New Jersey Department of Transportation

SOUTHERN NEW JERSEY FREIGHT TRANSPORTATION AND ECONOMIC DEVELOPMENT ASSESSMENT

December 2010

Summary Report

Southern New Jersey Freight Transportation and Economic Development Assessment

New Jersey Department of Transportation

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INTRODUCTION

In 2005, the New Jersey Department of Transportation (NJDOT) completed Phase I of the Comprehensive Statewide Freight Plan, which examined all modes of freight transportation in the state from a systems perspective. The plan identified the Southern New Jersey Ports as critical freight nodes for New Jersey. Given the variety and continued expansion of freight activities in southern New Jersey, a more focused assessment of freight transport and logistics in the South Jersey region was considered essential.

Following the Comprehensive Statewide Freight Plan, NJDOT worked with key stakeholders to develop the Southern New Jersey Freight and Logistics Industry Context and Economic Growth Visioning Plan in September 2008. The Visioning Plan developed a set of guiding principles to accommodate, support, and grow the freight and logistics industry in the region while enhancing the relationship with, and connectivity to, the northern New Jersey port complex.

To build on this effort and further define a strategic investment plan, the NJDOT launched the Southern New Jersey Freight Transportation and Economic Development Assessment. This follow-up effort is a more focused assessment of freight transport, logistics, resource extraction, and industrial activity in the South Jersey region. The study was designed to examine and prioritize transportation needs to support the maintenance, improvement, and expansion of key freight, logistics, and industrial clusters across the South Jersey region. The region includes the counties of Atlantic, Burlington, Camden, Gloucester, Cape May, Cumberland, and Salem.

This study complements work efforts from the NJDOT Strategic Freight Rail Study, and Phase II of the NJDOT Comprehensive Statewide Freight Plan which will more closely examine priority freight highway corridors.

I. Strategic Plan

Freight transportation, the logistics sector, and an assortment of long-established industries are critical to the economic vitality of southern New Jersey and represent a significant asset to both the state and the region. There is no doubt that the southern New Jersey region is an important part of the state's economic engine and can, with investment, be an even bigger part of its future. The vision for the South Jersey Freight Transportation and Economic Development Assessment study is to promote sustainable economic and community development throughout the state of New Jersey, by leveraging southern New Jersey's assets and natural resources with strategic investments in freight and transportation infrastructure that support the operation and growth of the region's critical industries. These efforts should support livable, sustainable communities by providing good jobs, improving transportation, and ensuring market access for the region's natural resources.

These goals can be realized through continued development of the region's freight industry. Strategic and targeted improvements should leverage existing strengths of the region, such as:

- Enhancing the region's access to key national and international transportation corridors and facilities by providing multimodal connections between freight-related businesses and transportation infrastructure.
- Developing readily available and affordable land adjacent to Interstate trucking routes to support warehousing and distribution
- Utilizing the region's available, affordable, and skilled labor pool
- Promoting key industries derived from the region's natural resources, including agriculture and seafood production and processing, glass production, and sand/aggregate
- Taking advantage of the region's access to some of the largest consumer markets and population centers in the nation
- Streamlining the regulatory process to remove impediments to the growth of freight and logistics industries
- Implementing an overall "One Region – One Port" strategy through strategic investments in critical needs. Southern New Jersey can best contribute to attaining this goal by focusing on its strengths, resources, and assets in ways that complement regional facilities in Philadelphia and northern New Jersey.

The opportunity is now. South Jersey offers a skilled and available labor pool to current prospective employers; cost competitive land and leasing rates; access to a multimodal supply chain linked to the northeast; abundant natural resources; and proximity to some of the largest consumer markets in New Jersey, New York, and Pennsylvania.

South Jersey is home to some of the state's richest supplies of natural resources, including seafood, aggregates, and prime agricultural lands. Four of New Jersey's top five agriculture producing counties lie in the seven county study area. The dollar value of the catch at Cape May and Wildwood fisheries is among the largest in the U.S. High quality silica from local quarries is sought after for energy production and construction uses.

The multimodal supply chain corridor, centered on I-295 and the New Jersey Turnpike, features numerous industrial parks and distribution and warehousing facilities at many of the interchanges between the Delaware Memorial Bridge and northern Burlington County. Connections to rail and port facilities buttress the distribution and processing of goods. A series of short-line railroads serves both local and nationally-owned industrial facilities in the region.

South Jersey's ports leverage access to the Delaware River, the supply chain corridor, and some of the nation's largest consumer markets. Port activities are focused on bulk and break bulk goods rather than competing with the significantly larger and more advanced container operations in Philadelphia and northern New Jersey.

The Port of Camden was the national leader in plywood imports in 2005, and is also a significant destination for cement, steel, produce, scrap, and cocoa beans. The Gloucester Marine Terminal has the largest refrigeration capacity of any terminal in the United States. The Port of Salem, active since 1682, is one of the oldest ports on the east coast. Salem provides a unique shallow port and serves a niche market with barge operations. Construction of a new deepwater port on 190 acres along the Delaware River in Paulsboro is currently underway by the South Jersey Port Corporation. The new berths will significantly increase regional capacity and the Port of Paulsboro is expected to generate over 2,500 new jobs.

South Jersey's ports and waterways are also an integral part of the emerging New Jersey Marine Highway Initiative, promoting the movement of freight or passengers along our coastlines and waterways to reduce land based congestion and improve the environment.

There are challenges. South Jersey faces numerous deficiencies in its infrastructure as it seeks to maintain, improve, and expand the freight, logistics, and industrial sectors.

- The interchange of I-295 with I-76/676 and NJ 42 requires an extensive upgrade to address congestion, missing moves, and to provide direct freeway connections

- Many I-295 interchanges are incomplete or deficient for truck movements
- Beyond I-295 and the Turnpike, freeway capacity is limited and the region's locational advantages dissipate rapidly. The time-cost of travel to available and affordable inland properties renders them ineffective for supply chain expansion
- Goods movement by rail in South Jersey faces numerous constraints: direct rail connections between North and South Jersey are limited and slow; the Delair Bridge needs to be upgraded; double-stack capacity is not available through Philadelphia; Camden's Pavonia Rail Yard is at capacity and constrained by surrounding development; and the movement of goods by heavy rail is limited by 286k capacity restrictions

- Existing horizontal and vertical clearances of the navigation channel of Middle Thoroughfare at Ocean Drive(CR 621) in Cape May restrict the movement of fishing vessels and hamper operations and cost-efficiencies of fishery operations
- Many facilities at the Port of Camden, some dating back to 1900, were built for industrial purposes rather than port operations and require significant upgrades. Expansion is constrained by the surrounding communities which already struggle with quality of life impacts from encroaching port operations and heavy truck movements

- The Port of Salem offers limited facilities and poor highway access; existing rail is virtually unusable
- Constraints that include key areas unserved by 286,000 pound railcar capacity (286k) limits access of construction aggregates to large markets to the north. This constraint hampers the region's cost competitiveness and renders many potential customers and markets for South Jersey's high quality aggregates inaccessible.

Investment Blueprint. The South Jersey Freight Transportation and Economic Development Assessment study evaluated the needs and opportunities to enhance the ability of the transportation system to maintain, improve, and expand South Jersey's freight and logistics industry. A three-stage *Investment Blueprint* is proposed that includes existing and committed infrastructure projects along with additional proposed projects.

Stage One ***Maintains*** the existing core industries and strengths. These improvements are recommended to maintain the region's existing strengths, industrial and infrastructure capacity, access to markets, and competitive advantages compared to neighboring states and regions.

Stage Two ***Improves*** the existing core of regional industries and strengths. Targeted improvements in infrastructure and supporting policies leverage the region's assets to improve access to markets, increase efficiency of operations and cost competitiveness, and open the region's products to new markets.

Stage Three ***Expands*** beyond the region's traditional core strengths, resources, and industries. Investments are proposed to develop new products, services, supply chain industries, and modes of transport and delivery by seeking opportunities for synergies among the region's industries, natural resources, transportation infrastructure, freight modes, and locational advantages.

This *Investment Blueprint* includes over $4 billion that is already committed for infrastructure improvements to support and grow the freight and logistics industry.

Proposed I-295/67/676/Route 42 "Direct Connection" Improvement

This plan recommends up to an additional $1 billion investment to leverage these commitments and generate economic growth and jobs. Investment in transportation infrastructure is widely recognized as a significant generator of jobs compared to other forms of investment or government expenditure. Although estimates vary, the U.S. Department of Transportation estimates that every $1 billion in infrastructure spending creates 25,000 jobs.

Details of the *Investment Blueprint* are found later in this report in Section IV.

II. Regional Context

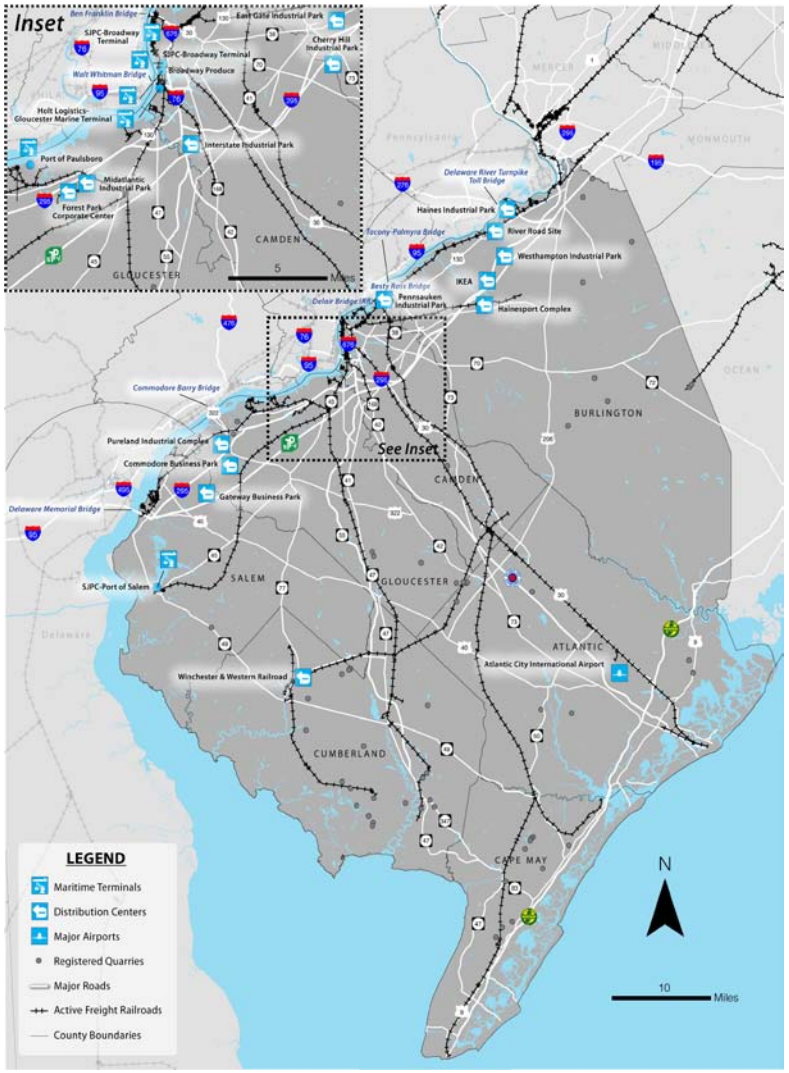
The context for goods movement and logistics in southern New Jersey includes an overview of the region and the current status and importance of goods movement to the regional economy. A vital source of information was the collection of data through a series of stakeholder discussions, meetings, and field visits.

The southern New Jersey region is a seven-county area that includes Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Salem Counties.

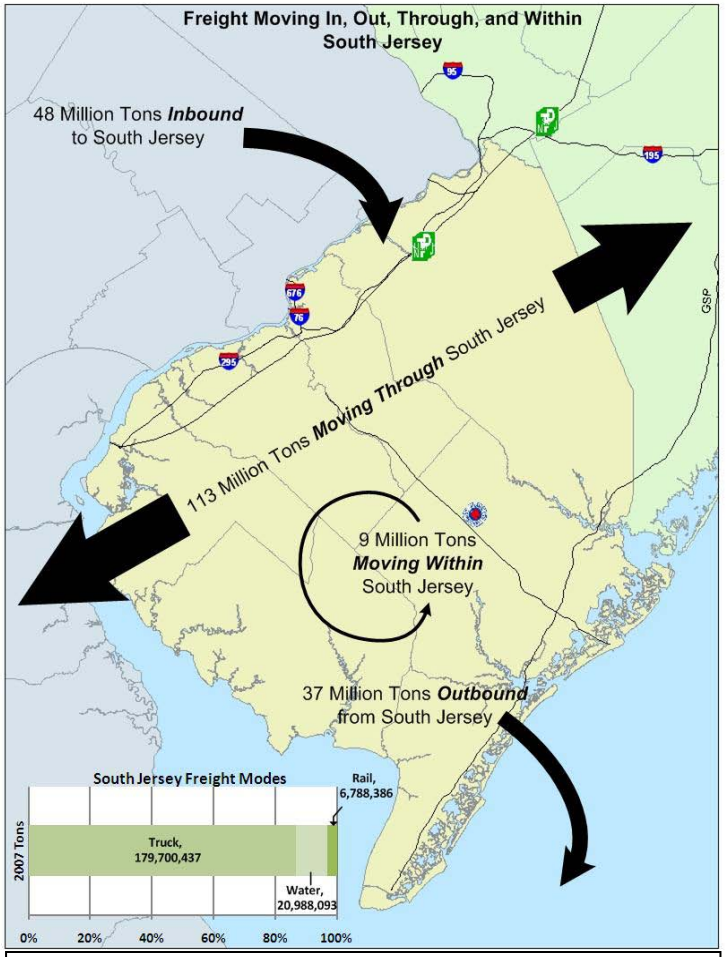
The project team identified and evaluated critical system elements and key issues facing the region. Industry trends, challenges, and constraints to expansion, including infrastructure needs, were gathered for use in developing the logistics industry context and for use in subsequent tasks of this study.

The key elements of the freight transportation system in the southern New Jersey region include extensive road and rail systems, along with several significant maritime terminals and distribution center complexes. Each element is described in subsequent pages of this section. Without a major airport in the region, air cargo primarily moves through Philadelphia International Airport (which is a United Parcel Service (UPS) hub), Newark Liberty International Airport (which is a Federal Express (FedEx) hub), and John F. Kennedy International Airport (primarily for international shipments).

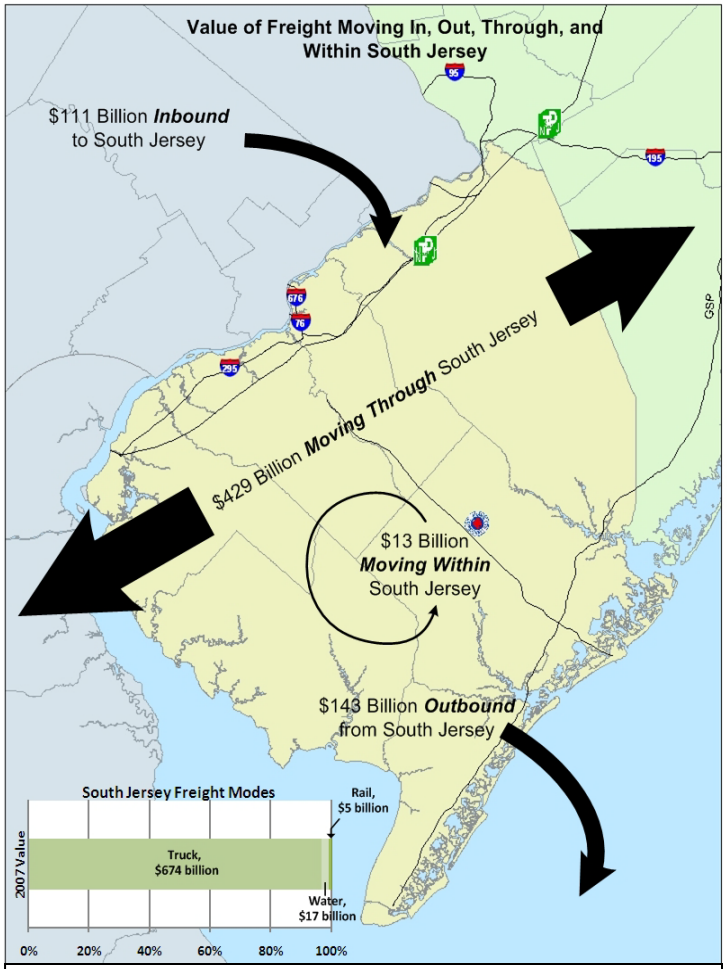
Key Elements of South Jersey's Logistics System



As depicted in the figures on this page, significant volumes and value of goods move through the region, principally by truck, although maritime and rail shipments are also critical to local and regional economies. Bulk goods come into the region by water and are transferred to rail and truck. Warehousing and distribution activities move principally by truck.



2007 South Jersey Freight Movements, by Tonnage



2007 South Jersey Freight Movements, by Dollar Value

Construction aggregates require heavy rail for shipping over long distances. Many locally produced New Jersey perishables require the flexibility and timeliness of truck movements to bring goods from field to market.

Transportation System

Highways

All three of New Jersey's major toll roads traverse the southern counties. The **New Jersey Turnpike** (NJTP) runs through Salem, Gloucester, Camden, and Burlington Counties and is the primary limited-access highway between New York and points south, connecting to Delaware via Interstate 295 and the Delaware Memorial Bridge. The **Atlantic City Expressway** (ACE) serves as the only limited-access highway between Philadelphia-Camden and Atlantic City. The **Garden State Parkway** (GSP) is the primary limited-access highway between New York and Shore points, although truck prohibitions limit its effectiveness for freight movement destined to the New York metropolitan area and beyond.

Three major Interstate routes provide key linkages between major port facilities and distribution centers within South Jersey. **Interstate 76** links I-295 to Philadelphia via the Walt Whitman Bridge, and provides a connection to I-676 and local areas in Camden. **Interstate 676** provides a limited access route to the City of Camden and its industrial and port sites, and ultimately provides a connection to Philadelphia via the Benjamin Franklin Bridge. **Interstate 295** provides a limited access north-south freeway that largely parallels the NJTP within South Jersey, providing an alternate route. I-295 provides a key direct roadway connection between New Jersey and Delaware and has emerged as a hub for distribution centers.

A network of east-west arterial highways connects the New Jersey Turnpike and I-295 to inland counties and shore area destinations. These include **U.S. Routes 30, 40, 130, 206, and 322,** and **N.J. Routes 38, 42, 47, 49, 55, 70, 73, and 168**. Various county routes provide supplemental mobility.

Eight major roadway toll bridges link South Jersey with Pennsylvania and Delaware:

- Delaware Memorial Bridge (via I-295)
- Commodore Barry Bridge (via U.S. Route 322/County Route 536)
- Walt Whitman Bridge (via I-76)
- Benjamin Franklin Bridge (via I-676/U.S. Route 30)
- Betsy Ross Bridge (via N.J. Route 90)
- Tacony-Palmyra Bridge (via N.J. Route 73)
- Burlington-Bristol Bridge (via N.J. Route 413)
- Delaware River Turnpike Toll Bridge (Pennsylvania Turnpike-New Jersey Turnpike).

Rail Freight

The southern New Jersey region is part of the Philadelphia-South Jersey Conrail Shared Assets Area. Pavonia Yard in Camden is the hub of Conrail's operations in southern New Jersey, and Conrail provides local freight service on virtually all rail lines south of Trenton and provides connections with the short lines serving the remainder of the region.

The Delair Lift Bridge, which provides the only rail crossing of the Delaware River south of Trenton, is a critical connection for Conrail's service to and from the region.

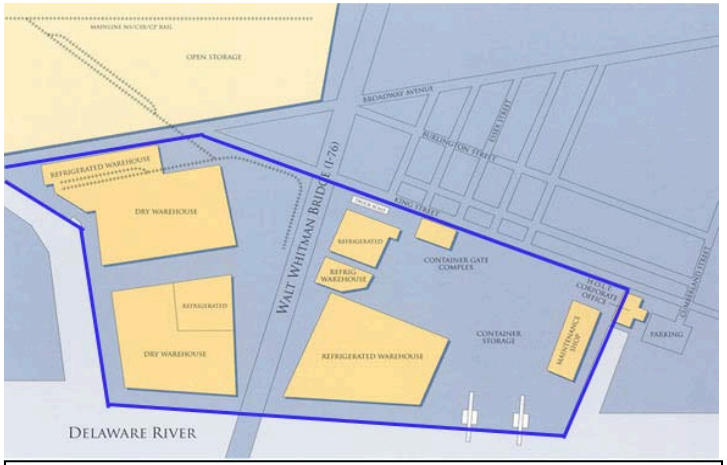
It is important to note that any rail movements south of Trenton must double back to cross the Delaware River, resulting in increased travel time and costs.

Short line railroads provide access to many industrial and port locations in the region, and include:

- Cape May Seashore Lines (Cape May County)
- SMS Railway (Gloucester County)
- Southern Railroad Company of New Jersey (Atlantic, Cumberland, Gloucester and Salem Counties)
- US Rail Corporation of New Jersey (Salem County)
- Winchester and Western Railroad (Cumberland County).

Maritime

Maritime terminals along the Delaware River include facilities operated by the South Jersey Port Corporation (SJPC), Holt Logistics, and private terminals (including the Sunoco and Valero petroleum facilities). The region also has several commercial fishing ports, including Cape May/Wildwood, which was the fourth largest fishing port in the nation in 2008, based on the value of catch.



Gloucester Marine Terminal, Gloucester City, New Jersey

SJPC facilities are focused primarily on the movement of bulk and break bulk commodities, such as lumber, steel, and cocoa beans through four terminals:[1]

[1] Information from the South Jersey Port Corporation website.

- The **Beckett Street Terminal** is a 125-acre bulk and break bulk cargo complex located in Camden that handles wood products, steel products, cocoa beans, containers, iron ore, furnace slag, scrap metal, and project/over-dimensional cargo movements
- The **Broadway Terminal** is a 180-acre complex also located in Camden that handles petroleum coke, furnace slag, dolomite, other dry bulk items, steel products, wood products, minerals, cocoa beans, and fresh fruit. The facility can also handle containerized cargo and has an industrial park facility
- The **Broadway Produce Terminal** is a 26-acre center located in Camden. The facility handles bananas, pineapples, and other perishables
- The **Port of Salem Terminal** is a 22-acre complex located west of downtown Salem that includes both SJPC and private terminal related operations. The Port of Salem currently handles aggregate (e.g. sand), clothing apparel, fishing apparel, motor vehicles, food products, and consumer goods.

All of these terminals have truck access and rail access via Conrail.

SJPC is currently developing a 150-acre deep water marine terminal in Paulsboro, located in Gloucester County. Construction began in the fall of 2009. Scheduled to be completed in phases, the Paulsboro Marine terminal will feature a new wharf area and ship berths, warehouse space, roadway access, and rail infrastructure. The terminal is being designed to integrate industrial space with processing and distribution space, and provide true intermodal capability.

Holt Logistics operates the 150-acre Gloucester Marine Terminal in Gloucester City, NJ, just south of Camden. The terminal features the largest refrigerated capacity of any terminal in the United States with access to the region's key highways.

Distribution Centers

Distribution centers (DCs) and warehouses are primarily used for the receipt, temporary storage, processing, and distribution of goods that are en route from production sites to locations where they will be consumed. Warehousing and DC operations vary considerably in size, ranging from a few thousand square feet to buildings that are over one million square feet. These facilities may also contain temperature-controlled space, which is essential for maintaining perishable food. DCs and warehouses may handle local distribution, distribute to a multi-state area, distribute goods throughout North America, and/or export products.

A significant number of DC and warehouse operations exist in the southern New Jersey region, primarily along the New Jersey Turnpike/Interstate 295 and U.S. Route 130 Corridor, within the area's "Supply Chain Corridor".

Major sites include:

- The Pureland Industrial Complex – A key 3,000 acre distribution site on the I-295 spine, located adjacent to Interchange 10 in Logan Township, Gloucester County, with 15 million square feet of developed space

- The Commodore Business Park – Located less than two miles from Interchange 11 on I-295 in Swedesboro, Gloucester County, with 1.5 million square feet of developed space on 400 acres
- The Haines Industrial Park is located off Route 130 in Burlington and Florence Townships, Burlington County, with 750 acres and about 4 million square feet of developed space.

III. ASSESSMENT

The South Jersey region offers numerous advantages and resources to support the freight and logistics industry. The region offers a skilled and available labor pool, with a lower cost of living compared to the rest of New Jersey. Land and leasing rates are cost competitive compared to other northeast distribution hubs, including the Lehigh Valley and Exit 8A of the New Jersey Turnpike. The availability of affordable land and labor supports expansion in the region.

The region has an extensive multimodal supply chain linked to the northeast, with proximity to some of the largest consumer markets in New Jersey, New York, Pennsylvania, and Delaware. This transportation spine provides excellent opportunities to support the efficient movement of goods.

Abundant natural resources, including seafood, prime agricultural farmland, and construction aggregates, are harvested, gathered, and shipped across the state, the United States, and overseas. Enhancing the ability to move these resources opens growth opportunities.

South Jersey is host to six principal industrial clusters:

- ***Supply Chain Corridor:*** the region's multimodal supply chain is centered on the warehousing and distribution facilities located adjacent to Interstate-295 and the New Jersey Turnpike. Many I-295 interchanges provide direct highway access to sites well-suited for supply chain uses
- ***Delaware River Ports:*** primary facilities are located in Camden, Gloucester, and Salem. Maritime activity at these ports is primarily bulk and break bulk operations, with some container shipping. The neighboring Philadelphia and New Jersey ports are better situated and equipped for large scale container operations. The Port of Salem serves a niche market for barge-based operations with its unique shallow draft port
- ***Legacy Industries:*** include oil refineries, chemical, and glass products. Each draws upon proximity to key markets, Delaware River maritime access, the region's natural resources, and a skilled labor pool
- ***Construction Aggregates:*** active quarries mine the region's abundant natural resources including high quality silica, gravel, and crushed rock

- ***Agriculture and Food Processing:*** four of New Jersey's top five producing counties are located in South Jersey. Several fruit and produce crops rank among the top in the U.S., based on dollar value
- ***Seafood:*** Cape May and Wildwood fisheries are among the largest in the U.S. based on dollar value of catch.

A network of highway, maritime, and rail facilities links South Jersey's multimodal supply chain to industry clusters and major markets across the northeast. Major business and industrial parks in Burlington, Camden, and Gloucester Counties total more than 50 million square feet.

The vast majority of goods move through the region by truck. The region's key highways are oriented north-south, with I-295 and the New Jersey Turnpike being the primary corridors. Beyond these, the locational advantage dissipates rapidly - most east-west facilities are two-lane arterials, which offer limited regional mobility. Slower travel times and reduced accessibility hinder the cost-effectiveness of potential supply chain locations on the region's arterial system.

Rail facilities face numerous constraints: direct rail connections between North and South Jersey are limited and slow; the Delair Bridge needs to be upgraded; double-stack capacity is not available through Philadelphia; the Pavonia Yard is at capacity and constrained by surrounding development; New Jersey as a whole offers limited 286k car weight capacity, severely limiting the movement of goods by heavy rail through the state.

Many South Jersey port facilities are aging and antiquated. Camden's ports have numerous deficiencies on both the water and land side. Rail access to the Port of Salem is virtually unusable.

Construction aggregates require heavy rail for shipping over long distances. Many locally produced New Jersey perishables require the flexibility and timeliness of truck movements to bring goods from field to market.

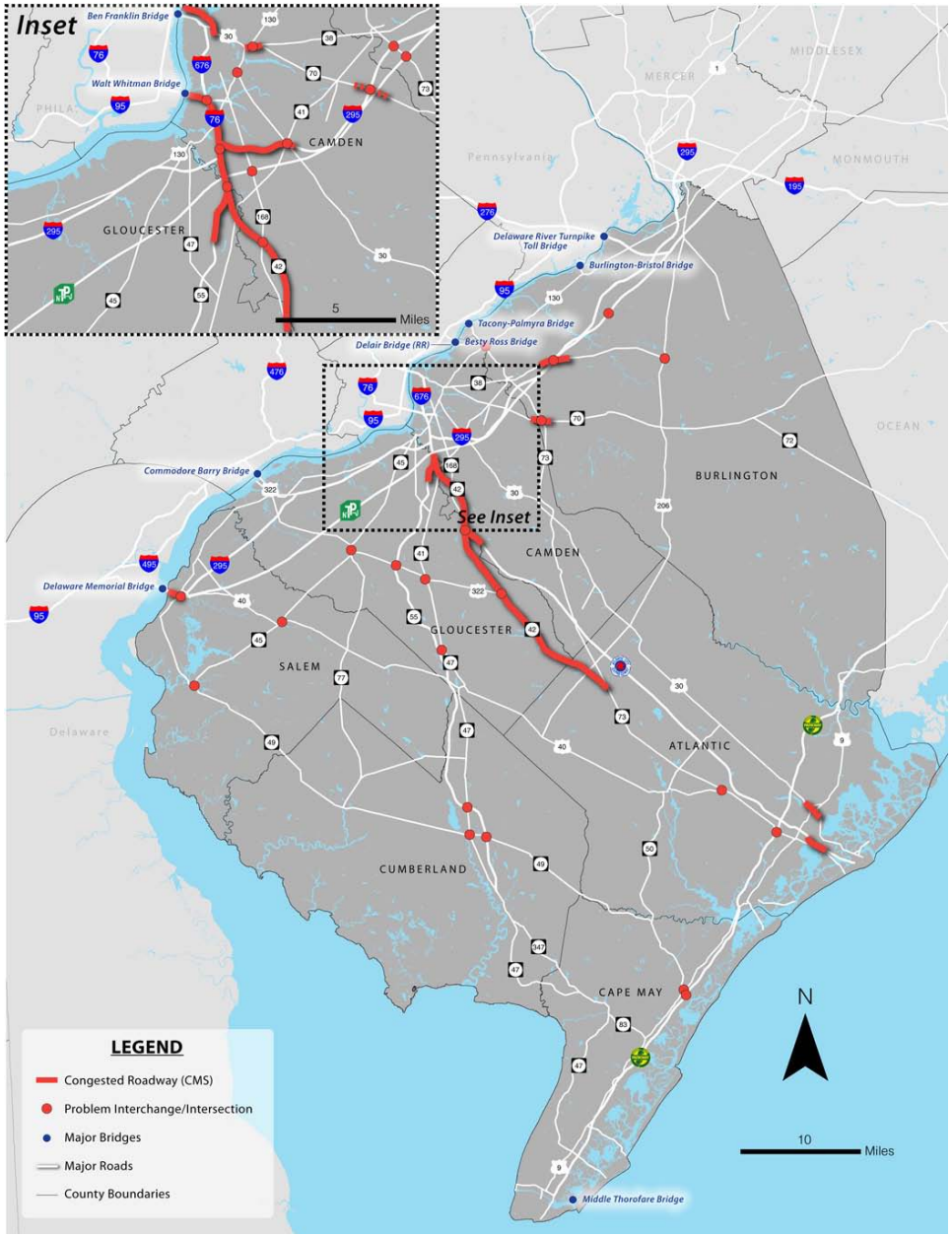
Middle Thorofare Bridge Constrains Commercial Fishing Operations

Cape May-Wildwood is the third largest commercial fishing port in the Northeast and the largest and most diversified commercial fishing port in New Jersey. Cape May/Wildwood was the fourth largest fishing port in the nation in 2008, based on value of catch. Seafood processed in New Jersey is distributed throughout the U.S. and exported overseas. These products are transported via truck and ship. Commercial operations are located on both sides of the Middle Thorofare Bridge. The air draft of the Bridge and the narrow width of the navigation channel of Middle Thorofare at Ocean Drive restrict vessel size, limiting efficient movement of fishing vessels and limiting potential growth of the fishing industry.

Peak hour and peak period congestion in Camden County is a significant issue, as many of the region's principal roadways are located in or pass through the county. The supply chain literally flows through the heart of Camden County and its roadways. Analysis found four roadways, Interstate 76, and N.J. Routes 38, 42, and 168, are "very" or "severely" congested over more than 50% of their length. Of these four, N.J. Route 42 experiences the heaviest congestion, with nearly its entire length being "very" or "severely" congested, making it among the most heavily congested roadways in New Jersey. The analysis also identified two critical mainline roadway segments considered bottleneck areas by NJDOT and three roadway segments near the Delaware River crossings (Walt Whitman Bridge, Delaware Memorial Bridge, and Ben Franklin Bridge) plagued by heavy congestion. Additionally, 13 problem area interchanges are located within the study area and 25 other major intersections are hampered by high levels of congestion, as depicted in the graphic to the right.

Missing links, including I-295 north to NJ 42 south, and lack of direct connections at the I-295/76/676/NJ 42 interchange create a "mixing bowl" effect, resulting in severe congestion, queueing, and safety concerns.

Traffic Congestion in the Southern New Jersey Roadway Network



Access to the interstate system is critical to facilitate truck movements and maintain supply chain access and function. Under current conditions, many major interchanges experience congestion (peak hour, peak period, and/or seasonal), are incomplete, have deficient pavement, or do not provide direct access to the many major freight facilities and terminals in the region. Warehousing and distribution centers are located along many I-295 interchanges. Improvement needs including "last mile" connections have been noted at interchanges 7, 10, 40, 52, and 57. A new connector road is planned at Interchange 19 to provide access to the Port of Paulsboro and provide relief to local and county roadways that serve existing facilities, including the Valero site.

The two-track Delair Lift Bridge, the only rail crossing of the Delaware River south of Trenton, connects Conrail and short line services in southern New Jersey with CSX and Norfolk Southern in Pennsylvania. An immediate need exists to maintain and safeguard the Delair Bridge. Structural analysis has determined the need for both short-term and long-term investment in the bridge and its approaches, as it is rated in "poor" condition. There is also a critical need to maintain the 286k capacity of this bridge. Moreover, freight traffic is limited to a single track, and it cannot currently accommodate double-stack operations. Proposals to create double-stack clearance and add a second main track along the CSX Trenton Line eventually could benefit southern New Jersey rail shipping.

A long term need for rail freight is creation of additional routes for rail access between southern New Jersey and northern New Jersey and the national network. This connection would facilitate the One Region – One Port vision, and allow the North and South Jersey port complexes to function as a single entity. Only one north-south rail connection is currently in operation. The approximately 105-mile rail route between Camden and the Port of New York/New Jersey is circuitous and inefficient: the route must cross the AMTRAK Northeast Corridor line; it does not have double-stack clearance; a segment of the CSX line also carries commuter rail service; and the line is mostly single track with numerous at-grade crossings. The estimated round trip travel time between Pavonia Yard and the Port of New York/New Jersey is over 12 hours, which requires a second crew to complete the trip, thus increasing shipping costs.

IV. Investment Blueprint

An enhanced transportation infrastructure will increase the economic development potential of the southern New Jersey region. Vital industries in the region—including petroleum and chemicals, aggregates, glass, food processing, seafood, and ports that facilitate international trade and commerce in southern New Jersey and greater Philadelphia—could benefit or even expand as a result of targeted investments in "last mile/first mile" roadway connections, railway improvements, bridge reconstruction and/or rehabilitation, and new highway access and connections that facilitate faster travel times, ease of access, and above all else, allow southern New Jersey to remain economically competitive with other regions nationally and globally.

The study team has developed the three-stage investment blueprint to maintain, improve, and expand freight operations in South Jersey.

Stage One ***Maintains*** the existing core industries and strengths. These minimal improvements are recommended to maintain the region's existing strengths, industrial and infrastructure capacity, access to markets, and competitive advantages compared to neighboring states and regions. (See Figure 1)

Stage Two ***Improves*** upon the existing core of regional industries and strengths. Targeted improvements in infrastructure and supporting policies leverage the region's assets to improve access to markets, increase efficiency of operations and cost competitiveness, and open the region's products to new markets. (See Figure 2)

Stage Three ***Expands*** beyond the traditional core strengths, resources, and industries of the region. Investments are proposed to develop new products, services, supply chain industries, and modes of transport and delivery, by seeking opportunities for synergies among the region's industries, transportation infrastructure, freight modes, natural resources, and locational advantages. (See Figure 3)

The Investment Blueprint is presented on the following pages. Summarizing the program, the Stage One improvements are primarily highway-related with additional investments needed to repair port and rail facilities, Stage Two is primarily rail-related, and Stage Three is primarily marine. It can be inferred from the assessment that to maintain the current competitive market standing by addressing existing deficiencies we need to invest in highways. To expand our markets we will need to make investments in rail to address capacity constraints and better connect the nodes. To open our region to new markets and opportunities the key is investing in marine facilities. We envision that synergies will amplify the overall effectiveness of the investment blueprint from stage to stage.

Stage One: Maintain

Maintain current industrial and regional strengths

- Shore up region's supply chain corridor with improvements to critical I-295 interchanges and connections to arterial highways
- Make needed repairs to port facilities
- Address rail needs at Salem and Camden Ports

Investment Blueprint:

- 2 committed capital projects (valued at $99 M)
  - Route 55 Interchange 24 at Route 49
  - I-295/Rte 42 Missing Move
- 11 projects (valued at $339 M)
  - I-295 exits 7, 10, 40, 52, 57
  - Route 55 Interchange 27 at Route 47
  - Delair Bridge rehabilitation
  - Delair Bridge clearance
  - Salem Secondary upgrades
  - Port of Camden berth repairs
  - Port of Camden access roadway

Stage Two: Improve

Improve efficiency, operations, and cost competitiveness of existing industries

- Address long-term regional highway needs
- Upgrade short-line rail service, rail system interconnects, and Port rail access
- Modernize and upgrade Camden Port facilities and mitigate community impacts

Investment Blueprint:

- 3 committed capital projects (valued at $3.86 B)
  - I-295 "Direct Connection"
  - NJ Tpke Widening Exits 6-9
  - PA Tpke/I-95 Interchange
- 16 projects (valued at $262 M)
  - Port of Camden/I-676 Int.
  - Beckett Terminal Entrance
  - Camden wharves and rail
  - Broadway Terminal Pier I
  - Port of Camden access
  - Pavonia Yard capacity
  - Penns Grove and Robbinsville rail
  - Salem shortline, rail, wharf
  - Route 49: I-295/ Salem
  - SMS upgrades at Pureland
  - Bordentown rail

Stage Three: Expand

Expand into new markets and products, develop new capacity

- Integrate freight modes
- Improve deep sea access and operations at Cape May and Wildwood Ports
- Build new multimodal port and facilities at Paulsboro
- Support New Jersey wind turbine initiative using Port of Paulsboro as a platform

Investment Blueprint:

- 1 committed capital project (valued at $274 M)
  - New marine terminal facility at Paulsboro
- 3 projects (valued at $256 M)
  - Middle Thorofare Bridge/Ocean Drive
  - Port of Paulsboro/I-295 connector
  - Port of Paulsboro rail connections

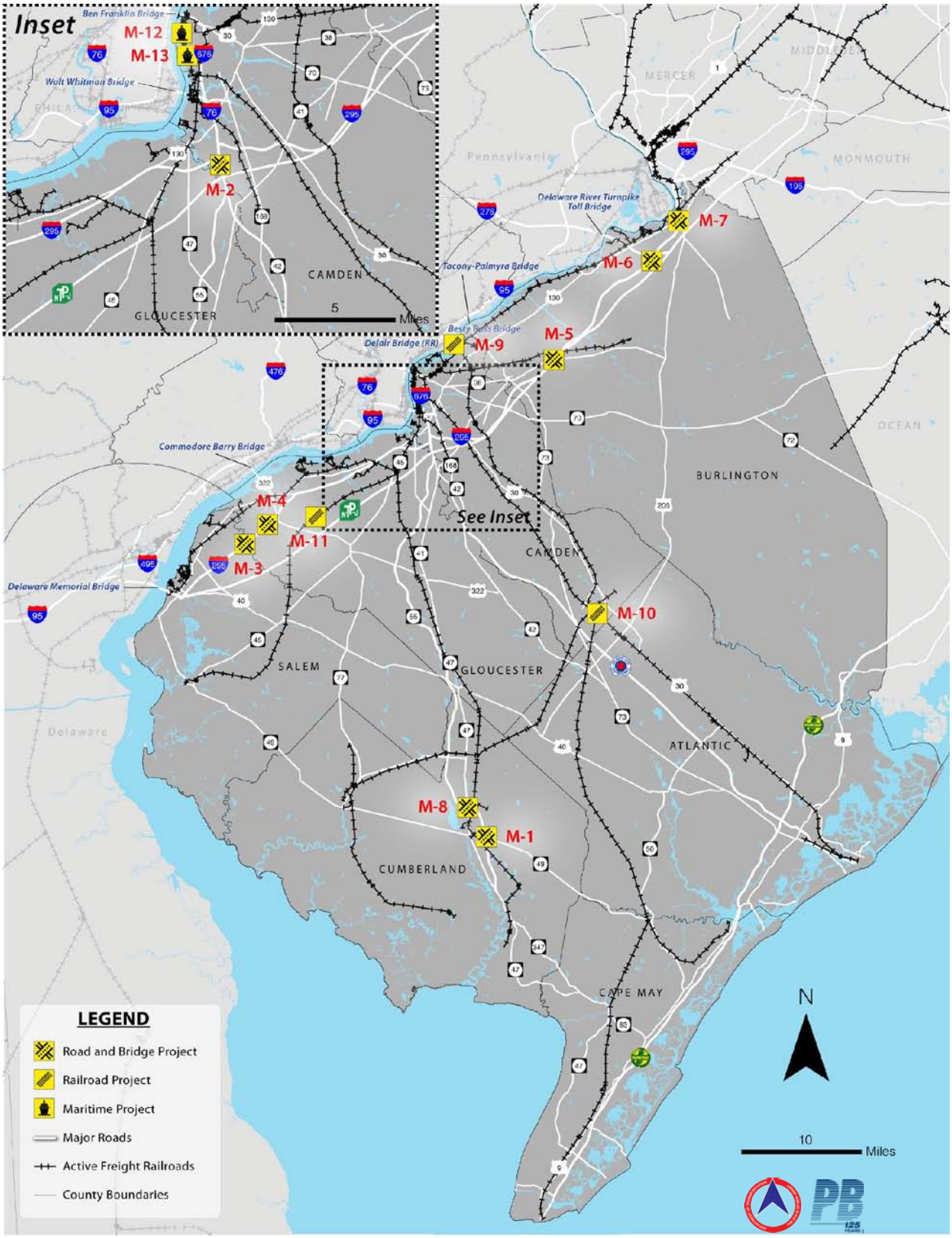


Figure 1: Projects of Stage One - Maintain the Region's Core Industries and Strengths

	Projects	Mode	Jurisdiction	Status	Next Step(s)	Est. Cost to Construct	Source
STAGE I: MAINTAIN							
		2 COMMITTED PROJECTS = $99 Million					
M-1	Route 55 Exit 24 (Route 49)	Highway	NJDOT	2010-2019 STIP, not on 2011 Capital Program	N/A	$ 21 M	2010-2019 STIP
M-2	I-295, Rt 42 Missing Moves	Highway	NJDOT	2010-2019 STIP; 2011 Capital Program	Annual Capital Program	$ 78 M (const. cost only; other costs N/A)	2010-2019 STIP; 2011 Capital Program
		11 PROPOSED PROJECTS = $339 Million					
M-3	I-295 Exit 7 (Auburn)	Highway	NJDOT	Incomplete interchange impacts throughput and access	Undertake Concept Development	$20 M	Estimated based on SCIS- Medium Highway Operational Improvement
M-4	I-295 Exit 10 (Center Square Rd)	Highway	NJDOT	Incomplete interchange impacts throughput and access	Undertake Concept Development	$20 M	I-295/ US 130 Riverfront Transportation Corridor Study, DVRPC, 2002; estimated based on SCIS- Medium Highway Operational Improvement
M-5	I-295 Exit 40 (Route 38)	Highway	NJDOT	Tier II project; not on current STIP or Capital program	N/A	$ 130 M	Tier II Study
M-6	I-295 Exit 52 (Columbus)	Highway	NJDOT	Incomplete interchange impacts throughput and access	Undertake Concept Development	$ 20 M	Estimated based on SCIS- Medium Highway Operational Improvement
M-7	I-295 Exit 57 (US 130)	Highway	NJDOT	Incomplete interchange impacts throughput and access	Undertake Concept Development	$ 20 M	Estimated based on SCIS- Medium Highway Operational Improvement
M-8	Route 55 Exit 27 (Route 47)	Highway	NJDOT	Preliminary design	TIP	$ 6.7 M	Millville letter to Rep. LoBiondo
M-9	Delair Bridge rehabilitation; structural improvements for double-stack clearance	Rail	Conrail	Evaluated in current NJ Rail Freight Study	Undertake Study and Design Development	$ 20-30 M cost estimate for clearance N/A	Conrail
M-10	Winslow Branch restoration (repair Hospitality Creek bridge)	Rail	U.S. Rail	Completed			
M-11	Salem (Secondary) Running Track upgrade – Swedesboro to Woodbury	Rail	Conrail	In TIGER application	Funding, construction	$ 7.6 M	State Rail Plan – FY2010 Eligible Project, TIGER application
	Port of Camden facilities						
M-12	Berth #1 at Beckett St. Terminal	Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 29 M	SJPC, May 2009
M-13	Port District Access Roadway	Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 60 M	SJPC, May 2009

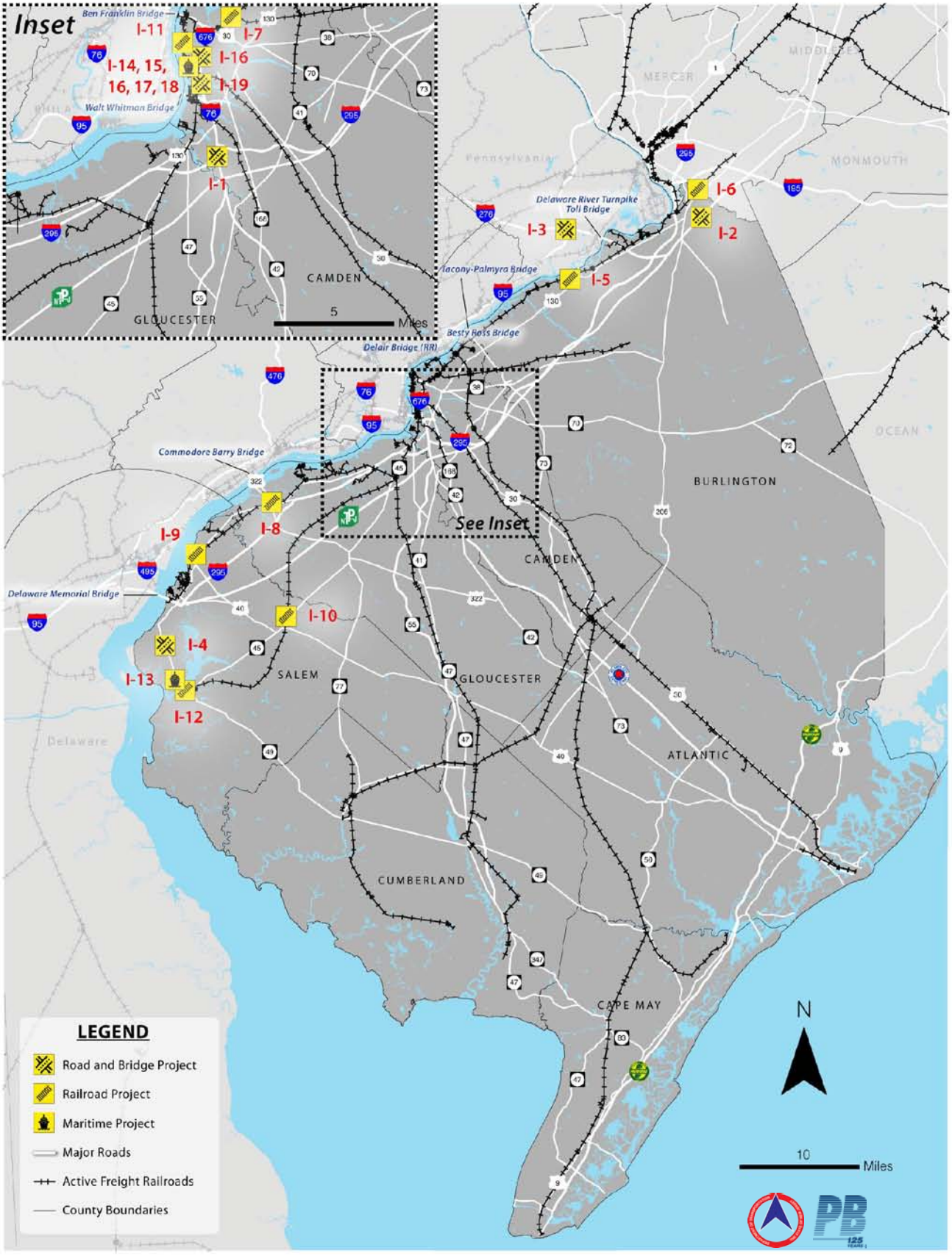


Figure 2: Projects of Stage Two – Improve upon the Region's Core Industries and Strengths

	Projects	Mode	Jurisdiction	Status	Next Step(s)	Est. Cost to Construct	Source
STAGE II: IMPROVE							
		3 COMMITTED PROJECTS = $3.86 Billion					
I-1	I-295/76/676, Route 42 "Direct Connection"	Highway	NJDOT	Design and ROW	Construction	$ 810 M	2011 Capital Program
I-2	NJTA Widening Exit 6-9	Highway	NJTA	Under Construction	N/A	$ 2.5 B	NJTA website
I-3	PA Turnpike & I-95 Interchange	Highway	PA TPC	Stage 1 design and construction	Project Stage 1 construction to start Fall 2010	$ 553 M (in 2000)	Project website
		16 PROPOSED PROJECTS = $262 Million					
I-4	Route 49 between I-295 and Port of Salem	Highway	NJDOT		Undertake Concept Development	$ 20 M	Estimated based on SCIS- Medium Highway Operational Improvement
I-5	Bordentown Secondary double-tracking and improved sidings – Pavonia Yard to Bordentown	Rail	Conrail		Undertake Study and Design Development	$ 13.0 M	Estimate based upon typical per mile rehabilitation costs on other similar lines
I-6	Robbinsville Industrial Track improvement	Rail	Conrail	2010 State Rail Plan	Funding, construction	$ 2.6 M	State Rail Plan – FY2010 Eligible Project
I-7	Pavonia Yard expanded capacity	Rail	Conrail		Undertake Study and Design Development	$ 5 M	Estimate based on PANYNJ information on capital improvement ranges
I-8	SMS improvements at Pureland	Rail	SMS	2011 State Rail Plan	Funding, construction	$ 1.7 M	State Rail Plan – FY2011 Eligible Project
I-9	Penns Grove Secondary improvements Woodbury to Penns Grove	Rail	Conrail		Undertake Study and Design Development	$ 4.3 M	Estimate based upon typical per mile rehabilitation costs on other similar lines
I-10	Salem County Short Line Track Rehabilitation	Rail	County / US Rail	2011 State Rail Plan and TIGER application	Funding, construction	$ 1.5 M	State Rail Plan – FY2011 Eligible Project, TIGER application
I-11	Rail improvements at Broadway Terminal, Port of Camden	Rail	SJPC	In TIGER application	Funding, construction	$ 2.8 M	State Rail Plan – FY2009 Eligible Project, TIGER application
I-12	Port of Salem – track improvements from Swedesboro to Port of Salem and dockside rail improvements	Rail	SJPC	In TIGER application	Funding, construction	$ 21.5 M	Estimate based upon typical per mile rehabilitation costs on other similar lines
I-13	Port of Salem – 800' wharf	Maritime	SJPC	In TIGER application	Funding, construction	$ 13 M*	TIGER application

* combined funding amount covering both Port of Salem line items

Projects		Mode	Jurisdiction	Status	Next Step(s)	Est. Cost to Construct	Source
STAGE II: IMPROVE (CONTINUED)							
	Port of Camden facilities						
I-14	Covered Ways and H-Slip Capacity Enhancement	Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 52 M	SJPC, May 2009
I-15	Recycled Metal Export wharf	Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 41 M	SJPC, May 2009
I-16	Local Connector Roadway	Highway/ Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 20 M	SJPC, May 2009
I-17	Improved gate access and queuing lanes	Maritime	SJPC		Undertake Study and Design Development	$ N/A	
I-18	Pier #1 at Broadway Terminal	Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 37 M	SJPC, May 2009
I-19	I-676 Interchange Safety Improvements	Highway/ Maritime	SJPC	SJPC Capital Program	Funding, construction	$ 27 M	SJPC, May 2009

$ N/A = cost not available
All costs based on various sources including NJDOT 2010-2019 STIP and 2011 Capital Program Data, July 2010

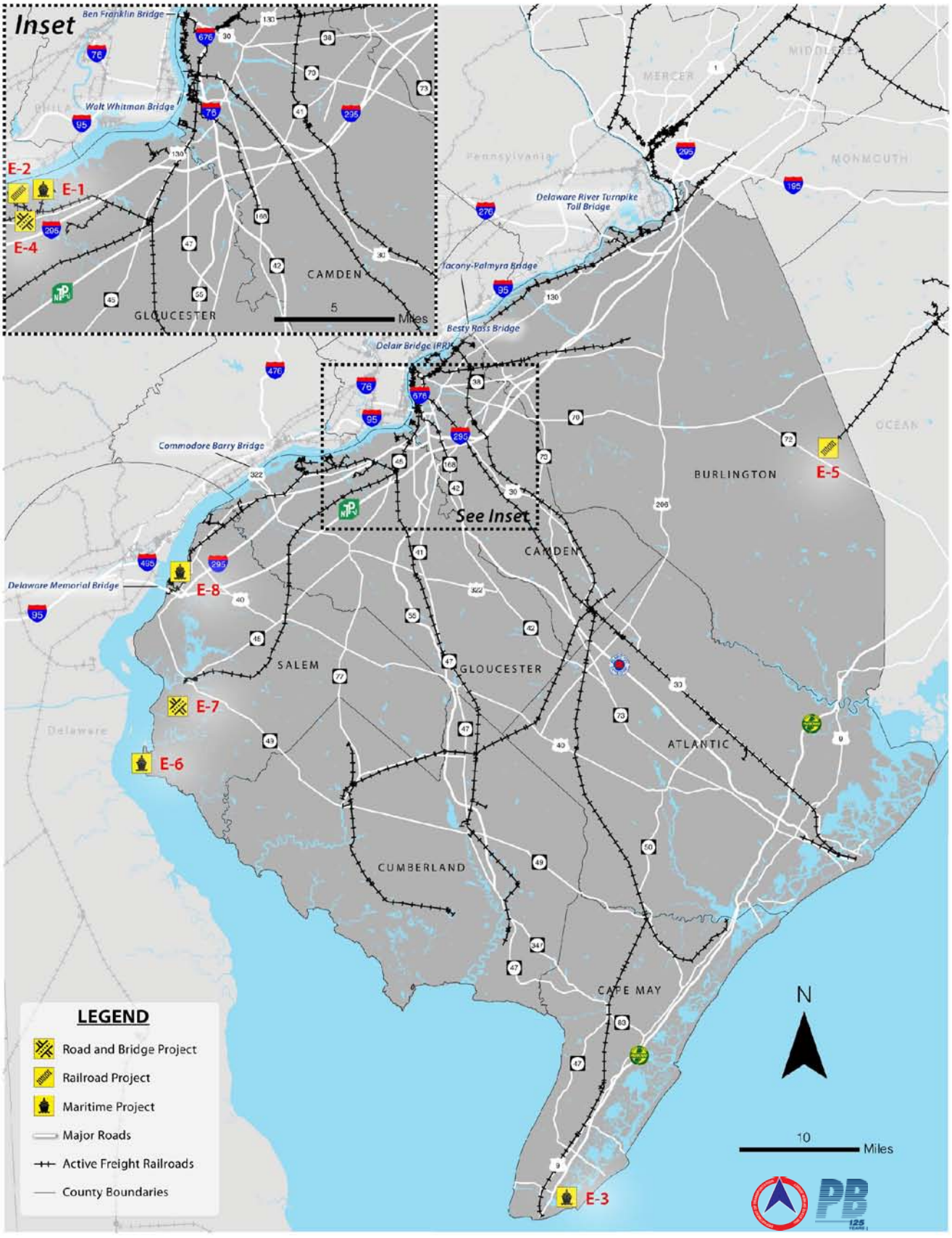


Figure 3: Projects of Stage Three – Expand Beyond the Traditional Core Industries and Strengths

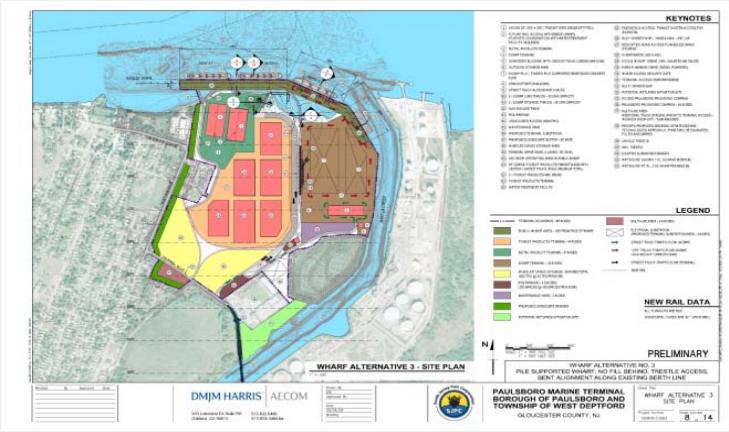
Projects		Mode	Jurisdiction	Status	Next Step(s)	Est. Cost to Construct	Source
STAGE III: EXPAND							
		1 COMMITTED PROJECT = $274 Million					
E-1	New Marine Terminal at Paulsboro; support NJ wind turbine initiative	Maritime	SJPC / GCIA	Site work has begun	Construction	$ 274 M	SJPC, July 2009
		3 PROPOSED PROJECTS = $256 Million					
E-2	Rail improvements at Paulsboro Marine Terminal – Valero project	Rail	SJPC	In TIGER application	Funding, construction	$ 0.9 M	State Rail Plan – FY2011 Eligible Project, TIGER application
E-3	Middle Thorofare Bridge	Highway	NJDOT/ Cape May County	2010 Study and Development program	Final environmental review and Final Design	$ 232M	County letter to Rep. LoBiondo
E-4	New Connector road between Paulsboro Marine Terminal and I-295	Highway	SJPC / GCIA	Design	Funding, construction	$ 23.3 M	EIS

$ N/A = cost not available
All costs based on various sources including NJDOT 2010-2019 STIP and 2011 Capital Program Data, July 2010

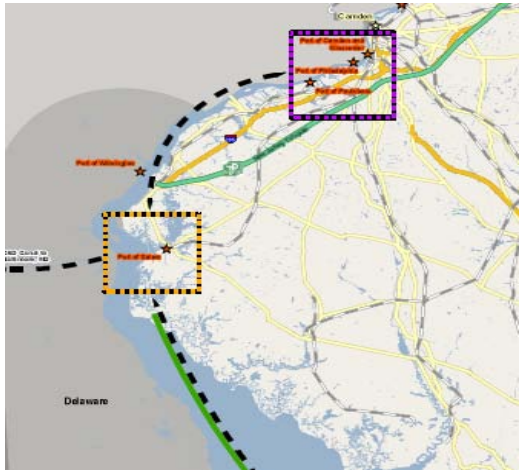
Looking Beyond the Blueprint

The South Jersey Freight Transportation and Economic Development Assessment study proposes longer range initiatives that will require further study and funding to advance. If the region is to maximize its potential to serve as a gateway, provide economic growth, and generate jobs, then visionary projects should be considered. These may be longer range or require significant effort to truly gauge benefits and feasibility. They may require considerable investment capital as well. These concepts include:

- Build *new bulk terminals* to accommodate anticipated regional growth and increase resource export capacity



- Connect southern New Jersey to the Port of NY/NJ and Port of Philadelphia to accommodate growth in containerized goods by *rebuilding loop rail service*
- Expand Port of Salem to be hub for *domestic shipping* as envisioned in New Jersey Marine Highway plan



- Provide double-stack clearance at the Delair Bridge and connection to regional rail infrastructure
- Use all of these to position southern NJ as an *export platform* for implementation of the National Export Initiative

	Projects	Mode	Jurisdiction	Status	Next Step(s)	Est. Cost to Construct	Source
LOOKING BEYOND STAGE III OF THE BLUEPRINT							
E-5	Blue Comet Line restoration – Winslow Junction to Woodmansie	Rail	NJDOT	NJDOT Tier II completed	Undertake Study and Design Development	$ 130 M	DVRPC Freight Needs
E-9	Complete double-stack clearance access to Delair Bridge and connections to regional rail infrastructure, including potential trenching of Pennsylvania-side tracks	Rail	Conrail/ AMTRAK/ states of Pennsylvania and New Jersey	None	Undertake Study and Concepts Development	N/A	
	Other Ports & Marine Terminals/New Port Development						
E-6	New port at Greenwich	Maritime	SJPC / GCIA	Conceptual	Design	$ N/A	Presentations to county officials on DRPA's Southern New Jersey Waterfront Master Plan
E-7	New road between I-295 and new port at Greenwich	Maritime	Gloucester County	Design	Funding, construction	$ 28 M	Rep. Andrews request
E-8	New port at Carney's Point	Maritime	SJPC	Conceptual	Design	$ N/A	Presentations to county officials on DRPA's Southern New Jersey Waterfront Master Plan

$ N/A = cost not available