 537 CR 537 - Co line	Cove Rd	0.88	46.5 - 53.0	66	Minor Arterial	yes
		Cove Rd	0.91	55	66	Minor Arterial	yes
		Church Rd	3.48	49.5	66	Minor Arterial	yes
			5.27				
617	CR 610 - Court House	43rd St	0.21	50	50	Local	no
619	CR 612 - CR 622	Chestnut St	1.05	40	40	Minor Arterial	yes
620	US 130 - CR 616	Rodgers Ave	0.54	50	50	Local	no
621	CR 537 - CR 616 CR 616 - CR 615 CR 615 - CR 644 CR 644 - Co line	Park Ave	0.40	50	60	Minor Arterial / Major Collector	yes
		Park Ave	0.69	48 - 49	60	Minor Arterial	yes
		Park Ave	0.61	33 - 53	66	Minor Arterial	yes
		Park Ave	0.33	49.5	66	Minor Arterial	yes
			2.03				
622	CR 616 - CR 637	Center St	0.81	50	60	Minor Arterial	yes
623	NJ 70 - CR 636 CR 636 - CR 626	Hampton Rd	0.34	49.5	49.5	Major Collector	yes
		Hampton Rd	0.69	49.5	49.5	Major Collector	yes
			1.03				
624	CR 626 - Merchantville line Merchantville line - CR 616	Hinchman Ave	0.32	50	50	Major Collector	yes
		Plymouth Pl	0.28	60	60	Major Collector	yes
			0.60				
625	NJ 38 - CR 626	Kenilworth Ave	0.36	50	50	Local	no
626	CR 537 - CR 627 CR 627 - NJ 41	Chapel Ave	2.57	49.5	66	Minor Arterial	yes
		Chapel Ave	0.85	33	66	Minor Arterial	yes
			3.42				
627	Co line - NJ 38 NJ 38 - NJ 70	Coopertown Rd	0.31	49.5	66	Major Collector	yes
		Coopertown Rd	1.86	49.5	66	Minor Arterial	yes
			2.17				
628	CR 607 - US 130 US 130 - CR 636 CR 636 - PRSL Line PRSL Line - CR 644 CR 644 - Caldwell Ave	North Park Dr	0.39	75	75	Major Collector	yes
		North Park Dr	1.65	75	75	Minor Arterial	yes
		North Park Dr	0.82	75	75	Major Collector / Local	yes / no
		North Park Dr	0.42	60	60	Major Collector / Local	yes / no
		North Park Dr	1.64	66	66	Major Collector	yes
			4.92				

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Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
629	US 130 - CR 636	South Park Dr	1.72	50 - 55	50 - 55	Minor Arterial	yes
	CR 636 - Vesper Ave	South Park Dr	0.57	50 - 55	50 - 55	Major Collector	yes
			2.29				
630	CR 561 - US 168	Collins Ave	1.62	49.5	66	Minor Arterial	yes
	US 168 - I-76	Collins Ave	1.90	118	118	Minor Arterial / Major Collector	yes
	I-76 - CR 755	Collins Ave	0.17	118	118	Major Collector	yes
			3.69				
631	CR 551 - CR 632	King St	0.79	60	60	Major Collector	yes
632	King St - CR 551	Jersey Ave	0.76	60	60	Major Collector	yes
633	CR 631 - terminus	Water St	0.21	50	50	Major Collector	yes
634	CR 551 Spur - CR 551	Market St	1.65	49.5	60	Minor Arterial	yes
	CR 551 - terminus	Market St	0.50	60	60	Major Collector / Local	yes / no
			2.15				
635	CR 551 - NJ 168	Hudson St	1.59	49.5	66	Minor Arterial	yes
	NJ 168 - US 30	Nicholson Rd	1.45	49.5	66	Principal Arterial - Other	yes
			3.04				
636	US 30 - CR 629	Cuthbert Blvd	2.43	49.5	66 - 74	Principal Arterial - Other	yes
	CR 629 - NJ 38	Cuthbert Blvd	1.91	100	100	Principal Arterial - Other	yes
	NJ 38 - CR 639	Cuthbert Blvd	0.74	100	100	Minor Arterial	yes
			5.08				
637	CR 639 - CR 626	Magnolia Ave	0.54	50	60	Minor Arterial	yes
638	CR 639 - CR 626	Clayton Ave	0.57	50	60	Minor Arterial	yes
639	CR 613 - CR 637	Wisteria Ave	0.33	50	50	Local	no
640	CR 561 - CR 636	Fern Ave	0.68	50	50	Major Collector	yes
641	CR 630 - CR 643	Park Ave	1.39	50	50	Minor Arterial / Major Collector	yes
	CR 643 - CR 573	West End Ave	0.99	50 - 80	50 - 80	Major Collector	yes
			2.38				
642	CR 561 - CR 644	Maple Ave	0.66	50 - 55	50 - 55	Minor Arterial	yes
643	CR 551 Spur - CR 561	Crystal Lake Blvd	1.56	60	60	Minor Arterial	yes
644	CR 561 - NJ 70	Grove St	1.79	66	66	Principal Arterial - Other	yes
	NJ 70 - CR 626	Haddonfield-Sorrell Horse Rd	1.07	66	74	Principal Arterial - Other	yes
	CR 626 - NJ 38	Haddonfield-Sorrell Horse Rd	0.25	66	74	Principal Arterial - Other	yes
	NJ 38 - CR 616	Haddonfield-Sorrell Horse Rd	0.58	66	66	Principal Arterial - Other	yes
	CR 616 - CR 537	Haddonfield-Sorrell Horse Rd	0.42	66	74	Principal Arterial - Other	yes
	CR 537 - US 130	Haddonfield-Sorrell Horse Rd	3.06	66	74	Principal Arterial - Other	yes
			7.17				
645	CR 647 - US 30	Graisbury Ave	0.40	60	60	Major Collector	yes
646	CR 647 - CR 551 Spur	Avondale Ave	1.14	50 - 60	50 - 60	Major Collector	yes
647	CR 636 - CR 646	Hood Ave	1.13	49.5	49.5	Major Collector / Minor Arterial	yes
648	US 30 - CR 630	Beetlewood Ave	0.88	60	60	Major Collector / Minor Arterial	yes

Continued on next page

Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
649	CR 650 - US 30	Clinton Ave	0.38	60 - 69	60 - 69	Major Collector	yes
650	NJ 168 - CR 651	Kendall Blvd	1.15	60	60	Major Collector / Local	yes / no
651	CR 650 - CR 652	Congress Ave	0.15	50	50	Local	no
652	CR 651 - CR 635	Manor Ave	0.14	60	60	Major Collector	yes
653	CR 635 - CR 551 Spur CR 551 Spur - I-295 I-295 - CR 573	Ninth Ave	0.87	60	60	Minor Arterial / Local	yes / no
		Ninth Ave	0.82	70	70	Major Collector	yes
		Ninth Ave	0.43	60	60	Major Collector	yes
			2.12				
654	NJ 168 - CR 655	Prospect Ridge Blvd	1.15	70	70	Minor Arterial	yes
655	CR 656 - CR 654	Tenth Ave	0.09	70	70	Minor Arterial	yes
656	CR 573 - CR 655	Station Ave	1.32	75	75	Minor Arterial / Major Collector	yes
657	Homestead Ave - CR 551 Spur CR 551 Spur - CR 656	Hinchman Ave	0.20	60	60	Local	no
		Hinchman Ave	0.17	60	60	Major Collector	yes
			0.37				
658	NJ 168 - CR 659	Bell Rd	0.88	variable	variable	Major Collector	yes
659	US 130 - Princeton Ave Princeton Ave - US 30	E. Browning Ln	0.59	60	60	Minor Arterial	yes
		W. Browning Ln	3.71	49.5 - 50	60	Minor Arterial	yes
			4.30				
660	CR 551 Spur - Haddon Lake Haddon Lake - NJ 168	E. Lake Dr	0.53	30	30	Major Collector	yes
		Valley Rd	0.16	50	50	Major Collector	yes
			0.69				
661	CR 551 Spur - CR 661B CR 661B - CR 655	Hillside Ave	0.77	50	50	Major Collector / Local	yes / no
		Hillside Ave	0.33	70	70	Local	no
			1.10				
661A	CR 661 - CR 665	N. Park Ave	0.33	70	70	Major Collector	yes
661B	CR 661 - CR 661A	Bellmawr Rd	0.05	50	50	Local	no
662	CR 601 - US 130	Highland Ave	0.86	60	60	Major Collector	yes
663	CR 537 - Woodland Ave	Terrace Ave	0.25	60	60	Local	no
664	US 130 - CR 601	Woodland Ave	0.21	50	50	Major Collector	yes
665	CR 669 - Whitman Dr Whitman Dr CR 573	Tenth Ave	0.24	60	60	Major Collector	yes
		Hutchinson Ave	0.25	50	50	Major Collector	yes
			0.49				
666	I-295 Access - CR 669	Copley Rd	0.65	60	60	Local	no
667	CR 669 - CR 670	Oak Ave	1.56	50 - 75	50 - 75	Minor Arterial	yes
668	CR 544 - CR 669	Charleston Ave	1.15	variable	variable	Major Collector	yes
669	CR 573 - CR 544 CR 544 - CR 677 CR 677 - CR 673 CR 673 - US 30	Warwick Rd	2.85	60	66	Minor Arterial	yes
		Warwick Rd	0.96	50	66	Minor Arterial	yes
		Warwick Rd	1.50	variable	66	Minor Arterial	yes
		Linden Ave	0.96	50	66	Minor Arterial	yes
			6.27				

Continued on next page



Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
670	CR 561 - CR 678	Burnt Mill Rd	1.92	49.5	66	Minor Arterial	yes
	CR 678 - CR 684	Burnt Mill Rd	1.23	60	66	Minor Arterial	yes
			3.15				
671	CR 561 - Markkress Rd	Haddonfield-Kresson Rd	1.80	49.5	66	Minor Arterial	yes
	Markkress Rd - NJ 73	Haddonfield-Kresson Rd	4.39	49.5	74	Minor Arterial	yes
			6.19				
672	CR 671 - NJDOT ROW at jughandle with NJ 70	Markkress Road	1.37	variable	variable	Minor Arterial	yes
673	Co line - CR 674	Springdale Rd	1.07	49.5	74	Minor Arterial	yes
	CR 674 - CR 671	Springdale Rd	1.61	66	74	Minor Arterial	yes
	CR 671 - CR 561	Springdale Rd	2.13	49.5	74	Minor Arterial	yes
	CR 561 - CR 670	White Horse Rd	1.29	49.5	66	Minor Arterial	yes
	CR 670 - CR 684	Laurel Rd	0.22	60	66	Minor Arterial	yes
	CR 684 - CR 727	Laurel Rd	0.87	49.5	66	Minor Arterial	yes
	CR 727 - CR 683	Laurel Rd	1.10	49.5	66	Minor Arterial	yes
	CR 683 - CR 534	Laurel Rd	0.63	33	74	Minor Arterial	yes
	CR 534 - CR 706	Grenloch Little Gloucester Rd	1.12	variable	74	Minor Arterial	yes
	CR 706 - Co line	Grenloch Little Gloucester Rd	1.32	100	100	Minor Arterial	yes
				11.36			
674	NJ 70 - Co line	Greentree Rd	1.07	66	66	Major Collector	yes
675	Co line - CR 544	Cropwell Rd	2.14	49.5	74	Minor Arterial	yes
	CR 544 - Gibbsboro-Marlton Rd	Cooper Rd	0.68	49.5	74	Minor Arterial	yes
	Gibbsboro-Marlton Rd - CR 536 Spur	S. Cooper Rd	5.28	49.5	74	Minor Arterial	yes
			8.10				
676	NJ 168 - CR 683	Old Black Horse Pk	1.07	66	66	Minor Arterial	yes
677	CR 683 - CR 678	Somerdale Rd	2.47	49.5	66	Major Collector	yes
	CR 678 - US 30	Ogg Ave	0.30	49.5	66	Major Collector	yes
			2.77				
678	CR 677 - US 30	Somerdale Rd	0.24	49.5	66	Major Collector	yes
	US 30 - CR 561	Somerdale Rd	1.91	variable	66	Minor Arterial	yes
			2.15				
679	CR 544 - CR 678	Preston Ave	0.80	50	50	Major Collector	yes
680	NJ 73 - US 30	Center Ave	2.54	100	100	Major Collector	yes
681	Co line - CR 683	Lower Landing Rd	2.58	49.5 - 50	74	Minor Arterial	yes
682	NJ 41 - NJ 168	Station Rd	0.84	50	50	Major Collector	yes
683	CR 534 - NJ 168	Chews Landing-Clementon Rd	4.49	66	66	Minor Arterial	yes
684	CR 673 - CR 686	Kirkwood-Gibbsboro Rd	1.93	50	66	Minor Arterial	yes
685	CR 561D - CR 675	Gibbsboro-Kresson Rd	1.27	50	66	Local	no
	CR 675 - CR 671	Milford Rd	1.31	50	66	Major Collector	yes
			2.58				
686	CR 534 - CR 561	Clementon-Gibbsboro Rd	2.89	66	66	Principal Arterial - Other / Minor Arterial	yes

Continued on next page

Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
687	CR 705 - CR 704	Jarvis Rd	1.52	variable	60	Minor Arterial	yes
	CR 704 - CR 688	Jarvis Rd	1.31	variable	60	Major Collector	yes
	CR 688 - CR 703	Branch Ave	0.49	60	60	Minor Arterial	yes
	CR 703 - CR 534	Branch Ave	1.67	50	50	Minor Arterial	yes
			4.99				
688	CR 705 - CR 689	Hickestown Rd	4.81	50	74	Minor Arterial	yes
689	Co line - US 30	Berlin-Cross Keys Rd	6.85	49.5	74	Principal Arterial - Other	yes
690	CR 691 - CR 751	Berlin Park Dr	1.51	60	60	Major Collector	yes
691	US 30 - CR 720	Watsonstown-New Freedom Rd	3.50	49.5	60	Minor Arterial	yes
692	CR 534 - US 30	Franklin Ave	0.22	50	66	Minor Arterial	yes
	US 30 - NJ 73	Franklin Ave	1.46	33	66	Minor Arterial	yes
			1.68				
693	NJ 73 - CR 561	Lafayette Ave	1.04	50	50	Minor Arterial	yes
694	CR 534 - terminus	E. Atlantic Ave	1.38	50	50	Local	no
695	US 30 - CR 534	White Horse Ave	0.78	50	50	Minor Arterial	yes
696	CR 683 - CR 669	Park Ave	0.97	50	50	Major Collector	yes
697	CR 669 - US 30	Broadway	0.38	60	60	Local	no
698	CR 673 - CR 696	Lake Blvd	0.89	50	50	Major Collector	yes
699	US 30 - CR 702	United States Ave	0.61	50	66	Major Collector	yes
	CR 702 - CR 561B	United States Ave	1.49	50	66	Local	no
			2.10				
700	US 30 - Carlton Ave	Linden Ave	0.60	80	80	Major Collector	yes
	Linden Ave - Norcross Rd	Carlton Ave	0.19	variable	variable	Major Collector	yes
	Carlton Ave - CR 701	Norcross Rd	0.61	80	80	Major Collector	yes
			1.40				
701	CR 684 - CR 686	Hilliard Rd	0.75	50	50	Major Collector	yes
702	CR 673 - CR 686	Egg Harbor Rd	1.80	66	74	Minor Arterial	yes
	CR 686 - CR 699	Egg Harbor Rd	0.71	33	74	Minor Arterial	yes
	CR 699 - CR 692	Egg Harbor Rd	1.12	66	74	Minor Arterial	yes
	CR 692 - CR 534	Egg Harbor Rd	0.67	50	50	Major Collector	yes
			4.30				
703	CR 534 - CR 688	Clementon-Erial Rd	1.95	49.5	60	Minor Arterial	yes
	CR 688 - CR 706	Clementon-Erial Rd	0.65	49.5	74	Minor Arterial	yes
			2.60				
704	CR 706 - CR 536 Spur	Erial-Williamstown Rd	4.93	49.5	74	Major Collector / Minor Arterial	yes
705	NJ 42 - CR 706	Sicklerville Rd	7.56	49.5	74	Minor Arterial	yes
706	Co line - CR 703	Almonesson Rd	5.26	49.5	74	Minor Arterial	yes
	CR 703 - CR 687	Blenheim-Erial New Brooklyn Rd	0.48	49.5	74	Major Collector	yes
	CR 687 - CR 689	Blenheim-Erial New Brooklyn Rd	1.35	49.5	74	Major Collector	yes
	CR 689 - CR 705	Blenheim-Erial New Brooklyn Rd	4.24	49.5	74	Major Collector	yes
			11.33				

Continued on next page

Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
707	Co line - Co line	Woodbury Ave	0.85	49.5	49.5	Minor Arterial	yes
708	CR 561 - NJ 73	Walker Ave	0.67	66	74	Major Collector	yes
708B	CR 561 - CR 708	Zuker Ave	0.17	49.5	49.5	Major Collector	yes
709	CR 712 - CR 716	E. Atlantic Ave	0.63	50	50	Minor Arterial	yes
710	CR 536 Spur - CR 561	Atco Ave	0.55	33	74	Minor Arterial	yes
	CR 561 - CR 713	Atco Ave	1.72	33	74	Minor Arterial	yes
	CR 713 - CR 715	Atco Ave	0.39	33	74	Minor Arterial	yes
	CR 715 - CR 534	Atco Ave	0.70	80	80	Minor Arterial	yes
			3.36				
711	CR 720 - NJ 73	Florence Ave	1.76	49.5	49.5	Major Collector	yes
712	NJ 73 - CR 713	Cooper Folly Rd	2.07	49.5	49.5	Minor Arterial	yes
713	CR 714 - CR 715	Raritan Ave	2.24	60	60	Minor Arterial / Local	yes / no
	CR 715 - Co line	E. Atlantic Ave	1.56	50	74	Minor Arterial	yes
			3.80				
714	CR 534 - CR 713	Tremont Ave	0.95	variable	variable	Local	no
715	CR 713 - CR 534	Third St	1.10	60	60	Major Collector	yes
716	US 30 - CR 536	Old White Horse Pk	3.19	49.5	74	Minor Arterial	yes
	CR 536 - CR 709	Old White Horse Pk	1.76	49.5	74	Major Collector	yes
			4.95				
717	US 30 - CR 716	Hendricks Ave	0.44	50	50	Local	no
718	CR 536 - US 30	Fourth Ave	1.67	60	60	Major Collector	yes
719	US 30 - Washington Ave	Hayes Mill Rd	1.43	50	50	Major Collector	yes
	Hayes Mill Rd - CR 718	Washington Ave	0.27	80	80	Major Collector	yes
	CR 718 - US 30	Washington Ave	0.74	80	80	Major Collector	yes
			2.44				
720	CR 561 - CR 691	New Brooklyn Rd	1.43	49.5	60	Minor Arterial / Major Collector	yes
	CR 691 - CR 536 Spur	New Brooklyn Rd	0.74	49.5	60	Major Collector	yes
	CR 536 Spur - CR 536	New Brooklyn Rd	3.83	49.5	60	Major Collector	yes
	CR 536 - NJ 73	New Brooklyn-Blue Anchor Rd	2.43	49.5	60	Major Collector	yes
			8.43				
721	NJ 73 - NJ 143	Central Ave	2.52	60	60	Major Collector	yes
722	NJ 73 - US 30	Waterford-Blue Anchor Rd	2.88	49.5	74	Major Collector	yes
723	US 30 - CR 726	Fleming Pk	2.16	49.5	74	Major Collector	yes
	CR 726 - Co line	Williamstown-Winslow Rd	2.72	variable	74	Major Collector	yes
			4.88				
724	US 30 - Co line	Third St	0.98	49.5	49.5	Minor Arterial	yes
725	CR 561 Spur - CR 726	Albertson Rd	1.14	33 - 66	33 - 66	Local	no
	CR 726 - CR 561	Hall St	1.02	50	50	Local	no
			2.16				
726	CR 725 - RR line	Hay St	0.80	49.5	49.5	Major Collector / Local	yes / no

Continued on next page



Table A-1: Inventory of Camden County's Highways (continued)

County Route Number	Segment	Name	Segment Length (Miles)	Existing ROW (Feet)	Proposed ROW (Feet)	Federal Highway Functional Classification (2014)	Roadway Improvements Eligible for Federal-Aid? (Also refer to Table A-2)
727	CR 534 - CR 739	E. Atlantic Ave	7.92	50	66	Major Collector	yes
728	CR 683 - Wallace Ave	W. Atlantic Ave	0.61	variable	variable	Major Collector	yes
729	Woodlynne Ave - Newton Crk Newton Crk - CR 739	Richey Ave	0.78	70	70	Local	no
		Richey Ave	0.84	50	50	Major Collector / Local	yes / no
			1.62				
730	CR 648 - CR 636	Lakeshore Ave	0.82	45	45	Local	no
732	US 30 - CR 648	Park Dr	0.60	60	60	Major Collector	yes
733	CR 534 - US 30	Higgins Ave	0.50	50	50	Major Collector	yes
734	US 30 - CR 716	Dayton Ave	0.42	49.5	49.5	Local	no
736	CR 573 - CR 544	Schubert Ave	0.56	variable	variable	Major Collector	yes
737	CR 537 - CR 537 Spur	Delaware Ave	0.17	70	70	Major Collector	yes
739	CR 729 - US 30	Capital St	0.09	50	50	Local	no
740	CR 608 - Magnolia Ave	Park Blvd	0.63	100	100	Major Collector	yes
741	US 30 - White Horse Ave	California Ave	0.20	50	50	Minor Arterial	yes
742	CR 660 - Hampshire Ave	Oak Ave	0.09	60	60	Local	no
743	CR 650 - CR 744	Oakland Rd	0.34	60	60	Major Collector	yes
744	Nicholson Rd - CR 551 Spur	W. Atlantic Ave	0.90	variable	variable	Major Collector	yes
745	CR 684 - CR 670	Spruce Ave	0.06	60	60	Local	no
747	CR 707 - NJ 168	Lakeland Ave	0.71	49.5	60	Minor Arterial	yes
748	CR 707 - Co line	Salina Rd	1.06	49.5	49.5	Local	no
749	Co line - Co line	Barnsboro Rd	0.88	49.5	49.5	Local	no
750	CR 707 - terminus	Collier Dr	0.46	49.5	49.5	Local	no
751	US 30 - CR 689	Berlin Park Dr	0.42	60	60	Local	no
753	NJ 47 - CR 659	Creek Rd	2.38	50	50	Minor Arterial	yes
755	CR 551 - Johnson Blvd	Essex St	0.28	60	60	Major Collector	yes
756	CR 537 - CR 537 Spur	Sixth St	0.09	60	60	Local	no
757	CR 573 - NJ 154	Evans Mill Rd	0.57	40	40	Major Collector / Local	yes / no
758	Locust Ave - CR 644	Coles Mill Rd	0.30	40	40	Local	no
759	CR 683 - CR 673 CR 673 - CR 688	Little Gloucester Rd	2.71	49.5	74	Minor Arterial	yes
		Little Gloucester Rd	1.13	49.5	60	Minor Arterial	yes
			3.84				
760	CR 543 - CR 610	Sherman Ave	0.74	50	50	Local	no
761	CR 649 - CR 729	Manheim Ave	0.11	50	50	Local	no
762	CR 673 - Zimmerman Dr	Premium Outlets Dr	0.33	62	62	Local	no
763	Commencement Dr - Cooper Blvd	Robert Kelly Blvd	0.28	50	50	Local	no
764	CR 673 - Love Dr	Commencement Dr	0.16	60	60	Local	no
765	CR 673 - NJ 42 Ramps	Love Dr	0.35	variable	60	Local	no
766	NJ 42 Ramps - NJ 168	Zimmerman Rd	0.37	50	50	Local	no

Sources: Camden County, and New Jersey Department of Transportation

DVRPC, 2015

# Appendix B:

## CAMDEN COUNTY BRIDGE INVENTORY

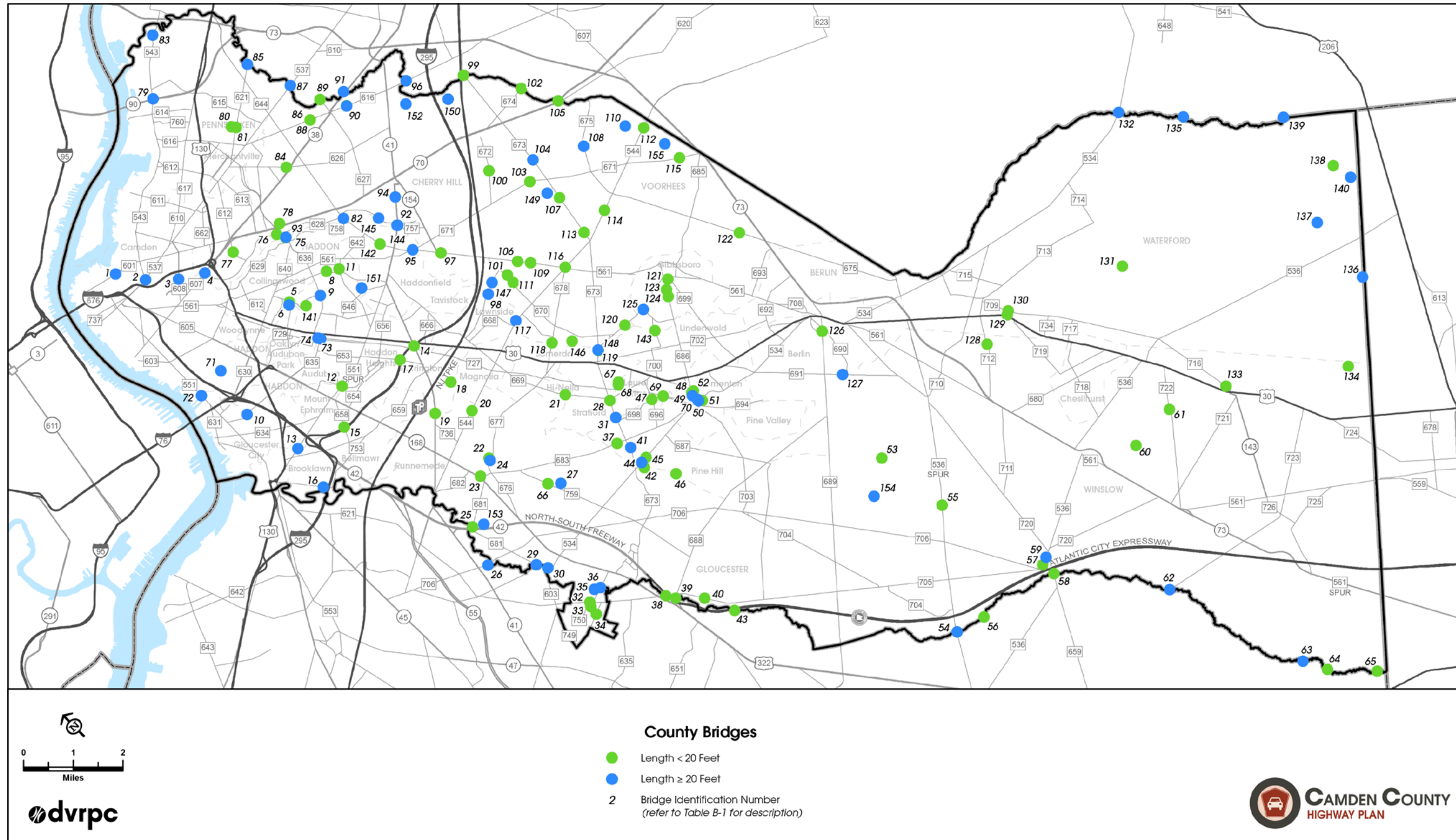
Camden County owns and maintains 155 bridges (**Figure B-1**, page B-2). Physical attributes of the bridges were obtained from the County, and are contained in **Table B-1** (pages B-3 to B-6). Bridges that are 20-feet long and longer are eligible for federal funding<sup>18</sup> for rehabilitation and replacement, and per federal requirements must be regularly inspected for structural and functional integrity. Bridges less than 20 feet should also be subjected to regular certified bridge inspections, and integrated into the county's asset management program.

The available data was added to the project's transportation asset management GIS database.

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<sup>18</sup> Also refer to **Table A-2** (page A-1) for more information on federal highway and bridge funding programs and eligibility.

Figure B-1: Location of Camden County's Bridges



Source: Camden County

DVRPC, 2015



Table B-1: Inventory of Camden County's Bridges

ID # (see Fig. B-1)	County Bridge No.	Structure Name	Location	Water Body	Municipality	Type	Material	Length (Feet)	Width (Feet)	Capacity (Tons)	Sufficiency Rating	Vertical Clearance (Feet)
1	2A-1	State St over Cooper R	State St	Cooper R	Camden City	bridge	steel/wood	155	25	over 20	97.4	13.67
2	3B-8	Federal St over Cooper Crk	Federal St	Cooper Crk	Camden City	bridge	steel/wood	122.5	>26	over 20	96.5	10.75
3	3B-7	Baird Ave over Cooper Crk	Baird Ave	Cooper Crk	Camden City	bridge	concrete	105.5	>26	over 20	83.9	13.33
4	3B-6	Kaighns Ave over Cooper Crk	Kaighns Ave	Cooper Crk	Pennsauken	bridge	concrete	112	>26	over 20	83.7	12
5	4B-11	Merrick Ave over stream	Merrick Ave	stream	Collingswood	arch	concrete	10	>26	over 20		6
6	4B-9	Bettlewood Ave over Newton Lake	Bettlewood Ave	Newton Lake	Collingswood	bridge	concrete	21.5	25	over 20	84.7	7.5
7	4A-1	Essex St over Newton Crk	Essex St	Newton Crk	Glou Cty/Camden	arch	concrete	160.33	>26	over 20		15.5
8	4C-7	Park Ave Blvd over stream	Park Ave Blvd	Newton Crk	Haddon Twp	arch	concrete	12	>26	over 20		8.5
9	4C-5	Cuthbert Rd over Newton Crk	Cuthbert Rd	Newton Crk	Haddon Twp	bridge	concrete	24	>26	over 20	95.5	1.75
10	4A-2	Nicholson Rd over S Br Newton Crk	Nicholson Rd	S Br Newton Crk	Glou/Hadd Twp	arch	concrete	45	>26	over 20	83.8	15.5
11	4C-12	Crystal Lake Ave over stream	Crystal Lake Ave	stream	Haddon Twp	arch	concrete	10	>26	over 20		4.5
12	5B-7	Kings Hwy over S Br Newton Crk	Kings Hwy	S Br Newton Crk	Had Ht/Aud/Mt Eph	culvert	concrete	6	>26	over 20		6
13	5A-4	Kings Hwy over Little Timber Crk	Kings Hwy	Little Timber Crk	Mt Ephraim	bridge	concrete	30	>26	over 20	81.1	8
14	5C-3	Clements Brdg Rd over stream	Clements Brdg Rd	stream	Barrington	arch	brick	8	>26	over 20		5
15	5B-11	Bell Rd over Ltl Timber Crk	Bell Rd	Ltl Timber Crk	Mt. Ephraim	arch	concrete	12.25	>26	over 20		6.75
16	5A-6	Creek Rd over stream	Creek Rd	stream	Bellmawr	culvert	stone	36	>26	over 20		3
17	5C-10	9th Ave/3rd Ave over Ltl Timber Crk	9th Ave/3rd Ave	Ltl Timber Crk	Had Ht/Barr	culvert	concrete	5	>26	over 20		2.67
18	6C-6	Williams Ave over stream	Williams Ave	stream	Barrington	arch	concrete	6	22	over 20		5
19	6C-3	Clements Brdg Rd over Beaver Brk	Clements Brdg Rd	Beaver Brk	Barrington	arch	concrete	8	>26	over 20		7
20	6C-11	Evesham Rd over Otter Brk	Evesham Rd	Otter Brk	Runn/Glou Twp	culvert	concrete	8	>26	over 20		7.5
21	7D-27	Warwick Rd over Signey Run	Warwick Rd	Signey Run	Hi Nella	arch	concrete	8	>26	over 20		9
22	6C-16	Floodgate over Otter Br	Floodgate	Otter Br	Gloucester Twp	bridge	concrete	13	17.83	over 20		4.5
23	7C-13	Old Black Horse Pk over N Br Timber Crk	Old Black Horse Pk	N Br Timber Crk	Gloucester Twp	arch	concrete	15	>26	over 20		13.0
24	6C-21	Floodgate over N Br Timber Crk	Floodgate	N Br Timber Crk	Gloucester Twp	bridge	concrete	20	>26	over 20	84.3	5.42
25	7B-1	Lower Landing Rd over stream	Lower Landing Rd	stream	Gloucester Twp	bridge	concrete	12.67	17.67	over 20		5.33
26	7B-3	Almonesson Rd over Timber Crk	Almonesson Rd	Timber Crk	Gloucester Twp.	bridge	wood	44	16	7 tons		6.33
27	7C-9	Hider Ln over Pine Run	Hider Ln	Pine Run	Gloucester Twp	culvert	concrete	53	18.5	over 20		4.25
28	7D-8	Laurel Mill Rd over stream	Laurel Mill Rd	stream	Strat/Lrl Sprg	arch	concrete	6	>26	over 20		6.25
29	8B-1	Blckwd-Lwr Lndg Rd over Timber Crk	Blckwd-Lwr Lndg Rd	Timber Crk	Gloucester Twp	bridge	wood	27	16.5	7 tons	71.5	6.5
30	8B-2	Blkwd-Wdbry Rd over Lake at Co In	Blkwd-Wdbry Rd	Lake at Co In	Gloucester Twp	bridge	concrete	22	>26	over 20	72.2	8
31	7D-9	Laurel Mill Rd over Laurel Springs Lk	Laurel Mill Rd	Laurel Springs Lk	Laurel Springs	bridge	concrete	30	>26	over 20	95.9	17.67
32	8B-4	LkInd-Wdbry Rd over at Lake	LkInd-Wdbry Rd	at Lake	Gloucester Twp	bridge	concrete	10	>26	over 20		4.17
33	8B-5	LkInd-Cow Path over at Lake	LkInd-Cow Path	at Lake	Gloucester Twp	bridge	concrete	10	>26	over 20		6.5
34	8B-6	LkInd-Salina Rd over stream	LkInd-Salina Rd	stream	Gloucester Twp	arch	concrete	12.5	>26	6 tons		4.17
35	8C-23	Lakeland-Sewer Pt over Timber Crk	Lakeland-Sewer Pt	Timber Crk	Gloucester Twp	bridge	steel	20	15.9	over 20	61.4	n/a
36	8C-11	Lakeland Rd over Timber Crk	Lakeland Rd	Timber Crk	Gloucester Twp	bridge	concrete	30	>26	over 20	98.3	12.25
37	7D-16	Chew Lndng-Clmntn Rd over stream	Chew Lndng-Clmntn Rd	stream	Lindenwold	bridge	concrete	10	>26	over 20		9.0
38	9C-1	Sicklerville Rd over Little Lebonon	Sicklerville Rd	Little Lebonon	Gloucester Twp	arch	concrete	18	>26	over 20		4.5
39	9C-4	Tnrvll-Hcktn Rd over Little Lebonon	Tnrvll-Hcktn Rd	Little Lebonon	Gloucester Twp	bridge	concrete	10.5	21	over 20		12.5

Continued on next page



Table B-1: Inventory of Camden County's Bridges (continued)

ID # (see Fig. B-1)	County Bridge No.	Structure Name	Location	Water Body	Municipality	Type	Material	Length (Feet)	Width (Feet)	Capacity (Tons)	Sufficiency Rating	Vertical Clearance (Feet)
40	9C-6	Sicklerville Rd over Rattle Snake Rn	Sicklerville Rd	Rattle Snake Rn	Gloucester Twp	arch	concrete	8	>26	over 20		5.0
41	7D-13	Laurel Mill Rd over N Br Timber Crk	Laurel Mill Rd	N Br Timber Crk	Lindenwold	bridge	concrete	20	>26	over 20	96	11.75
42	8D-6	Little Mill Rd over Hidden Lake	Little Mill Rd	Hidden Lake	Glou Twp-Pine H	arch	concrete	11.25	14.58	15 tons		7.33
43	9D-7	Sicklerville Rd over Timber Crk	Sicklerville Rd	Timber Crk	Gloucester Twp	bridge	wood	16	14	over 20		14
44	8D-3	Blackwood-Clementon Rd over N Br Timber Crk	Blackwood-Clementon Rd	N Br Timber Crk	Lindenwold	bridge	concrete	20	>26	over 20	91.4	11.42
45	8D-2	Blackwood-Clementon Rd over stream	Blackwood-Clementon Rd	stream	Pine Hill	arch	concrete	10	>26	over 20		7.5
46	8D-8	Little Mill Rd over Br Timber Crk	Little Mill Rd.	Br Timber Crk	Gloucester Twp	bridge	wood	9.5	13.5	12 tons		5.0
47	7D-21	Garden Lake over Head of Laurel Lk	Garden Lake	Head of Laurel Lk	Lindenwold	arch	concrete	12	>26	over 20	66.1	6.17
48	7E-12	Cimntn-Gbbsbr Rd over Trout Run	Cimntn-Gbbsbr Rd	Trout Run	Clementon	bridge	concrete	11	>26	over 20		6.0
49	8E-5	Cimntn-Gbbsbr Rd over N Br Timber Crk	Cimntn-Gbbsbr Rd	N Br Timber Crk	Clementon	bridge	concrete	30	>26	over 20	97.6	3.75
50	8E-6	Cimntn-Brin Rd over N Br Timber Crk	Cimntn-Brin Rd	N Br Timber Crk	Clementon	bridge	concrete	22	>26	over 20	67.1	4.25
51	8E-10	Clementon Lake dam over Clementon Lake	Clementon Lake dam	Clementon Lake	Clementon	bridge	concrete	15	>26	over 20	87.1	6.0
52	7E-11	Overbrook Rd over Trout Run	Overbrook Rd	Trout Run	Clementon	bridge	concrete	13	>26	over 20		9.5
53	9F-1	Penbryn-Dicktown Rd over Egg Harbor R	Penbryn-Dicktown Rd	Egg Harbor R	Winslow	bridge	log	12	12	2 tons		2.0
54	11E-23	Williamstown/N Freedom Rd over Four Mile Br	Williamstown/N Freedom Rd	Four Mile Br	Winslow	culvert	concrete	23	22.75	over 20		2.25
55	10F-6	Williamstown/N Freedom Rd over Egg Harbor R	Williamstown/N Freedom Rd	Egg Harbor R	Winslow	bridge	concrete	18	>26	over 20		7.5
56	11E-22	Andrews Rd over Four Mile Br	Andrews Rd	Four Mile Br	Winslow	bridge	wood	12	14	3 tons		3.25
57	11F-12	Sicklerville Rd over stream	Sicklerville Rd	stream	Winslow	bridge	concrete	8	>26	over 20		4.0
58	12F-2	Malaga Rd over Four Mile Br	Malaga Rd	Four Mile Br	Winslow	bridge	concrete	18	>26	over 20		4.17
59	11F-13	Sicklerville Rd over Egg Harbor R	Sicklerville Rd	Egg Harbor R	Winslow	bridge	wood	30	>26	15 tons	83	5.0
60	11H-16	Beebetown Rd over Bates Mill Strm	Beebetown Rd	Bates Mill Strm	Winslow	bridge	concrete	10	22	over 20		3.58
61	11H-10	Bates Mill over stream	Bates Mill	stream	Winslow	bridge	concrete	18	>26	over 20		6.08
62	13G-1	Wlmstwn-Wnslw Rd over Gr Egg Harbor R	Wlmstwn-Wnslw Rd	Gr Egg Harbor R	Winslow	bridge	wood (high tension)	30.33	19	6 tons		6.42
63	14G-1	Inskip Bridge over Egg Harbor R	Inskip Bridge	Egg Harbor R	Winslow	bridge	wood (out)	28	14	5 tons		3.75
64	14H-1	Wnslw-Pn Hillw Rd over Egg Harbor R	Wnslw-Pn Hillw Rd	Egg Harbor R	Winslow	bridge	wood	15	12	over 20		4.33
65	15H-2	Cain Mill Rd over Egg Harbor R	Cain Mill Rd	Egg Harbor R	Winslow	bridge out						
66	7C-10	Chws/Ltl Glou Rd over Pine Run	Chws/Ltl Glou Rd	Pine Run	Gloucester Twp	culvert	concrete	7	>26	over 20		7.5
67	7D-30	Trenton Ave over Hunt Run	Trenton Ave	Hunt Run	Laurel Springs	culvert	concrete	5	>26	over 20		3.5
68	7D-31	Grand Ave over Hunt Run	Grand Ave	Hunt Run	Laurel Springs	culvert	concrete	5	>26	over 20		3.5
69	7E-38	E Atlantic Ave over N Br Timber Crk	E Atlantic Ave	N Br Timber Crk	Clem/Lind	bridge	concrete	18	>26	over 20		11.0
70	8E-36	Garfield Ave over N Br Timber Crk	Garfield Ave	N Br Timber Crk	Clementon	bridge	concrete	25	>26	over 20	83.9	6.0
71	4A-6	Morgan Blvd over N Br Newton Crk	Morgan Blvd	N Br Newton Crk	Camden City	arch	concrete	70	>26	over 20	75	n/a
72	4A-7	Broadway over Newton Crk	Broadway	Newton Crk	Camden City	bridge	concrete/wood	104	>26	over 20	98.3	n/a
73	4B-14	E Atlantic Ave over Nicholson Rd	E Atlantic Ave	Nicholson Rd	Audubon	bridge	steel/concrete	45.8	21.7	over 20	62.4	n/a
74	4B-15	E Atlantic Ave over Cuthbert Blvd ext	E Atlantic Ave	Cuthbert Blvd ext	Oaklyn	bridge	steel/concrete	90.5	20.83	over 20	50.2	n/a
75	3C-24	Cuthbert Rd over Cooper R	Cuthbert Rd	Cooper R	Haddon Twp	bridge	concrete	70	>26	over 20	69	14.67
76	3C-25	N Cooper R Dr over Br Cooper R	N Cooper R Dr	Br Cooper R	Cherry Hill	bridge	concrete	14	>26	over 20		6.8
77	3B-3	Browning Rd over Chandler Run	Browning Rd	Chandler Run	Pennsauken	arch	concrete	8	>26	over 20		5.25
78	3C-13	Northwood Ave over Cooper R	Northwood Ave	Cooper R	Cherry Hill	bridge	wood	11.5	19	15 tons		n/a

Continued on next page



Table B-1: Inventory of Camden County's Bridges (continued)

ID # (see Fig. B-1)	County Bridge No.	Structure Name	Location	Water Body	Municipality	Type	Material	Length (Feet)	Width (Feet)	Capacity (Tons)	Sufficiency Rating	Vertical Clearance (Feet)
79	1C-7	River Rd (CR543) over Pochack Crk	River Rd	Pochack Crk	Pennsauken	culvert	concrete	26	26	over 20		n/a
80	2C-6	Walnut Ave over Pochack Crk	Walnut Ave	Pochack Crk	Pennsauken	culvert	concrete	7	>26	over 20		n/a
81	2C-7	Park Ave over Pochack Crk	Park Ave	Pochack Crk	Pennsauken	bridge	concrete	5	>26	over 20		4.75
82	4D-1	Grove St over Cooper Crk	Grove St	Cooper Crk	Haddonfield	bridge	concrete	55	>26	over 20	64.9	9.42
83	1D-5	River Rd over Pennsauken Crk	River Rd	Pennsauken Crk	Pennsauken	bridge	steel/wood	150	23	15 tons		14.08
84	3C-12	Chapel Ave over Cooper R	Chapel Ave	Cooper R	Cherry Hill	bridge	concrete	6	>26	over 20		5
85	2D-8	Park Ave over Pennsauken Crk	Park Ave	Pennsauken Crk	Pennsauken	bridge	wood	36	18.5	15 tons		4.83
86	3D-11	Church Rd over stream	Church Rd	stream	Cherry Hill	arch	brick	8	>26	over 20		7.5
87	2D-9	Moorestown Pk over Pennsauken Crk	Moorestown Pk	Pennsauken Crk	Cherry Hill	arch	concrete	34	>26	over 20	80.3	8.5
88	3D-11	Church Rd (CR 616) over Pennsauken Crk	Church Rd	Pennsauken Crk	Cherry Hill	arch	concrete	22	22.17	over 20		7.5
89	2D-10	Coopertown Rd over Pennsauken Crk	Coopertown Rd	Pennsauken Crk	Cherry Hill	bridge	wood	15	25	12 tons	82.2	3.75
90	3D-13	Church Rd over stream	Church Rd	stream	Cherry Hill	arch	concrete	9	>26	over 20		9.0
91	3D-16	Mill Rd over Pennsauken Crk	Mill Rd	Pennsauken Crk	Cherry Hill	arch	concrete	28.5	17.33	over 20		9.0
92	4D-9	Kings Hwy over S Br Cooper Crk	Kings Hwy	S Br Cooper Crk	Haddonfield	arch	concrete	32	>26	over 20	86.8	15.42
93	3C-23	Cuthbert Rd Ext over Br Cooper Crk	Cuthbert Rd Ext	Br Cooper Crk	Cherry Hill	bridge	concrete	14	>26	over 20		3.42
94	4D-10	Kings Hwy over N Br Cooper Crk	Kings Hwy	N Br Cooper Crk	Cherry Hill	arch	concrete	45	>26	over 20	85.1	5.25
95	4D-6	Batesville Brdg over S Br Cooper Crk	Batesville Brdg	S Br Cooper Crk	Haddonfield	bridge	steel/concrete	46	>26	over 20	77.6	3.5
96	3E-7	Church Rd over Pennsauken Crk	Church Rd	Pennsauken Crk	Cherry Hill	bridge	concrete	25	>26	over 20	83.1	6.25
97	5D-1	Hddnflid-Brln Rd over Tindales Run	Hddnflid-Brln Rd	Tindales Run	Cherry Hill	bridge	concrete	11.25	>26	over 20		4.0
98	5D-13	Woodcrest over S Br Cooper Crk	Woodcrest	S Br Cooper Crk	Cherry Hill	bridge	wood	30	16	10 tons	96.3	7.17
99	3E-9	Springdale Rd over Pennsauken Crk	Springdale Rd	Pennsauken Crk	Cherry Hill	bridge	concrete	18	18	over 20	65.8	4.67
100	4E-10	Marlkress Rd over N Br Cooper R	Marlkress Rd	N Br Cooper R	Cherry Hill	bridge	wood	18	16.5	10 tons	71.9	7.75
101	5D-9	Burnt Mill Rd over stream	Burnt Mill Rd	stream	Cherry Hill	bridge	concrete	14	>26	over 20		8.0
102	4F-1	Evesboro Rd over Pennsauken Crk	Evesboro Rd	Pennsauken Crk	Cherry Hill	bridge	wood	12.5	17	15 tons		6.67
103	5E-11	Hddnflid-Krdsn Rd over stream	Hddnflid-Krdsn Rd	stream	Cherry Hill	arch	concrete	12.25	>26	over 20		7.75
104	5E-12	Springdale Rd over N Br Cooper R	Springdale Rd	N Br Cooper R	Cherry Hill	bridge	concrete	27.33	>26	over 20	83.9	9.0
105	4F-2	Marlton Pk over Pennsauken Crk	Marlton Pike	Pennsauken Crk	Cherry Hill	culvert	steel	3.5	>26	over 20		2.5
106	5E-4	Hddnflid-Brln Rd over Cooper Crk	Hddnflid-Brln Rd	Cooper Crk	Cherry Hill	arch	stone	6 + 60"x	>26	over 20		4
107	5E-16	Springdale Rd over stream	Springdale Rd	stream	Cherry Hill	bridge	concrete	10.5	20	over 20		3.67
108	5F-15	Cropwell Rd over N Br Cooper Crk	Cropwell Rd	N Br Cooper Crk	Cherry Hill	bridge	wood	29.5	16.5	15 tons	86.4	5.0
109	5E-3	Hddnflid-Brln Rd over Holly Swamp Br	Hddnflid-Brln Rd	Holly Swamp Br	Cherry Hill	bridge	concrete	13.67	>26	over 20		6.17
110	5F-5	Brick Rd over N Br Cooper Crk	Brick Rd	N Br Cooper Crk	Cherry Hill	bridge	concrete	46	48	8 tons		6.33
111	5D-11	Burnt Mill Rd over Cooper Crk	Burnt Mill Rd	Cooper Crk	Cherry Hill	arch	brick	7.5w/60"x	>26	over 20		5.5
112	5F-6	Matlack Mill over Cooper Crk	Matlack Mill	Cooper Crk	Cherry Hill	bridge	concrete	16.5	18.67	over 20	94.1	12.75
113	5E-17	Springdale Rd over Holly Swamp Br	Springdale Rd	Holly Swamp Br	Cherry Hill	arch	concrete	13	20	over 20		6.75
114	6E-30	Evesham Rd over Holly Swamp Br	Evesham Rd	Holly Swamp Br	Cherry Hill	bridge	concrete	8	>26	over 20		3.5
115	6F-4	Hddnflid-Krdsn Rd over stream	Hddnflid-Krdsn Rd	stream	Voorhees	bridge	concrete	8	>26	over 20		3.0
116	6E-27	Evesham Rd over Cooper Crk	Evesham Rd	Cooper Crk	Cherry Hill	arch	stone	5 + 54" x	>26	over 20		4
117	6D-5	Evesham Rd over S Br Cooper Crk	Evesham Rd	S Br Cooper Crk	Voorhees	bridge	concrete	23	>26	over 20	82.8	7.0

Continued on next page



Table B-1: Inventory of Camden County's Bridges (continued)

ID # (see Fig. B-1)	County Bridge No.	Structure Name	Location	Water Body	Municipality	Type	Material	Length (Feet)	Width (Feet)	Capacity (Tons)	Sufficiency Rating	Vertical Clearance (Feet)
118	6D-23	Somerdale Rd over Cooper Crk	Somerdale Rd	Cooper Crk	Somrdl/Voor	bridge	concrete	16	17.5	over 20	95.9	5.0
119	6D-56	White Horse Rd over Cooper Crk	White Horse Rd	Cooper Crk	Voor/Strat/Lind	arch	brick	16	21.75	over 20		10.25
120	6E-15	Krkwd-Gibbsbr Rd over stream	Krkwd-Gibbsbr Rd	stream	Gibbsboro	bridge	concrete	15	20	over 20		7.0
121	6E-20	Gbbsbr-Fstr Ave over at Mill	Gbbsbr-Fstr Ave	at Mill	Gibbsboro	arch	brick	7	>26	over 20		2.0
122	6F-10	Cooperson Rd over stream	Cooperson Rd	stream	Voorhees	pipe	concrete/iron	5	8	2 tons		2.0
123	7E-29	Cimntn-Gbbsbr Rd over stream	Cimntn-Gbbsbr Rd	stream	Gibbsboro	culvert	concrete	8	>26	over 20		3.25
124	7E-30	Cimntn-Gbbsbr Rd over at Lake	Cimntn-Gbbsbr Rd	at Lake	Gibbsboro	culvert	concrete	8	>26	over 20		3.25
125	7E-28	Hilliard Road over Millard Crk	Hilliard Rd	Millard Crk	Gibbsboro	culvert	concrete	20.33	26	15 tons	95.7	4.0
126	8F-8	Brln-Crss Kys Rd over Egg Harbor R	Brln-Crss Kys Rd	Egg Harbor R	Berlin	bridge	concrete	9	21	over 20		3.08
127	8F-12	New Freedom Rd over Gr Egg Harbor R	New Freedom Rd	Gr Egg Harbor R	Berlin/Winslow	bridge	concrete	20	>26	over 20	81.6	3.83
128	9G-13	Cooper Folly Rd over Hayes Mill Crk	Cooper Folly Rd	Hayes Mill Crk	Winslow	bridge	concrete	8	20	over 20		5.75
129	9H-16	White Horse Pk (old) over Hayes Mill Crk	White Horse Pk (old)	Hayes Mill Crk	Waterford	bridge	wood	11	21	12 tons		12.0
130	9H-2	E Atlantic Av. over Hayes Mill Crk	E Atlantic Ave	Hayes Mill Crk	Waterford	pipe	concrete/iron	10	>26	over 20		5
131	10I-4	Burnt Mill Rd over Wild Cat Br	Burnt Mill Rd	Wild Cat Br	Waterford	bridge	log	3	3	2 tons		n/a
132	9J-1	Jackson Rd over Atsion Run	Jackson Rd	Atsion Run	Waterford	bridge	wood	24.25	19	15 tons		4.17
133	11I-10	Old White Horse Pk over Albertson Br	Old White Horse Pk	Albertson Br	Waterford	bridge	concrete	14.5	>26	over 20		2.5
134	12J-3	Iron Mill Brdg over Albertson Br	Iron Mill Brdg	Albertson Br	Waterford	bridge	wood	19	> 26	4 tons		6.17
135	9K-1	Jcksn-Atsn Trl over Atsion Run	Jcksn-Atsn Trl	Atsion Run	Waterford	bridge	wood	42.33	9	15 tons		4.0
136	12K-1	Chew Causeway over Atsion Br nr lk	Chew Causeway	Atsion Br nr lk	Waterford	bridge	wood	32.5	10.83	2 tons		2.0
137	10K-2	Burnt House Rd over Sleeper Br	Burnt House Rd	Sleeper Br	Waterford	bridge	wood	21.75	12.5	4 tons		3.42
138	10K-3	Burnt House Rd over Sulter Ditch	Burnt House Rd	Sulter Ditch	Waterford	bridge	concrete	10	10.67	over 20		3.08
139	10K-6	Ephraim Bridge over Atsion Run	Ephraim Bridge	Atsion Run	Waterford	bridge	wood	38.33	12.58	3 tons		3.58
140	11K-12	Parkdale over Sleeper Br	Parkdale	Sleeper Br	Waterford	bridge	wood	30.5	8.75	6 tons		2.0
141	4C-23a	Lee Ln over Newton Lake	Lee Ln	Newton Lake	Hadd Twp/Collin	bridge	concrete	14	12.67	over 20		8.5
142	4C-23b	Windsor Ave over Br Cooper Crk	Windsor Ave	Br Cooper Crk	Haddon Twp	culvert	concrete	4.5	>26	over 20		1.0
143	7E-37	Norcross Ave over Cooper Crk	Norcross Ave	Cooper Crk	Gibbsb/Lind	culvert	concrete	5	>26	over 20		5
144	4D-24	S Cooper R Dr over Cooper Crk	S Cooper R Dr	Cooper Crk	Haddonfield	bridge	wood	29.67	17.67	10 tons	19.0	4.58
145	4D-25	N Cooper R Dr over N Br Cooper Crk	N Cooper R Dr	N Br Cooper Crk	Cherry Hill	bridge	concrete	40.17	>26	over 20	96.3	8.0
146	6D-22	Rural Ave over Br Cooper Crk	Rural Ave	Br Cooper Crk	Voorhees	bridge	concrete	8	>26	over 20		3.0
147	5D-19	Woodcrest Rd over PATCO HS Ln	Woodcrest Rd	PATCO HS Ln	Cherry Hill	bridge	steel	60	>26	over 20	90.4	19.5
148	6D-57	White Horse Rd over PATCO HS Ln	White Horse Rd	PATCO HS Ln	Lindenwold	bridge	steel	55	>26	over 20	90.8	13.0
149	5E-23	Andrew Lane over Cooper River Branch	Andrew Lane	Cooper River	Cherry Hill	pipe	metal	28	28			
150	3E-24	Chapel Avenue over Pennsauken Crk S Branch	Chapel Ave	Pennsauken Crk	Cherry Hill	pipe	metal	22.5	16			
151	4C-50	Graisbury Ave over Newton Creek	Graisbury Ave	Netwon Crk	Haddon Twp	pipe	concrete	21	15			
152	3E-25	King George Rd over Pennsauken Creek	King George Rd	Pennsauken Crk	Cherry Hill	culvert	concrete	21	21			
153	7B-15	Lakeview Dr over stream	Lakeview Dr	stream	Gloucester Twp	bridge	concrete	22	22			
154	10E-20	Meeting House Rd over Br of Egg Harbor River	Meeting House Rd	Egg Harbor R	Winslow Twp	bridge	concrete	36	36			
155	5F-30	Willowbrook Way over N Branch Cooper River	Willowbrook Way	Cooper River	Voorhees Twp	pipe	steel	21	21			

Source: Camden County

DVRPC, 2015

# Appendix C:

## OTHER TRAFFIC AND TRANSPORTATION STUDIES, AND RECOMMENDATIONS FOR THE CAMDEN COUNTY MASTER PLAN

The screening methodology employed in the Highway Plan analyses is a broad-based technique for capturing, incorporating, and assessing county-wide data. Ultimately, the full set of Master Plan recommendations must also include transportation projects that have been identified in detailed traffic and transportation studies performed in the county. **Table C-1** (page C-2) contains a list of pertinent studies performed over the past decade that contain local-level recommendations.

Table C-1: Traffic and Transportation Studies in Camden County (2004 to 2015)

	Title	Author	Date Published	Content			Jurisdiction(s)
				Bike/Ped	Transit	Highway	
1	Safe Routes to Transit: Pennsauken Transit Center, Lindenwold Station, and Princeton Junction Station [DVRPC Publication No. 14025]	DVRPC	February 2015	x			Pennsauken Township; Lindenwold Borough, Somerdale Borough, Stratford Borough, Voorhees Township; and West Windsor Township (Burlington County)
2	Transportation Improvements for the Church Road (CR 616) Corridor [DVRPC Publication No. 14012]	DVRPC	August 2014	x		x	Cherry Hill Township; and Maple Shade Township and Mount Laurel Township (Burlington County)
3	Pennsauken Transit Center: Impacts and Opportunities [DVRPC Publication No. 13051]	DVRPC	October 2013		x		Pennsauken Township
4	Mt. Ephraim Avenue (CR 605) Pedestrian Road Safety Audit [DVRPC Publication No. 11035]	DVRPC	July 2013	x			City of Camden
5	City of Camden Access Study [DVRPC Publication No. 12008]	DVRPC	December 2012			x	City of Camden
6	Camden County Transit Expansion Framework Study [DVRPC Publication No. 12004]	DVRPC	January 2012		x		City of Camden, Gloucester City
7	Finding Space: Balancing Parking Needs and Urban Vitality in the City of Camden [DVRPC Publication No. 11030]	DVRPC	September 2011	x		x	City of Camden
8	Gloucester County Transportation Needs Study [DVRPC Publication No. 09059]	DVRPC	March 2011	x	x	x	Gloucester County
9	NJ 73 Corridor Study [DVRPC Publication No. 09070]	DVRPC	June 2010			x	Berlin Township, Berlin Borough, Cherry Hill Township, Voorhees Township
10	CR 534 Blackwood-Clementon Road, Road Safety Audit [DVRPC Publication No. 09022]	DVRPC	January 2010			x	Gloucester Township
11	Lindenwold Transit Hub Study [DVRPC Publication No. 09068]	DVRPC	November 2009	x	x	x	Lindenwold Borough, Somerdale Borough, Stratford Borough, Voorhees Township
12	The Central Camden County Bicycle Network Plan [DVRPC Publication No. 08073]	DVRPC	July 2009	x			Berlin Borough, Berlin Township, Clementon Borough, Gibbstown Borough, Hi-Nella Borough, Laurel Springs Borough, Lindenwold Borough, Somerdale Borough, Stratford Borough, Voorhees Township
13	Camden County Bus Pullout Study [DVRPC Publication No. 08040]	DVRPC	January 2009		x		Camden County
14	Regional Road Diet Analysis: A Feasibility Assessment [DVRPC Publication No. 08055]	DVRPC	January 2009			x	Pennsauken Township
15	Taming Traffic: Context-Sensitive Solutions in the DVRPC Region [DVRPC Publication No. 08044]	DVRPC	January 2009			x	Audubon Borough, Haddon Heights Borough, Barrington Borough, Lawnside Borough
16	Congestion & Crash Site Analysis Winslow Township [DVRPC Publication No. 08041]	DVRPC	January 2008			x	Winslow Township
17	Intersection Road Safety Audit - Williamstown Road & Erial Road, Winslow Township, Camden County [DVRPC Publication No. 08039]	DVRPC	January 2008			x	Winslow Township
18	NJ 42 Corridor Study: A Plan of Action [DVRPC Publication No. 08046]	DVRPC	January 2008			x	Gloucester Township, Winslow Township
19	Black Horse Pike: Making it Work [DVRPC Publication No. 06039]	DVRPC	October 2006			x	Audubon Borough, Audubon Park Borough, City of Camden, Collingswood Borough
20	US 30 Corridor Study [DVRPC Publication No. 06036]	DVRPC	September 2006			x	Chesilhurst Borough, Waterford Township, Winslow Township
21	NJ 70 Corridor Study [DVRPC Publication No. 06003]	DVRPC	November 2005			x	Cherry Hill Township, Haddonfield Borough, Pennsauken Township
22	NJ 168 Corridor Study [DVRPC Publication No. 04042]	DVRPC	September 2004			x	Camden and Gloucester Counties
23	Intersection Study Report: Somerdale Road (CR 677), Old Black Horse Pike (CR 676) & Chews Landing Road (CR 683)	Remington and Vemick	August 2004			x	Gloucester Township

DVRPC, 2015



# Appendix D:

## ENVIRONMENTAL SCREENING OF PHYSICAL IMPROVEMENTS

The Highway Plan's analyses and recommendations relied on an analytical methodology that accounts for sensitive spaces and resident populations. The procedure is a broad-based one, useful for high-level screening and strategy development. In four cases, the final recommendations will involve physical expansion of the county's highway network. These projects will likely have effects on the adjacent environment. Where they do, justification, mitigation, or alternatives may be necessary to obtain clearances from specific groups and agencies responsible for their care before constructing the project. On the following pages, two illustrations support each physical recommendation—natural features and human environments.

Where they exist, natural features include wetlands, protected open spaces (parks and farms), and floodplains. Caretakers for these sensitive areas include the New Jersey Department of Environmental Protection (NJDEP), the New Jersey State Pinelands Commission, Camden County, and the individual municipality.

Human environments include historic resources (districts and sites), cultural sites and services, municipal services, schools, hospitals, and places of worship. The screening also included DVRPC's Indicators of Potential Disadvantage (IPD) environmental justice (EJ) technical analysis, which identifies population groups such as female head of household with child, non-Hispanic minority, Hispanic, carless households, impoverished, elderly 75 years and older, physically disabled, and limited English proficiency. DVRPC is responsible for identifying disadvantaged population groups as part of meeting Title VI nondiscrimination and EJ mandates and ensuring the fair treatment and meaningful involvement of all people in the planning process. (Visit: [www.dvrpc.org/GetInvolved/TitleVI/](http://www.dvrpc.org/GetInvolved/TitleVI/) for more information.)

Historic sites in the county are regulated by the New Jersey Department of Environmental Protection, the New Jersey State Pinelands Commission, municipal jurisdictions, and often by special-interest citizen groups. Cultural sites within the proximity of the Atco Station are under the jurisdiction of the Pinelands Commission; otherwise, cultural and municipal services, schools, etc. are usually protected by the individual land owner.

The following figures were prepared for a closer perspective on the environmental resources that may be encountered with the county route expansion projects and the jurisdictions that may be involved in the review and approval process.

- **Atco Station Area** - Provide direct vehicular and pedestrian access to the Atlantic City Rail Line's Atco Station from County Route 534 (Jackson Road), in Waterford – to address nearby congestion by improving connections to NJTransit's regional rail and bus services (\$2 million for roadway and parking improvements).
  - **Figure D-1** (page D-2) – Natural Features near the Atco Station Access Improvement.
  - **Figure D-2** (page D-3) – Human Environments near the Atco Station Access Improvement.
- **Atlantic City Expressway Interchange/Avandale Park-and-Ride Lot Area** - Rebuild County Route 536 Spur (Williamstown-New Freedom Road) and its interchange with the Atlantic City Expressway, in Winslow – to rectify existing congestion problems and accommodate the proposed South Jersey Bus Rapid Transit project (\$10 million).
  - **Figure D-3** (page D-4) – Natural Features near the Atlantic City Expressway Interchange Improvement.
  - **Figure D-4** (page D-5) – Human Environments near the Atlantic City Expressway Interchange Improvement.
- **Lindenwold Station/Rowan University and Kennedy Hospital Revitalization Area** - Extend New Road and Medical Center Drive, two local roadways, in association with the "Eds and Meds" Revitalization Area—involving Rowan University, Kennedy Hospital, and the former Bradlees Shopping Center properties—with two vehicular lanes, in Stratford Borough – to supply an alternate route to County Route 673 (Laurel Road) through the US 30 (White Horse Pike) and County Route 702 (Berlin Road) intersection, and increase accessibility to PATCO's and NJTransit's Lindenwold stations (\$4 million for roadway improvements).
  - **Figure D-5** (page D-6) – Natural Features along the Medical Center Drive/New Road Extension Improvement.
  - **Figure D-6** (page D-7) – Human Environments along the Medical Center Drive/New Road Extension Improvement.
- **Cross Keys Road between US 30 and County Route 706** - Widen County Route 689 (Berlin-Cross Keys Road) to five vehicular lanes through Gloucester and Winslow townships – to reduce existing congestion and serve cross-county mobility for the long term (\$20 million).
  - **Figure D-7** (page D-8) – Natural Features along the Cross Keys Road Widening Project.
  - **Figure D-8** (page D-9) – Human Environments along the Cross Keys Road Widening Project.



Figure D-1: Natural Features Near the Atco Station Access Improvement

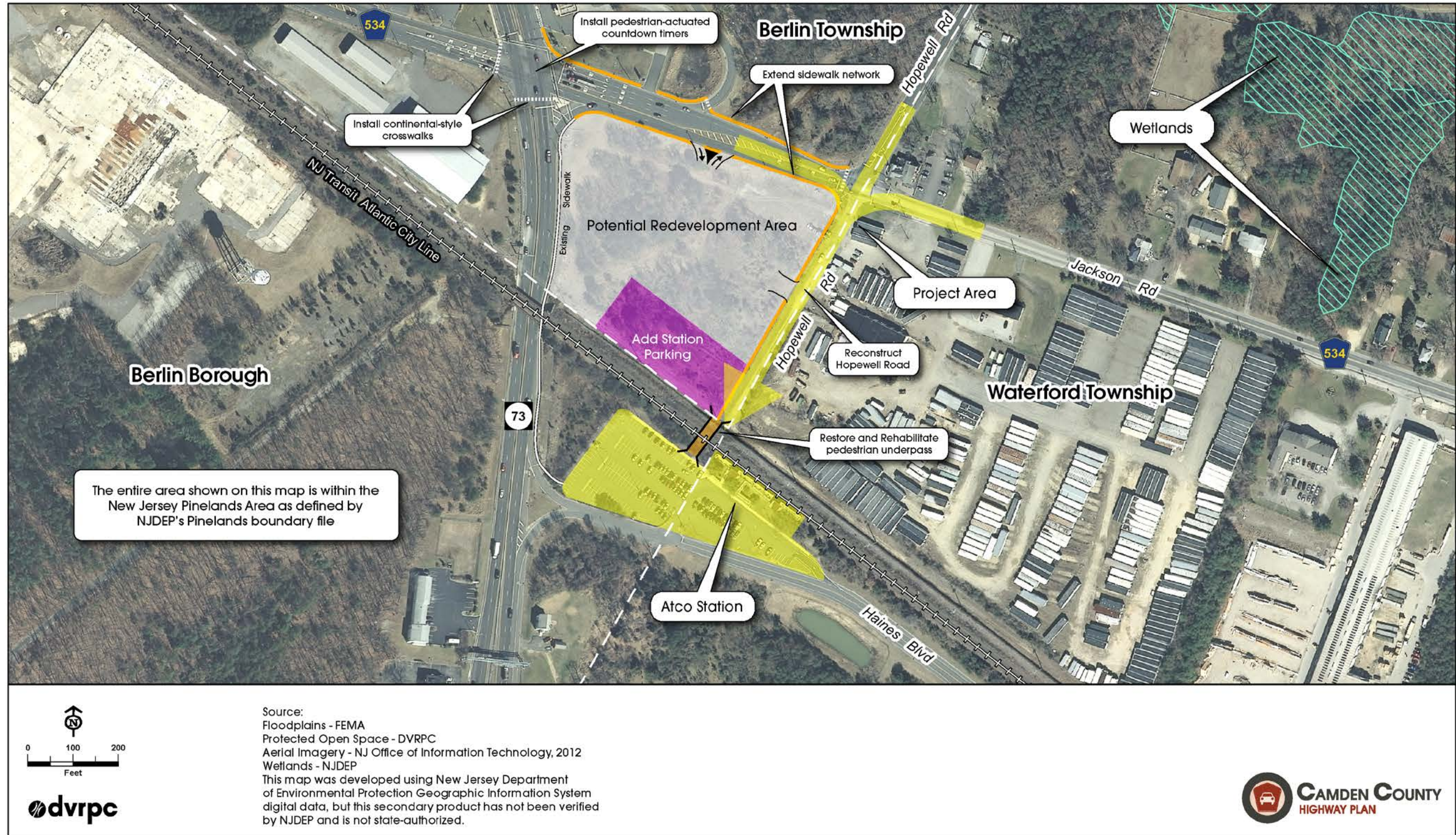




Figure D-2: Human Environments Near the Atco Station Access Improvement

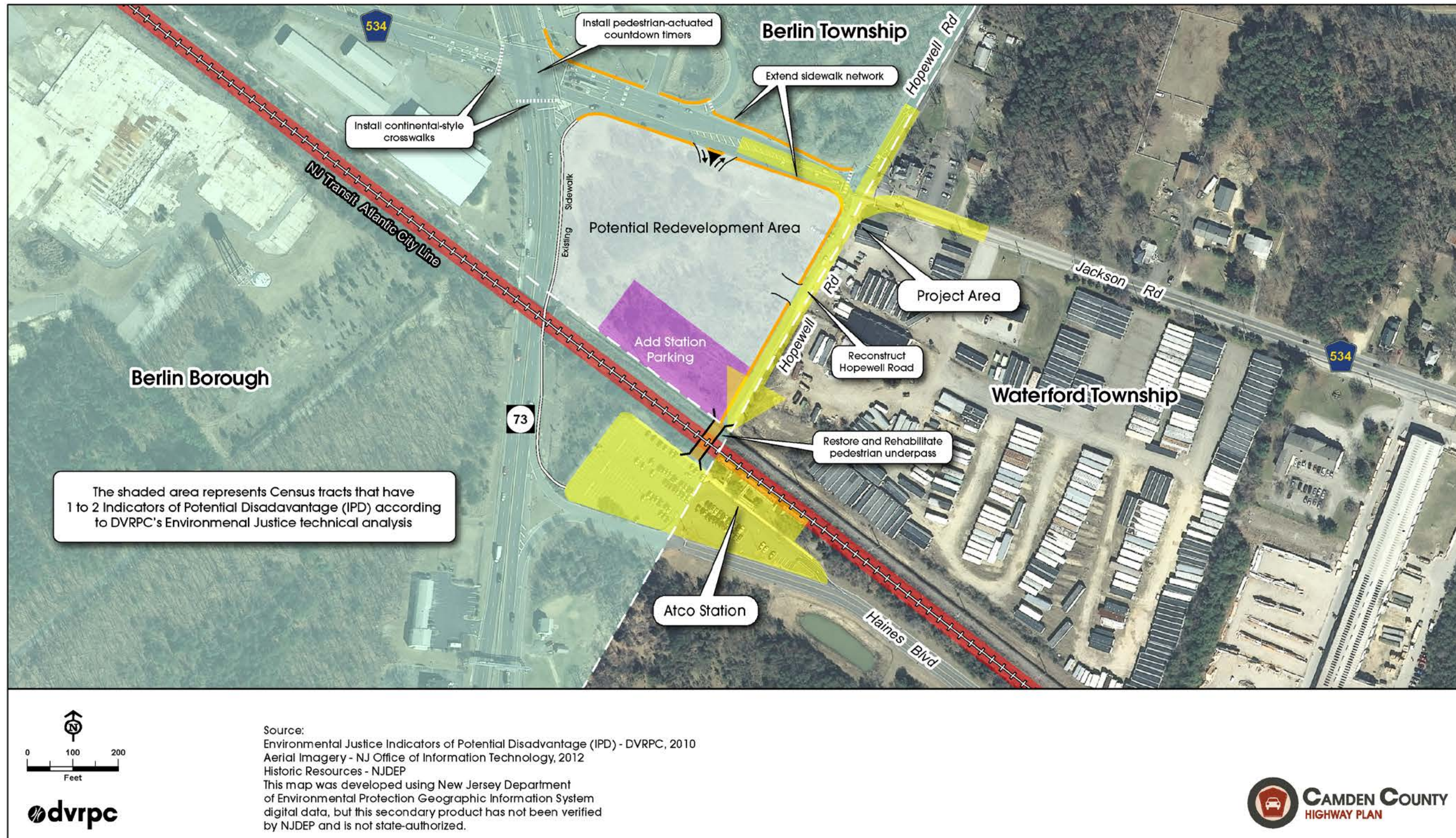




Figure D-3: Natural Features Near the Atlantic City Expressway Interchange Improvement

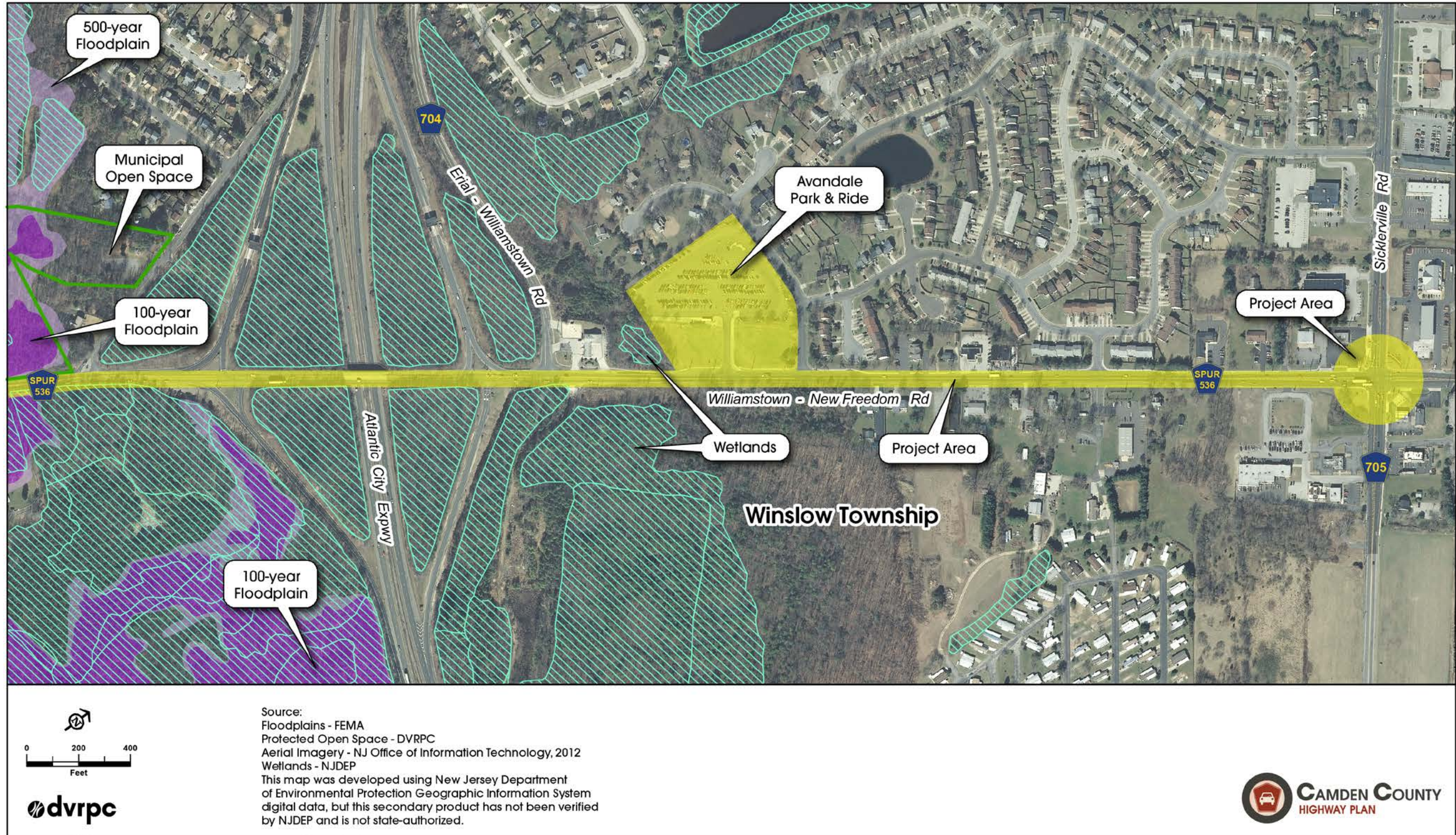




Figure D-4: Human Environments Near the Atlantic City Expressway Interchange Improvement

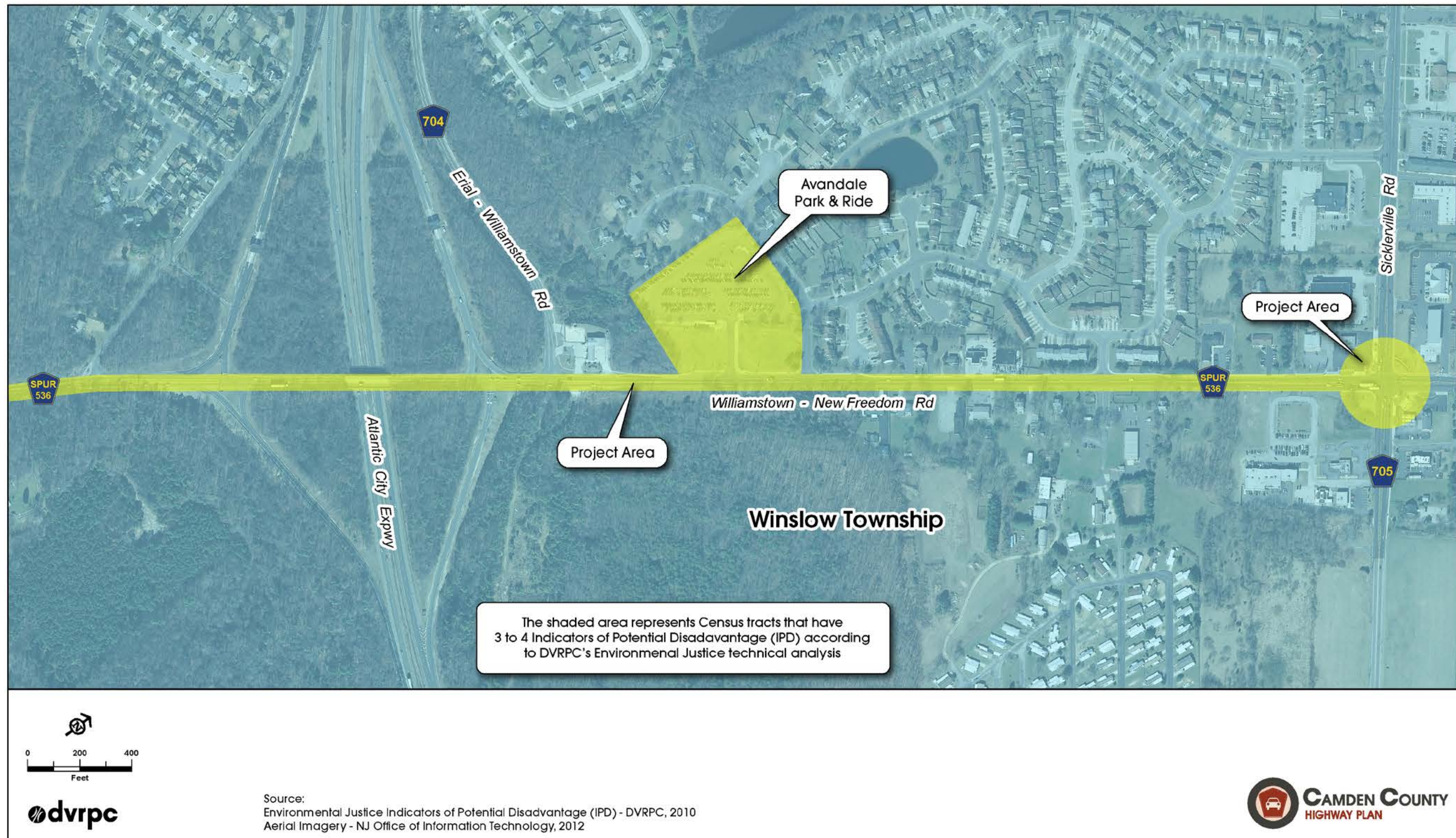




Figure D-5: Natural Features Along the Medical Center Drive/New Road Extension Improvement

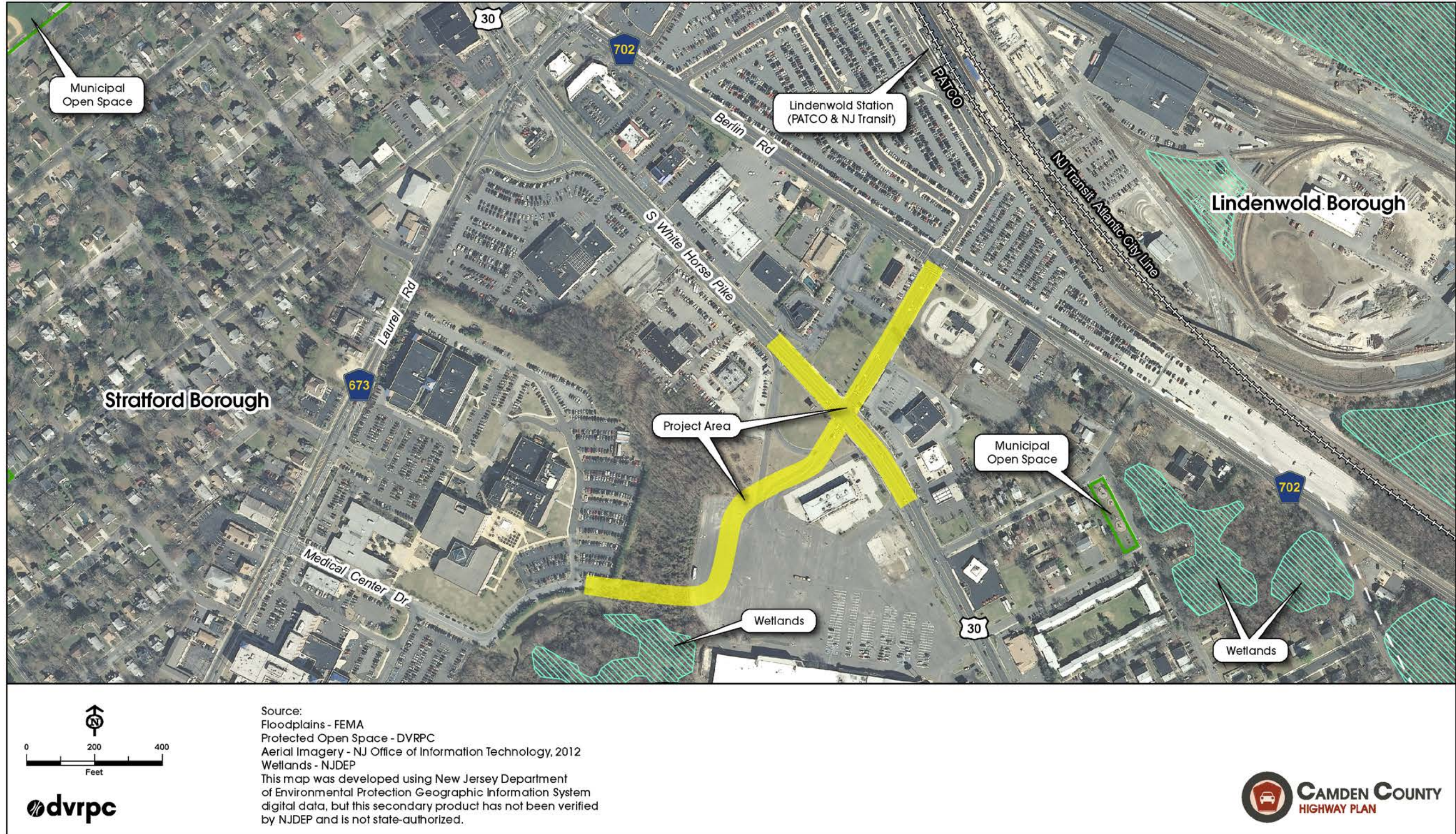




Figure D-6: Human Environments Along the Medical Center Drive/New Road Extension Improvement

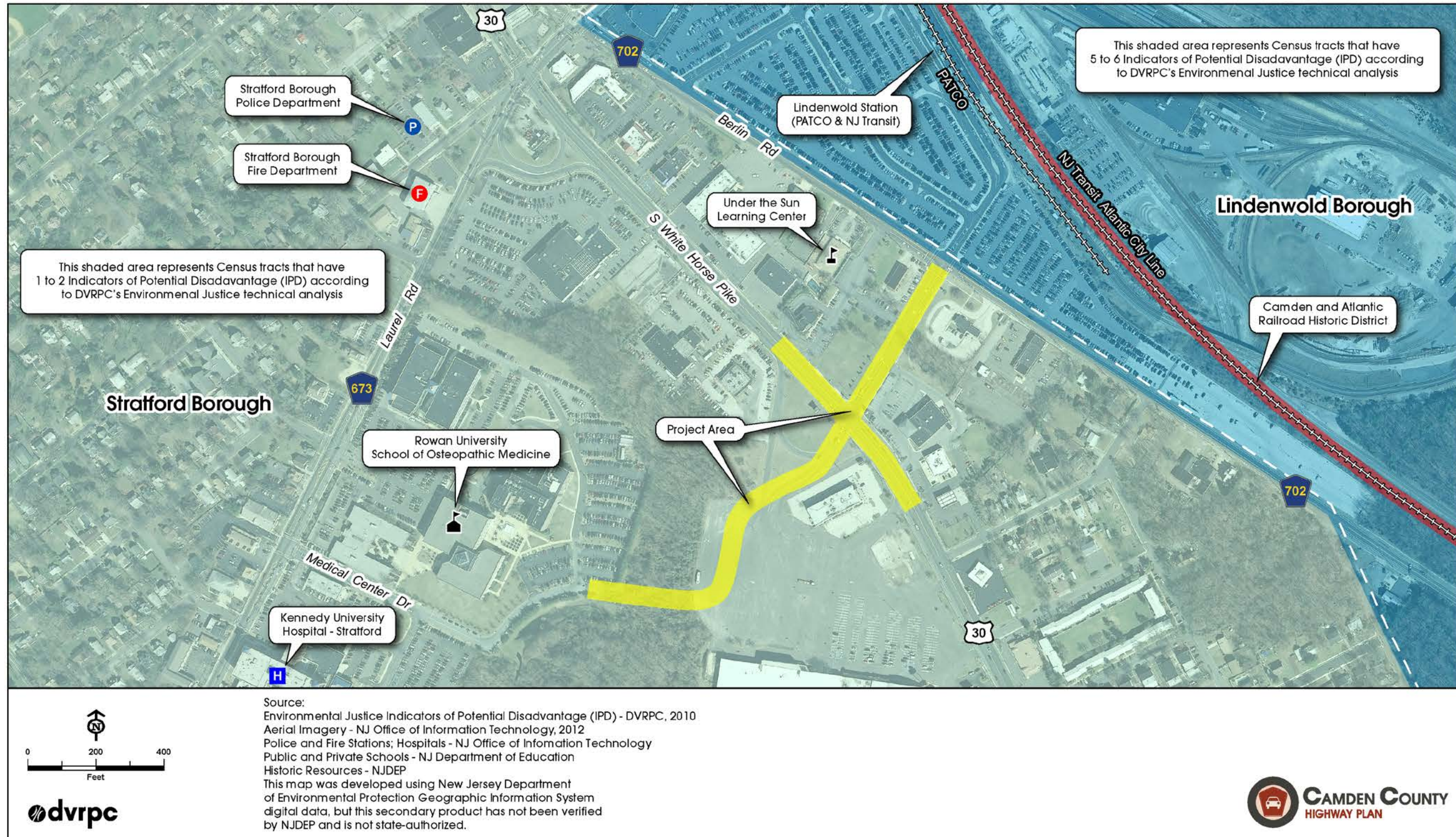




Figure D-7: Natural Features Along the Cross Keys Road Widening Project

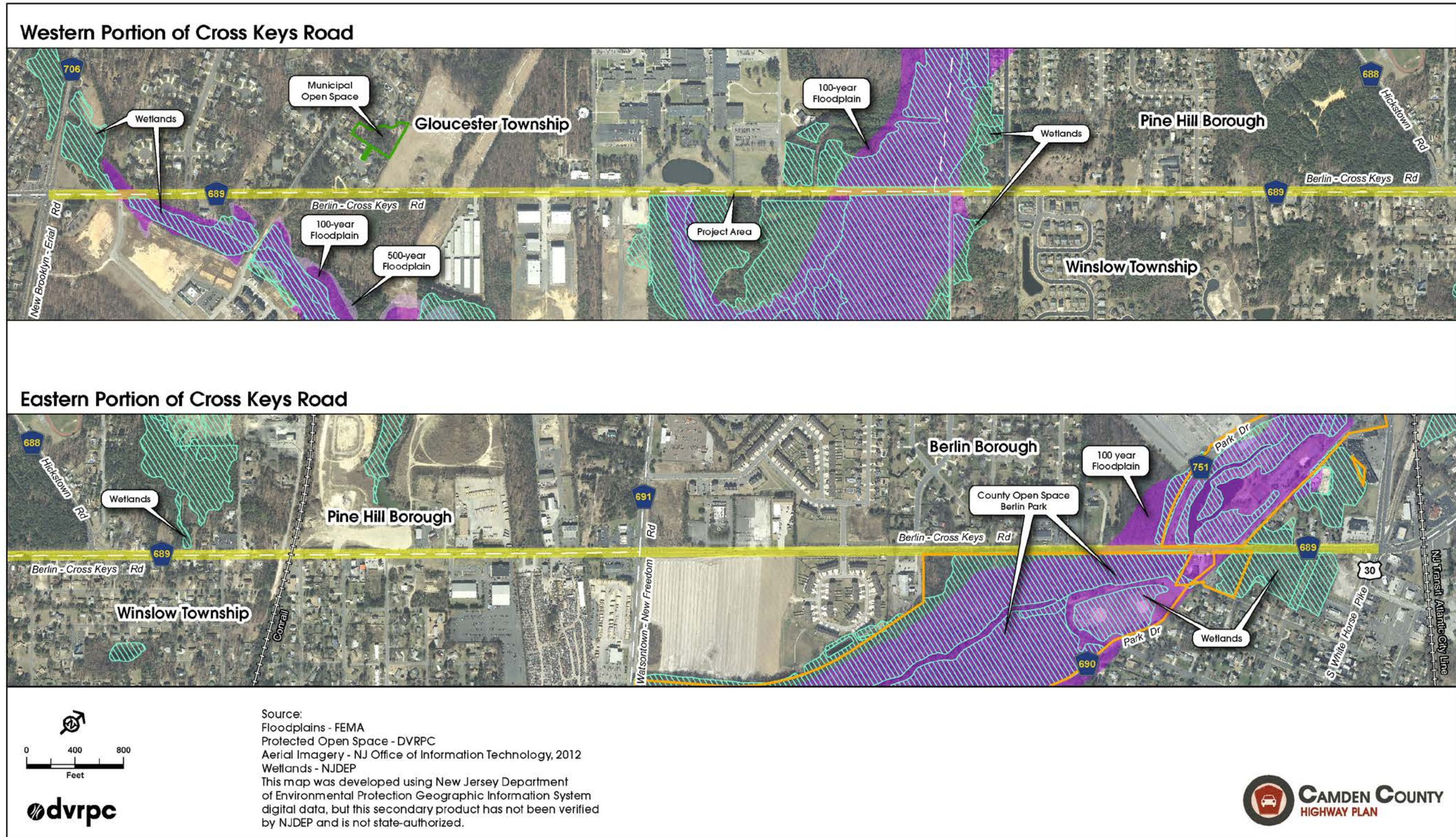
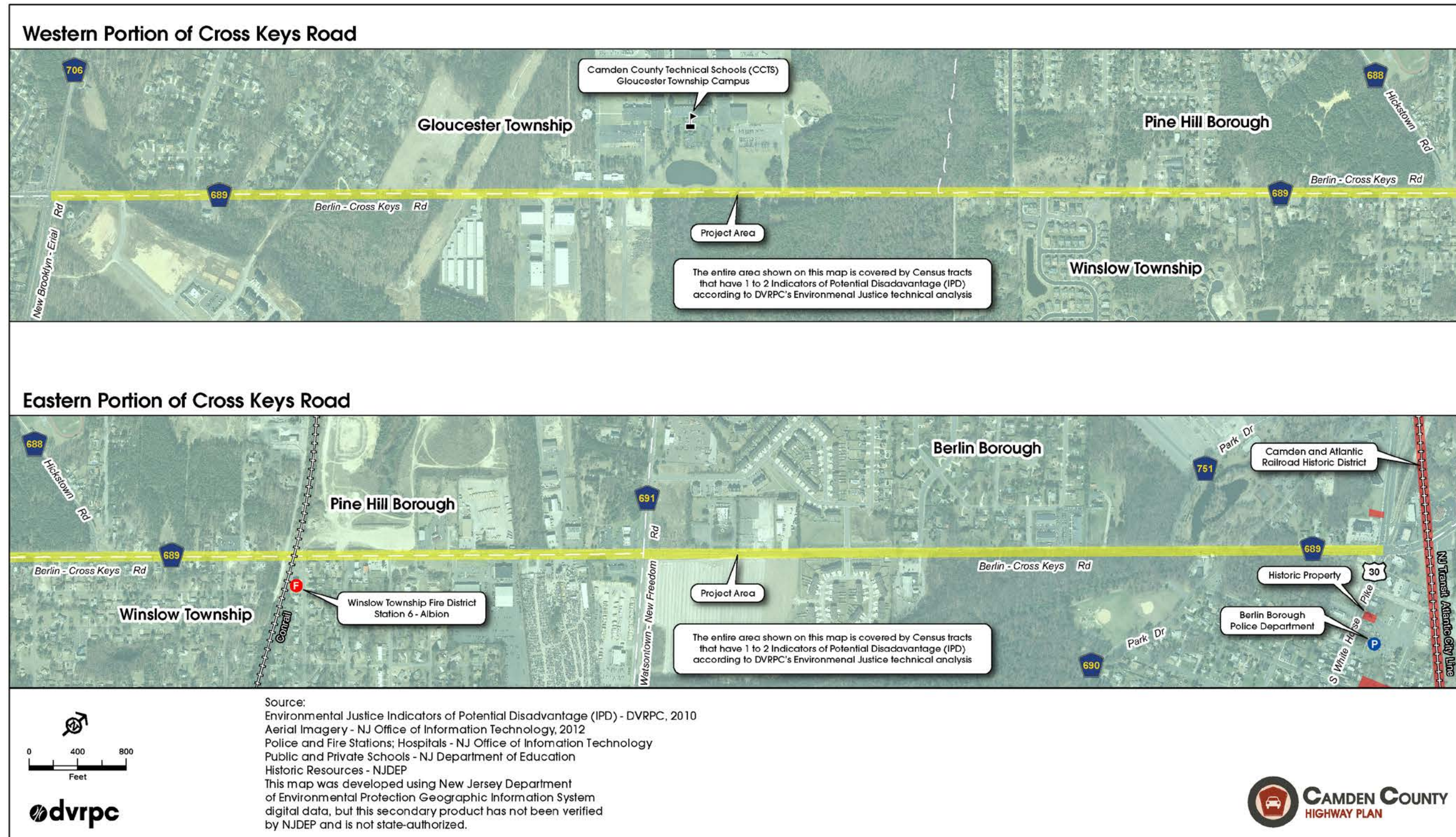




Figure D-8: Human Environments along the Cross Keys Road Widening Project









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**Abstract:** The Camden County Highway Plan was prepared as an element to the update of the overall Camden County Master Plan. The Highway Plan sets the direction for highway infrastructure—and particularly its own county route network—to keep pace with changes expected by 2040. The Master Plan provides the authority for managing the change that will come. Seven significant physical/operational mobility improvement projects, totaling \$78 million, were identified along the county route network as specific recommendations to the overall county Master Plan. Of these—the proposed county-wide interconnected and coordinated traffic signal system (\$30 million) is the smartest and farthest reaching. The project was conducted alongside the development of the Land Use Plan element and integrated findings from the Bicycling & Multi-Use Trails Plan and Farmland Preservation Plan elements. The project also delivered a linked GIS-asset management database including updated inventories of county roads, bridges, and traffic signals, and relevant outputs from the planning study.

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