



2016 UPDATE TO THE REGIONAL TRANSPORTATION PLAN

South Jersey
Transportation
Planning Organization

782 South Brewster Road, Unit B6
Vineland, New Jersey 08361



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WWW.SJTPO.ORG



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The SJTPO Citizens Advisory Committee (CAC) affords the public an opportunity to be informed and involved in SJTPO's transportation planning process and played an important role in providing SJTPO with public input throughout the development of the Plan.

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South Jersey Transportation Planning Organization Policy Board

(As of June 30, 2016– Visit www.sjtpo.org/committees for the most current listing).

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1. INTRODUCTION

About SJTPO

The South Jersey Transportation Planning Organization (SJTPO) is the [Metropolitan Planning Organization \(MPO\)](#) for the southern New Jersey region. Formed in 1993, SJTPO replaced three smaller MPOs while incorporating other areas not previously served. Covering [Atlantic](#), [Cape May](#), [Cumberland](#), and [Salem](#) Counties, SJTPO serves as a technical resource, provides access to funding, and works to provide a regional approach to address transportation planning and engineering issues.

SJTPO coordinates the planning activities of participating agencies and provides a forum for cooperative decision-making among state and local officials, transit operators, and the public. In addition, the SJTPO adopts long-range plans to guide transportation investment decisions, and maintains the eligibility of its member agencies to receive state and federal transportation funds for planning, capital improvements, and operations.

What is Transportation Matters and Why Do We Need It?

Transportation Matters - A Plan for South Jersey serves as the official regional transportation plan for the SJTPO region and guides the region's transportation decision-making for at least the next 20 years. *Transportation Matters*, (also referred to as the Plan), identifies the region's long-term needs and the projects and activities that seek to address them. In some cases, these future needs may lead to detailed studies, which provide the technical and environmental analyses needed to enter projects into the federal and state funding pipeline. The federal government mandates the development of regional transportation plans, such as *Transportation Matters*, in order to receive federal transportation funds. Projects must be in this long-term plan in order to be included in the Transportation Improvement Program (TIP). The TIP is essentially a short-term list of projects that have funds assigned to them and are in the process of implementation. Only transportation projects found in the Plan then in the TIP are eligible for federal funding.

As was the case with its predecessor, the Regional Transportation Plan 2040, *Transportation Matters* emphasizes the maintenance of the existing transportation infrastructure while addressing the future problems and needs of the region. *Transportation Matters* places a greater emphasis on operations and performance-based planning, supported by performance measures, and the establishment of performance targets. This is in line with the requirements of both the current transportation authorization bill, Fixing America's Surface Transportation (FAST) Act, signed into law by President Obama on December 4, 2015, as well as its immediate predecessor, the Moving Ahead for Progress in the 21st Century Act, or MAP-21, and its emphasis on performance management. Although MAP-21 expired on December 4, 2015, the FAST Act retains many of the performance-based programming and implementation requirements set out in MAP-21. In addition, the Plan continues to provide the basis for coordinated transportation planning around the region and identifies future needs

**Formed in 1993,
SJTPO serves Atlantic,
Cape May, Cumberland,
and Salem counties in
South Jersey.**

so that detailed studies may take place. These detailed planning studies provide the technical and environmental analyses needed to enter projects into the federal and state funding pipeline.

The Plan also includes a comprehensive review of current transportation resources in South Jersey (see Chapter 4). It includes aviation, bicycles, pedestrians, freight, transit, human service transportation, and roadways. For each travel mode, the demand for travel is reviewed, needs are assessed, and opportunities and strategies for improvement are discussed.

Study Area

SJTPO is a federally designated MPO. MPOs are agencies responsible for long-range regional transportation planning through a collaborative and cooperative decision-making process. SJTPO covers a region comprised of 68 municipalities in the four counties of Atlantic, Cape May, Cumberland, and Salem (Figure 1). The region is about 1,778 square miles in total area, accounting for nearly 20 percent of New Jersey's total area of 8,722 square miles but contains less than 7 percent of the State's year-round population.

The much sparser population and employment density of the SJTPO region compared to the rest of the State can belie the fact that New Jersey is the densest state in the Union. The demand for travel in southern New Jersey differs from the rest of the state and is influenced by three distinctive characteristics, including:

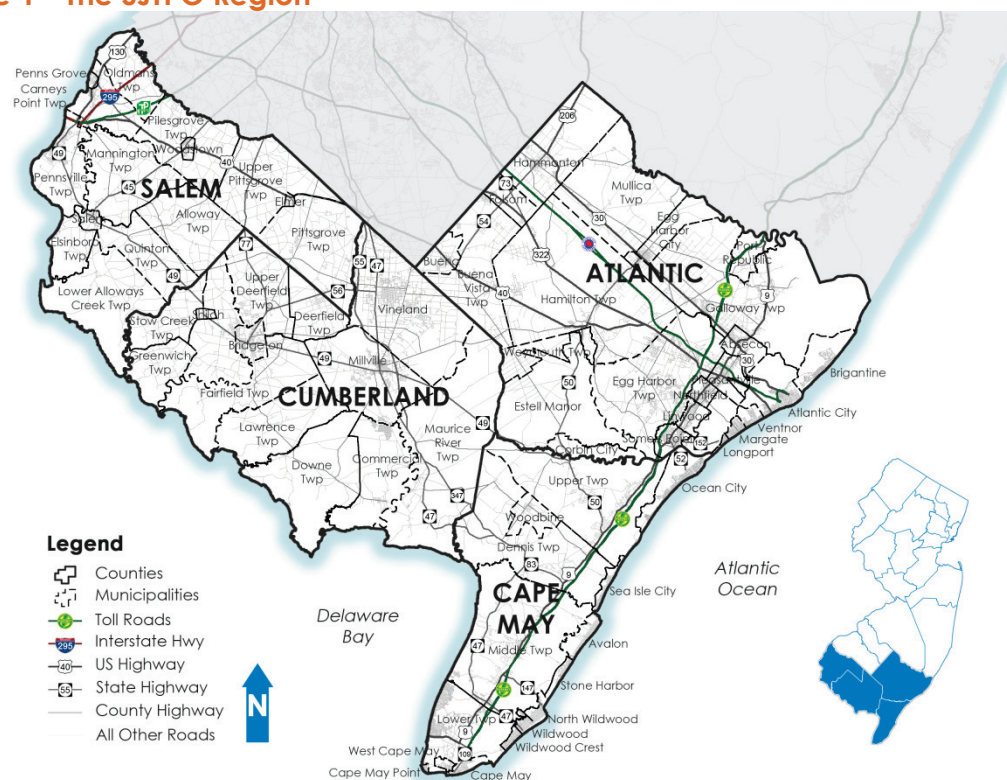
- the importance of the gaming and tourism industries,
- seasonal variation in travel due to tourism, and
- the predominance of small cities and rural areas.

The [SJTPO Regional Profile](#) is prepared by the SJTPO to provide a snapshot of the SJTPO region; it documents the geographic, transportation, and population characteristics of the four counties that comprise the SJTPO region.

*You can learn more
about the SJTPO region in
our [Regional Profile](#).*



Figure 1 - The SJTPO Region



Learn more about
FAST Act, our federal
legislation [Here>>>](#)



Plan Requirements –the FAST Act

The elements that must be included in the long-range transportation plan are specified by federal law. As cited above, the current law that prescribes Plan elements is the FAST Act. The FAST Act requires each long-range transportation plan to:

- Cover a minimum 20-year period
- Be updated at least every four years in areas designated as nonattainment or recently designated as nonattainment
- Be ‘fiscally constrained’ – that is, plan on the basis of likely funding levels rather than unlimited funding levels
- Use up-to-date planning assumptions
- Identify major transportation facilities (including major roadways, public transportation facilities, intercity bus facilities, multimodal and intermodal facilities, non-motorized transportation facilities, and intermodal connectors) that should function as an integrated regional system.

- Include a description of the performance measures and performance targets used in assessing the performance of the transportation system
- Include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities.
- Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods.
- Consider the ten (10) planning factors described below.

The FAST Act specifies the ten (10) planning factors that must be addressed in the planning process. The process must:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impact of surface transportation.
10. Enhance travel and tourism.

The FAST Act authorizes \$305 billion for all modes during federal fiscal years (FY) 2016 to 2020. The FAST Act is the first long-term authorization act in more than a decade, which provided 5 years of much-needed funding certainty for infrastructure planning and investment. Due to passage of this new legislation, there will be some changes to the Metropolitan Planning Rule, which guides much of MPOs' activities, but these changes are not expected to be published before the release of this plan.



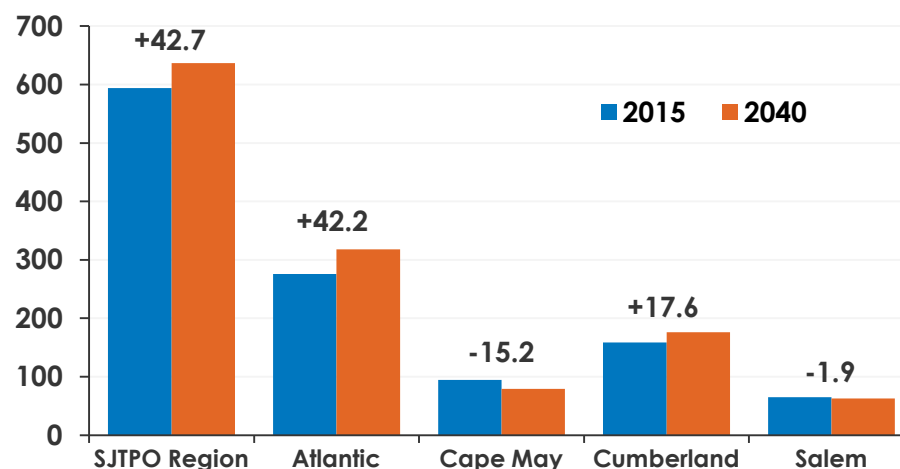
Regional Demographics and Economic Context

Long-range transportation planning requires an understanding of the demographic and economic characteristics that create the demand for travel. Additional considerations include the unique challenges and influencing factors that shape the region. *Transportation Matters* examines the context for transportation planning and decision-making in South Jersey.

Demographic characteristics of an area influence the demand for travel and understanding the region's population and economy is key to planning for future travel needs. Changes in the population along with shifts in the number, type, and location of jobs can affect the number, length, and distribution of trips that must be made and consequently the need for transportation facilities and services.

The demand for travel in southern New Jersey differs from the rest of the state in several key ways. In general, southern New Jersey is more rural, with its population and jobs widely dispersed, and a heavy concentration of employment in one location – Atlantic City. However, there are parts of the region, e.g., Egg Harbor Township and Hamilton Township in Atlantic County, that are in the process of suburbanizing. Due to Atlantic City's long history as a casino and resort area, as well as the preponderance of other beach resort towns in Atlantic and Cape May Counties along the Atlantic Coast, tourism is an important industry in the SJTPO region. In particular, tourism in the region follows seasonal patterns resulting in significant increases in the number of residents and visitors during warmer weather. The four counties that comprise the SJTPO region offer a wide range of land uses, and particular care must be taken to protect the natural resources that characterize the region, and make it an attractive and desirable tourist destination.

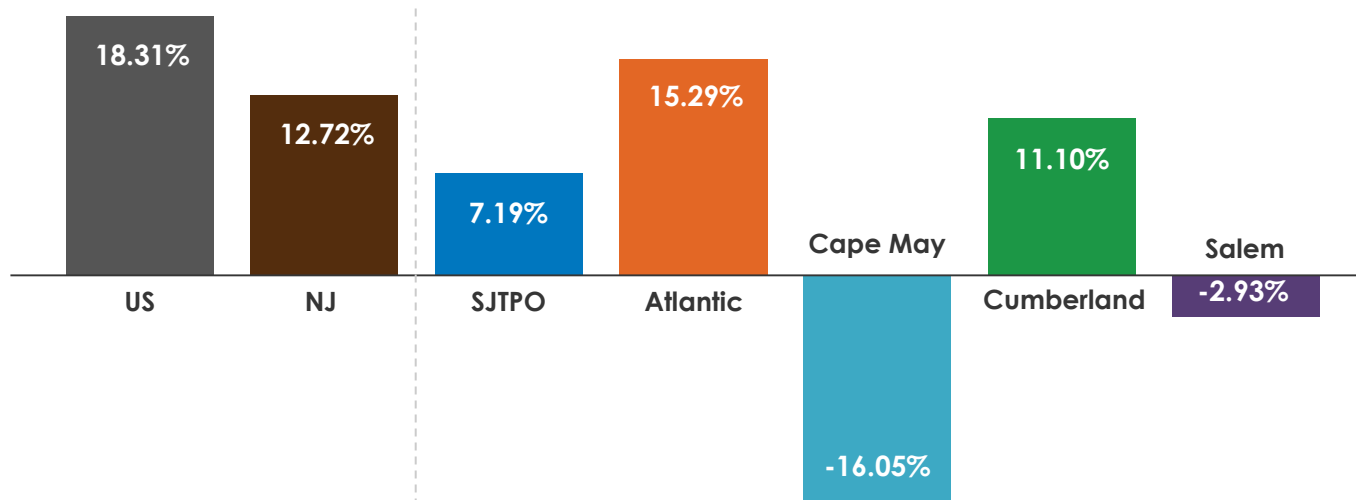
Figure 2 - Population in the SJTPO Region (thousands), 2015 and 2040



Source: Center for Governmental Research (CGR), RLS Demographics, 2010-2040, March 2016.

The current year-round population of the SJTPO region is approximately 594,100, 46.5 percent of whom live in Atlantic County. Annual population growth in the region averaged 0.52 percent between 2000 and 2010. Population is projected to continue to increase though at a slightly slower pace of 0.3 percent per year from 2015 to 2040, to 636,800. Figure 2, on the previous page, depicts the 2015 and 2040 projected year-round population for each of the four counties within the SJTPO region. Figure 3 depicts the overall change for the four-county SJTPO region. In absolute numbers, as shown in Figure 2, this means that 42,700 residents will be added to the four counties between 2015 and 2040. Consistent with past growth, Atlantic County is projected to add the most residents in both decades, followed by Cumberland County. Cape May County and Salem County are both expected to lose residents over the next 25 years.

Figure 3 - Population Growth, 2015-2040



Sources: US Bureau of the Census National Projections, 2015; NJ DOL. SJTPO Region data, SJTPO Demographic Forecast Report prepared by the Center for Governmental Research, RLS Demographics. 2010-2040, March 2016.

The nature of tourism in the region, however, means that the population fluctuates widely depending on the time of year and even time of week. Seasonal changes are similarly concentrated in Atlantic and Cape May Counties. Over the next 25 years, the SJTPO region is expected to grow at a slower rate than New Jersey and a significantly slower rate than the country as a whole (Figure 3). While an increase in the senior population can be expected to increase jobs in the healthcare sector, overall sectoral change is projected to be minor. That is, the distribution of jobs will remain largely the same as it is today.



South Jersey Transportation Planning Organization

As depicted in Figure 4, on the following page, economic activity in the SJTPO region is dominated by two sectors. The first is Office (which consists of the following North American Industry Classification System (NAICS) sectors:

- 42 (Wholesale Trade)
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste
- 92 Public Administration

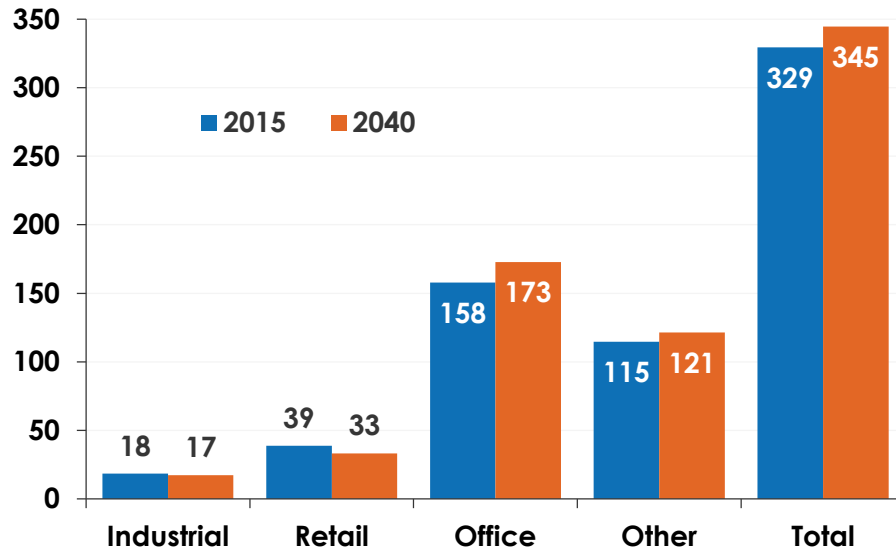
The second is “Other,” which consists of:

- 11 Agriculture, Forestry, Fishing, and Hunting
- 23 Construction
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment and Recreation
- 72 Accommodation and Food Services

Even though Atlantic City and the surrounding area has suffered economically in recent years, the beaches and shorefront towns within the SJTPO region still remain a heavy tourist draw; and as such, retail, accommodation, and food services will continue to be a major sector.

Total employment for the SJTPO region is projected to increase by a little less than 5 percent, from 329,500 total jobs to 344,700 total jobs in the 2015 to 2040 period. However, as can be seen in Figure 4, there will be a minor decrease in employment in the industrial and retail sectors in the region for this period. Appendix C (Demographics) of *Transportation Matters* includes detailed data on employment change for each county for the 2015-2040 period, along with an explanation of the methodology used in developing the forecasts.

Figure 4 - SJTPO Region Employment by Sector (thousands), 2015 and 2040



Source: Center for Governmental Research, RLS Demographics. 2015-2040. March 2016.

One significant “shock” to the regional economy since the last regional transportation plan has been the numerous casino closings in Atlantic City. In 2014, four casinos closed, resulting in a loss of more than 8,000 jobs. The casino industry has been hurt by increased competition for gaming consumers, as evidenced by casino openings in Pennsylvania, Delaware, and New York, three of the largest market areas from which Atlantic City draws its customers. Further, there is now some discussion of legalizing gambling in North Jersey, which could further hurt Atlantic City’s casino industry.



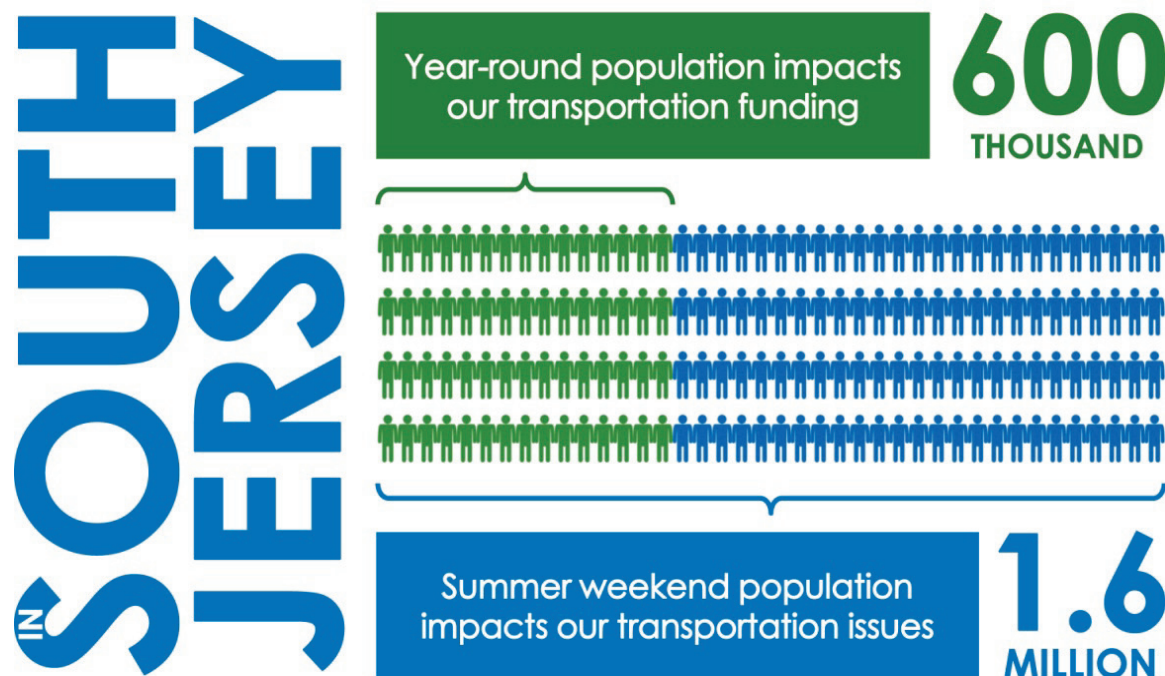
From winter to summer in 2015, the population grew by more than 179% in Atlantic County and over 591% in Cape May County.

This is projected to continue through 2040.

South Jersey Transportation Planning Organization

As stated above, the SJTPO region experiences a significant influx in population, (and employment, to a lesser extent) because of its extensive beachfront area as well as other recreational attractions. In 2015, the summer population increased by more than 179 percent of its year-round population amount in Atlantic County and over 591 percent in Cape May County, representing 177 percent growth for the region on summer weekends. This is expected to remain unchanged through 2040 (see Figure 5)¹. These rapid weekly and seasonal population changes significantly increase the stress on the regional transportation network and create regionally specific patterns of congestion.

Figure 5 - Year-Round vs. Summer Population, 2015



Source: RLS Demographics. CGR. 2016.

In 2014, SJTPO completed a regional household travel survey. Data on travel behavior was collected from over 1,850 households. The survey covered travel during a typical weekday during the three-month period from February through May 2014. An examination of the primary trip purpose showed that, other than trips that originated from or whose destination was home, (the trip purpose of “home activities” was reported 33 percent of the time), the majority of trips were work or shopping related. Work trips accounted for 12 percent and everyday shopping accounted for 11 percent of all trips, while

¹ RLS Demographics. CGR. 2016.

other activities like household and personal errands (7 percent), eating out (5 percent) and drop-off or pick-up a passenger (5 percent), made up most of the rest of all trips. Private auto travel (as the driver or a passenger) was the largest mode choice for all trips (87 percent) and for the mode to work trips (94 percent). To get a better sense of recreational travel, the survey also included a series of questions pertaining to shore visits, a major generator of recreational trips, especially in the summer months. Though roughly 33 percent of the households sampled lived at the shore year-round, but 81 percent of households reported visiting the Shore at least once during the May-September period. Though recreational trips may not constitute the majority of trips, the shore is a major generator of recreational trips, especially in the summer months.

Despite the mass of casino closings in recent years, the SJTPO region has been closely linked to tourist and seasonally based population and economic flows and it is clear that this connection will continue in the decades to come.

.... 81% of households report visiting the Shore at least once during the summer (May-September).

You can learn more about the 2014 Household Survey in the Household Survey Report.





Our Vision:

A transportation system, based on regional collaboration that moves people and goods in a safe and efficient manner and incorporates all modes and users.

2. THE PLAN VISION AND GOALS

The main purpose of a long-range Regional Transportation Plan is to describe a future vision for the region's transportation system. The vision represents the ultimate outcome of what the South Jersey Transportation Planning Organization (SJTPO) and its residents would like the transportation system to look like and operate in the year 2040. While the vision should attract commitment and reflect the desires and aspirations of the region's constituents, it should also be realistic and attainable. The goals and strategies described below are established to support and achieve the Plan's vision. In addition, all the activities and projects that the SJTPO and its subregions engage in within each four-year planning cycle are designed to support the Plan's vision and supporting goals and strategies. Based on the metropolitan planning factors and input from our planning partners, SJTPO has established the following vision for *Transportation Matters*.

Our Vision

A transportation system, based on regional collaboration that moves people and goods in a safe and efficient manner and incorporates all modes and users.

Goals and Strategies

Transportation planning and decision-making for the SJTPO region are guided by a series of goals and strategies. A direct outgrowth of the Plan Vision, which is based on the planning factors described in Chapter 1, these goals and strategies reflect the priorities, needs, and values of the region's citizens, decision-makers, and business community. Input was solicited from members of the SJTPO Policy Board, Technical Advisory Committee, the Citizens Advisory Committee, and the public on *Transportation Matters* goals and strategies. Based on the responses, SJTPO has set the following goals and strategies to guide the regional transportation decision-making process, in order of importance to the public.

1. Promote accessibility and mobility for the movement of people and goods

- a. Evaluate all transportation projects that receive funding through the SJTPO process for their inclusion of complete streets elements, including bicycle, pedestrian, and transit accommodation.
- b. Work with regional partners to advance recommendations of the Coordinated Human Service Transportation Plan.
- c. Work with public transportation providers to evaluate transit service availability in Environmental Justice communities, particularly those areas with limited vehicular access.
- d. Promote public awareness of alternative transportation options and services.
- e. Identify locations where better intermodal facilities and infrastructure is needed in order to promote intermodal connectivity.
- f. Work with regional partners to evaluate truck routes and other critical freight corridors for accessibility, reliability, safety, and other system performance measures in order to develop and prioritize projects. Expand representation from groups that represent freight, bicycles, pedestrians, and transit into the MPO process.

2. Support the regional economy

- a. Expand representation from major employers and non-profit sectors that represent regional economic interests into the MPO process.
- b. Initiate and advance conversations among regional partners in the public, private, and non-profit sectors to develop and implement a vision for a regional trail network to connect major attractions within the region and to neighboring regions.
- c. Identify locations where better intermodal facilities and infrastructure is needed in order to promote intermodal connectivity.
- d. Work with regional partners to evaluate truck routes and other critical freight corridors for accessibility, reliability, safety, and other system performance measures in order to develop and prioritize projects.

3. Mitigate traffic congestion

- a. Promote the implementation and deployment of ITS technologies.
- b. Utilize the Congestion Management Process to identify congested locations and analyze available data to inform project development.
- c. Explore additional opportunities to partner with Cross County Connection and others to reduce single occupant vehicle trips.
- d. Utilize the South Jersey Travel Demand Model (SJTDM) and its performance measures to evaluate impacts on future projects related to congestion and delay.

SJTPO conducted a Public Survey, between January and March 2016. That input indicated that The top priorities of South Jersey residents for transportation are:

- 1. Promoting transportation choices for people and goods***
- 2. Supporting the regional economy***
- 3. Mitigating traffic congestion***



4. Improve transportation safety

- a. Evaluate all transportation projects that receive funding through the SJTPO process for their inclusion of safety countermeasures for all roadway users.
- b. Improve the safety of roadway user behavior through the continued dissemination and development of safety education programs.
- c. Ensure that safety investments are aligned with priorities established with the State's Strategic Highway Safety Plan, which was developed in collaboration with MPOs and other statewide partners.
- d. Continue and expand state and regional partnerships to identify and reduce barriers to safety project advancement.
- e. Work with regional partners to develop and prioritize projects that improve safety on the bicycle and pedestrian network.

5. Protect and enhance the environment

- a. Educate the public about the impacts of transportation on the environment and provide information on how to mitigate those impacts through changes in daily behavior.
- b. Prioritize maintenance of existing system over expansion of system facilities.
- c. Promote projects that reduce emissions on the roadway, such as ITS, signal optimization, bicycle and pedestrian facilities, public transit, or roundabouts.

6. Restore, preserve, and maintain the existing transportation system

- a. Prioritize maintenance of existing system over expansion of system facilities.
- b. Develop systems that assist local governments in prioritizing projects based on greatest need and greatest efficiency in use of funding.
- c. Collect data that demonstrates the added needs of the region due to unique seasonality of travel patterns and work to secure additional state and federal funding based upon those needs.

7. Enhance the integration and connectivity of the transportation system

- a. Partner with counties and municipalities to develop SJTPO transportation priorities that are integrated with local master plans.
- b. Develop a mechanism to capitalize on the public's local knowledge and experiences about the transportation system and collaborate with local jurisdictions to feed that information into their transportation decision-making process.
- c. Evaluate the existing gaps within and between modes of transportation to inform project development and identify opportunities.

8. Improve security

- a. Educate the public about evacuation routes and planning efforts that exist at the county or state level.
- b. Evaluate evacuation routes and prioritize roadway maintenance projects to ensure those routes are capable of performing an evacuation function.

9. Improve the resiliency and reliability of the transportation infrastructure, particularly along the Atlantic and Delaware Bay shorelines.

- a. Analyze vulnerability of transportation system to determine where adaptation strategies are most appropriate.
- b. Prioritize transportation improvements and programs that increase the reliability and resilience of the transportation system during extreme weather events.

10. Increase and enhance opportunities for travel and tourism.

- a. Initiate and advance conversations among regional partners in the public, private, and non-profit sectors to develop and implement a vision for a regional trail network to connect major attractions within the region and to neighboring regions.
- b. Identify seasonal influx of travelers to congested shore areas during summer months to better identify transportation needs.

3. PUBLIC INVOLVEMENT

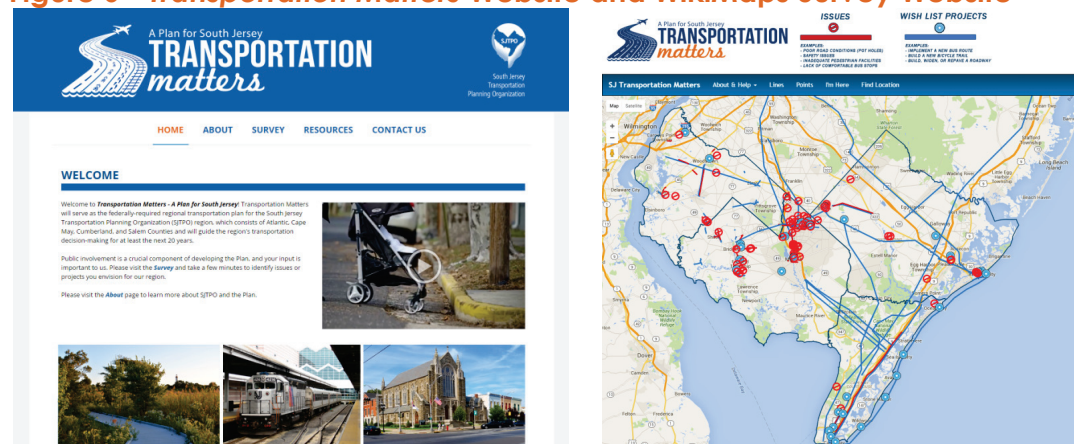
Public involvement was essential in the development of *Transportation Matters – A Plan for South Jersey*. The *Transportation Matters* Public Outreach Strategy, developed specifically for the Plan, was instituted to ensure early and timely input from a wide range of participants, particularly at critical milestones in the plan development process. The basic objectives of the Strategy were to inform and educate citizens about *Transportation Matters*, describe how citizens may provide input to assist with plan development, solicit, and document local input, and to foster better public relations. To meet these objectives, the program emphasized information exchange and online outreach to compensate for the inherent difficulty in holding meetings and workshops for the public in a region with low overall population density that is not well served by transit. The *Transportation Matters* Outreach Strategy also included innovative outreach approaches, such as visits to local advocacy groups and identification of key interest groups throughout the region to include in the process.

Online Efforts

The team developed a unique website www.sjtransportationmatters.com, for *Transportation Matters*. The website provided a good interface for public input and notices of public meetings, as well as an online survey, which included a mapping tool based on a WikiMaps platform. Using this tool, the public could identify specific locations where they wanted to see improvements, as well as where they experience issues. Figure 6, below, provides screenshots of the survey homepage and WikiMaps project input application, respectively. These issues and ideas are documented in this plan and will be utilized along with other data to help planners, engineers, and elected officials to identify potential project locations and inform decision-making.

Check out the
Transportation Matters
website [Here>>](http://www.sjtransportationmatters.com)

Figure 6 - Transportation Matters Website and WikiMaps Survey Website



Outreach Events

The *Transportation Matters* Outreach strategy included several “pop-up events,” where the South Jersey Transportation Planning Organization (SJTPO) would essentially set up a table or booth at an existing event in the region to engage with the public via survey and map to collect location-specific ideas or concerns. It also included formal public meetings, a doubling of SJTPO’s contact database of stakeholders to reach via email blast, and included a major online and social media presence with the distribution of two videos designed to promote the importance of transportation and SJTPO’s role in the transportation process. SJTPO has developed this Outreach Strategy intentionally with the purpose of expanding its capacity for on-going outreach to a broader coalition of stakeholders, including low-income and minority populations.

The outreach for *Transportation Matters* was the largest public outreach effort ever undertaken by SJTPO and resulted in more participants and more comments than any other outreach effort in SJTPO history. SJTPO grew its ongoing public information email list by over 230 people between October 2015 and May 2016.

The overall outreach effort consisted of two rounds:

- **Round 1: Initial Input—Issues and Ideas** January - Mid-March, 2016
- **Round 2: Release of Draft Plan and Receipt of Comments** Mid-May - June 2016

In total, 131 people filled out a Round 1 outreach survey (including paper surveys and via the online survey). Between January 14 (the day that the *Transportation Matters* site was officially launched via twitter and SJTPO’s website) and March 22 (the day that the Round 1 outreach survey was closed for additional input), 247 people visited the *Transportation Matters* website. There were 1,246 page views during this period, which is the total number of “hits” that all pages on the site received (including repeated views of a single page by the same visitor).

For the *Transportation Matters* public outreach efforts, SJTPO participated in eight (8) outreach events during Round One, which focused on prioritization of goals and identification of issues and ideas. A total of six (6) were held in Environmental Justice (EJ) areas. The Round One Outreach events were as follows:

- **Third Friday at Glasstown Arts District**
North High Street & Sassafra Street,
Millville, New Jersey 08332
- **Spanish Community Center Health Fair**
303 Summer Street,
Landisville, New Jersey 08326
- **Crafts & Collectibles in Winter**
Cape May Convention Hall,
714 Beach Avenue,
Cape May, New Jersey 08204
- **Salem County Science Fair**
Salem Community College, Davidow Hall,
460 Hollywood Avenue,
Carneys Point, New Jersey 08069

**The outreach for
Transportation Matters
was the largest public
outreach effort ever
undertaken by SJTPO
and resulted in more
participants and more
comments than any
other effort in SJTPO
history.**





SJTPO held thirteen (13) public events to get hear from the public during Transportation Matters.

This included eight (8) outreach events during Round 1, focusing on goals, issues, and ideas and five (5) public meetings during Round 2, to present and receive feedback on the draft Plan.

Nine (9) events were held in Environmental Justice areas.



- **YMCA of Vineland**
1159 East Landis Avenue,
Vineland, New Jersey 08360
- **African American Heritage Museum of Southern New Jersey**
Noyes Art Garage,
2200 Fairmount Avenue,
Atlantic City, New Jersey 08401
- **Vineland Public Library**
1058 East Landis Avenue,
Vineland, New Jersey 08360
- **Nanticoke Lenni-Lenape Tribal Nation Tribal Council and Tribal Citizens Meetings**
Cohanzick Zoo,
45 Mayor Aitken Drive,
Bridgeton, New Jersey 08302

In addition, SJTPO held five (5) outreach events during Round Two, which were formal public meetings that focused on presenting and receiving feedback on the Draft Plan developed by SJTPO. A total of nine (9) public events from Rounds One and Two were held in Environmental Justice (EJ) areas. The Round Two Outreach events were as follows:

- **Vineland City Hall**
640 E. Wood Street, Second Floor Caucus Room
Vineland, NJ 08360
- **Bridgeton Free Public Library**
150 East Commerce Street
Bridgeton, NJ 08302
- **Ware Agricultural Office Complex**
51 Cheney Road
Woodstown, NJ 08098
- **Lower Township Branch of the Cape May County Library**
2600 Bayshore Road
Villas, NJ 08251
- **Egg Harbor Township Branch of the Atlantic County Public Library**
1 Swift Avenue
Egg Harbor Township, NJ 08234

Figure 7, below, displays the locations of outreach events from Round One and Two along with the Environmental Justice areas as they were defined at that time. The SJTPO put forth a great deal of effort to ensure that events were as accessible as reasonably possible. Meeting locations were largely in Environmental Justice areas and to the greatest extent possible were in walkable and/or transit accessible areas. Environmental Justice refers to an area that represents an above average clustering of low-income or minority populations. These groups are identified in federal guidance as under-represented in the transportation planning process.

Figure 7 - Transportation Matters Public Outreach Locations

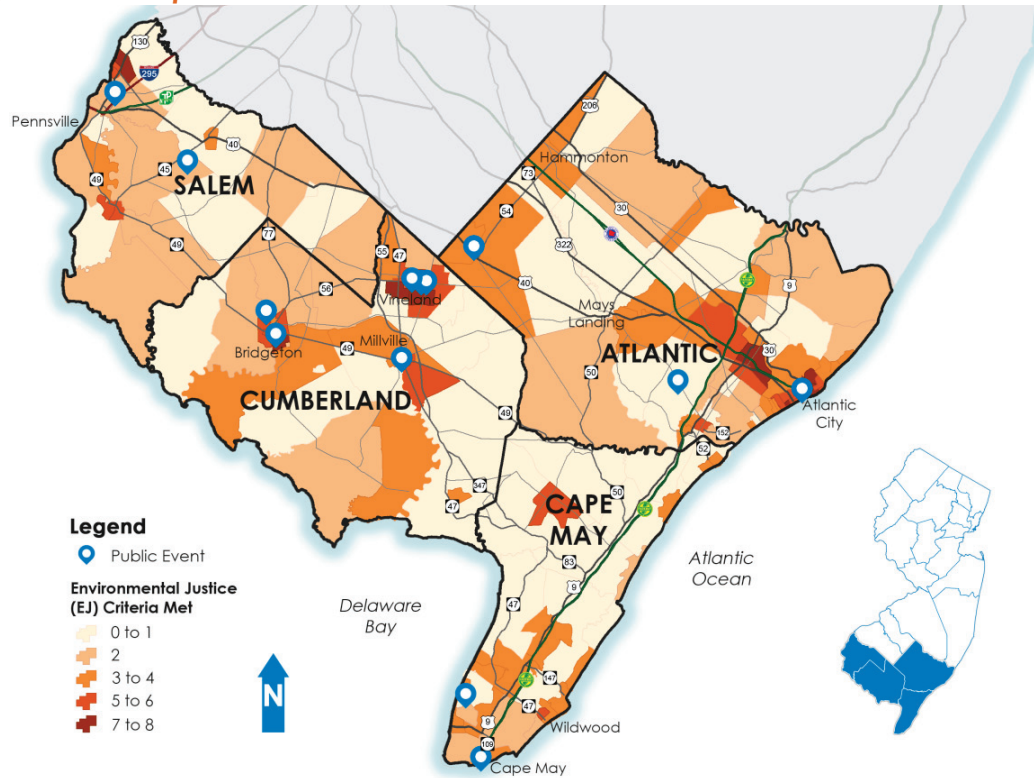
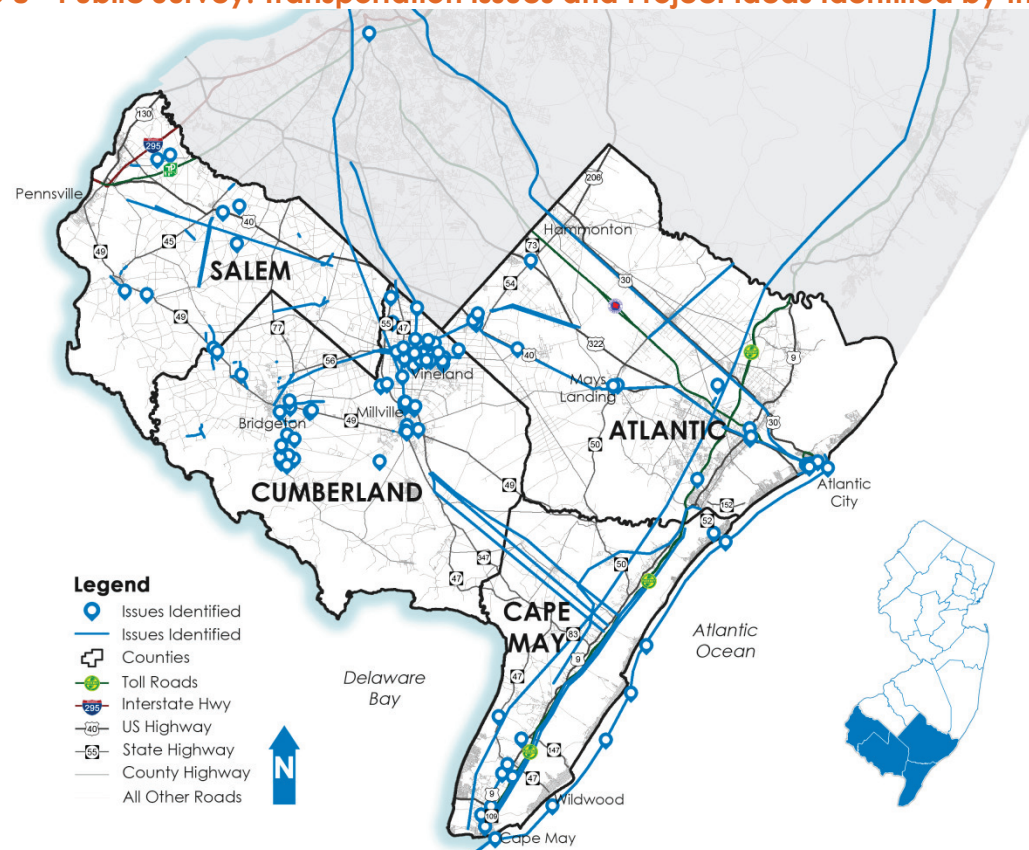


Figure 7, above, displays the Environmental Justice areas, as they were identified in 2015. *Transportation Matters* public outreach efforts took place in January through June 2016. The points on the map represent the location of the eight (8) outreach events in Round One and five (5) public events in Round Two. Nine of the 13 public events for *Transportation Matters* were held in areas that met three or more Environmental Justice criteria.

Input Received

Figure 8, below, depicts a map of issues and project ideas identified by the public via the WikiMaps web application. *Transportation Matters* outreach resulted in the identification of 112 transportation issues and 82 wish list projects. In addition, the public indicated that their top three goals for transportation in the region are to “Promote transportation choices for people and goods,” followed by “Support the Regional Economy,” and “Mitigate Traffic Congestion.”

Figure 8 - Public Survey: Transportation Issues and Project Ideas Identified by the Public



A more thorough description of the Outreach Strategy, including the list of detailed comments, and the results of this outreach for *Transportation Matters* can be found in Appendix E.

The top priorities of South Jersey residents for transportation are:

- Promoting transportation choices for people and goods
- Supporting the regional economy
- Mitigating traffic congestion



Table 1, below, and Table 2, on the following page, provide a general summary of all of the public comments received via the online survey as well as via the paper survey. Taken together, the comments on specific needs indicate a general concern for the number of intersections with safety issues, intersections with inadequate or needed traffic signals, and the need for more bus routes.

Table 1 - Public Survey: Issues and Needs Identified*

General Needs Identified	Total	Atlantic	Cape May	Cumberland	Salem
More bus routes	14	2	2	7	3
Repair potholes	5			4	1
Repair/repave roads	3			1	2
More Sidewalks	3	1			2
More Bike trails/lanes	3	1		1	1
Need traffic lights or 4 way stops	2			1	1
Better lighting (NJ 55 & park lots)	2			2	
Improve bus service	2			2	
More transit for seniors/disabled	2			1	1
Repair bus stops	1			1	
Improve traffic signals (Atl. City)	1	1			
New or expanded roads	1			1	
Need Rail service to New York	1			1	
Restore rail service in Cape May	1		1		
Total Specific Needs Identified	41	5	3	22	11


Table 2 - Public Survey: Location-Specific Problems Identified*

Specific Problems Identified	Total	Atlantic	Cape May	Cumberland	Salem
Intersection safety concerns	19	3		15	1
Need for traffic signal	7	1	1	5	
Drainage	5			5	
Congested intersection	3	3			
Poor pavement condition	3		2	1	
Roadway safety concerns (curve)	2			2	
Need for bike trails (specific)	2		2		
Congested roadway	1			1	
Bridge (needs to be reopened)	1	1			
Potholes (specific location)	1			1	
Total specific problem locations	44	8	5	30	1

*Respondents identified specific problem locations (e.g. hazardous locations)

Other comments that were not tied to one specific site included the following:

- Build ferry stops along Shore
- Parking rates too high in Atlantic City
- Should be easier to fly to Atlantic City
- Need Philadelphia-Atlantic City connection
- Need a school crossing
- Long walks to bus station
- Protect animals from traffic
- Problem bus drivers
- Need alternative route to the Garden State Parkway
- Need better access to New Jersey Route 55
- Create more business
- Difficult to get to the New Jersey Turnpike

4. THE REGION'S EXISTING TRANSPORTATION SYSTEM AND SELECT STRATEGIES

This section presents a review of transportation resources in the South Jersey Transportation Planning Organization (SJTPO) region by travel mode. It begins with aviation and continues with bicycle and pedestrian movement, freight, and transit, concluding with an examination of the road network. This section also provides an overview of facilities and services, demand for travel, condition, and state of repair of infrastructure, as well as an assessment of needs and problems, concerns, and factors that determine project selection. Finally, strategies for improvement are reviewed.

1. Aviation

Atlantic City International Airport

In spite of its relatively small size, the SJTPO region has a variety of public use airports, both publicly and privately owned. The Atlantic City International Airport (ACY) located in Egg Harbor Township offers commercial service flight operations; one of three in the State of New Jersey. The Atlantic City International Airport serves to facilitate tourism into the region, as well as to link the region to other aviation hubs for business and leisure travel.

The South Jersey Transportation Authority (SJTA), an agency of the State of New Jersey, operates the terminal, runways and related facilities at the Airport. The Federal Aviation Administration William J. Hughes Technical Center and New Jersey Air National Guard are located at the airport. Atlantic City International Airport is located 10 miles from downtown Atlantic City, a gaming and resort community that attracts millions of visitors annually. The airport is situated adjacent to the Atlantic City Expressway, which runs from Atlantic City to the Philadelphia metropolitan region and intersects with the Garden State Parkway.

In 2012, SJTA completed a \$25 million expansion to the airport, which included a 75,000-square foot expansion to the terminal, as well as a federal inspection station allowing the airport to process travelers flying directly to and from other countries. The expansion also included the addition of three passenger gates as well as an expanded baggage claim area. The Airport is an important element of the region's transportation system and connects South Jersey to cities across the nation as well as internationally.

In 2013, the Port Authority of New York and New Jersey took over the day-to-day operations of the Atlantic City International Airport. Under this arrangement, SJTA agrees to pay the Port Authority to operate the facility in an arrangement that leaves the Port Authority responsible for marketing and air service development, among other things.



General Aviation Airports

In addition to Atlantic City International Airport, the SJTPO region hosts several smaller public use airports (Table 3, below). There are four advanced service airports, which support corporate/executive and private-use general aviation activities including Cape May County Airport, Hammonton Municipal Airport, Millville Municipal Airport, and Ocean City Municipal Airport. Several others are smaller publicly owned and privately operated airports including Bucks Airport, Kroelinger Airport, and Spitfire Aerodrome (formerly Oldmans Airport), of which Kroelinger Airport is the smallest. These general aviation airports serve private passenger, agricultural, and/or commercial charter and freight aircrafts (Figure 9, on the following page).

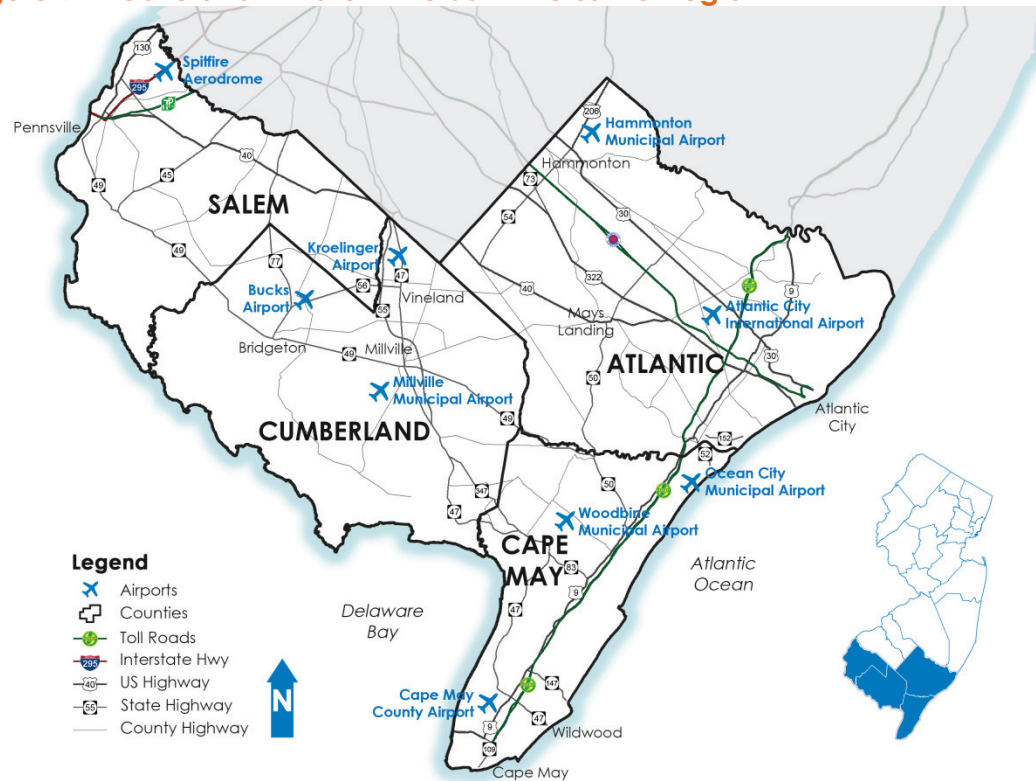
Table 3 - Public Use Airports

Airports	Location	County
Atlantic City International Airport	Egg Harbor Township	Atlantic
Bucks Airport	Bridgeton	Cumberland
Cape May County Airport	Wildwood	Cape May
Hammonton Municipal Airport	Hammonton	Atlantic
Kroelinger Airport	Vineland	Cumberland
Millville Municipal Airport	Millville	Cumberland
Ocean City Municipal Airport	Ocean City	Cape May
Spitfire Aerodrome (formerly Oldmans)	Oldmans Township	Salem
Vineland-Downstown (serves Vineland, but is not located within municipal boundaries)		Gloucester
Woodbine Municipal Airport	Woodbine	Cape May

Source: NJDOT Aeronautics Division, www.state.nj.us/transportation/airwater/aviation/.

Transportation Matters supports development of the aviation sector; and in particular, plans for improved transit connections to the airport to give travelers and employees other options besides driving to the airport.

Figure 9 - Public and Private Airfields in the SJTPO Region



2. Bicycle and Pedestrian System

Introduction

SJTPO is involved in a number of efforts to improve bicycle and pedestrian access across the four-county region. Everyone is a pedestrian at some point in his or her trip, whether it is as a primary method to get from one place to another or simply get to and from our car. Transportation planners and engineers must find ways to provide facilities that give the public the option to walk and bike safely in addition to making pedestrians and bikes more visible to drivers. Pedestrian and bicyclist safety must be considered in all major transportation investment decisions.

In addition to their recreational benefits, provision of sidewalks, bicycle lanes, and multi-use trails can encourage the use of alternate forms of transportation for work, shopping, and other trips. This represents one of several transportation alternatives designed to reduce congestion on our roadways. This is especially true in our shore communities, which are

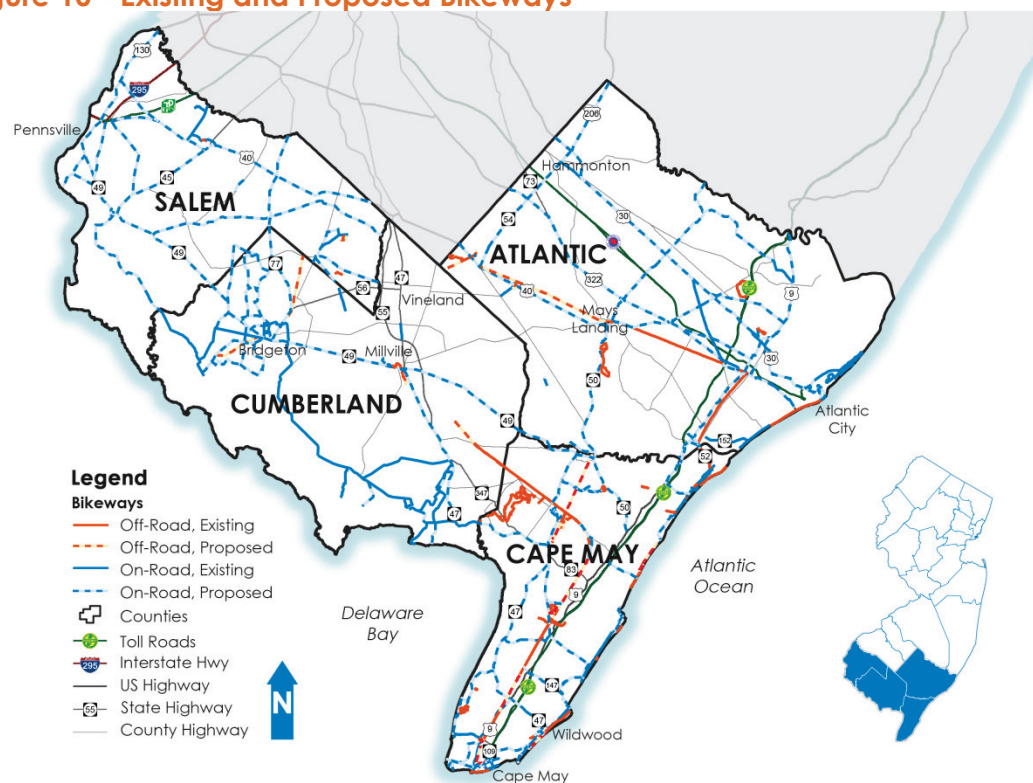
Did you know? Only about 1 out of 30 trips are made by bicycle or on foot, but over 1 out of 4 fatalities on our roads are bicyclists & pedestrians.

conducive to walking and biking due to the compact development pattern. These communities have a greater need to remove vehicles from highly congested roadways. In addition to congestion mitigation, bicycle and pedestrian travel is environmentally friendly with no mobile source emissions. As such, it is supportive of *Transportation Matter's* goal to "Protect and enhance the environment."

The Existing Network

Currently, the region has over 214 miles of designated bicycle facilities, including both on-road and off-road facilities. However, the majority of bicycle facilities in the region are non-designated facilities, such as paved shoulders and shared roadways. Though the number of bicycle facilities, both designated and non-designated, is growing, most of the region is not directly connected to these facilities. Roadways remain the primary means by which cyclists may access the region. This may suffice for expert riders; however, casual riders will require additional facilities that are deliberately planned for bicycling in order to gain meaningful access to the region.

Figure 10 - Existing and Proposed Bikeways



It should be noted that the provision of wide shoulders along a roadway alone is not necessarily an indicator of a user-friendly bike route. Other factors such as route length and continuity, average traffic speed, traffic volume, and connections to desired destinations are also important and should be taken into consideration when identifying and/or designating a road segment as a bike lane. Cross County Connection (the Transportation Management Association serving Southern New Jersey) requires that, for a road to be identified as a bike lane or route, it must have bikeway signage or road markings, or at a minimum “share the road” signs. Another factor contributing to the high usage of bike lanes is providing the public with access to information (location, type of facility, etc.) on bike lanes and paths in their region through bikeway route brochures, web pages, and other sources.

The identification of bicycle compatible streets and highways remains a complex task. The factors that need to be examined include traffic volumes, lane widths, presence and width of shoulder, motor vehicle speeds, type of traffic, parking conditions, commercial driveways, grade, surface conditions, and sight distance. Therefore, to determine bicycle compatibility of area roadways, it is advisable that each be examined individually. With this in mind, SJTPO counties and municipalities have been active in efforts to identify and develop on-road and off-road bicycle facilities, and propose future bike lanes and paths. Since the last Regional Transportation Plan Update, SJTPO’s counties have proposed a number of new bicycle and pedestrian projects, which are indicated in Table 4, below.

Table 4 - Existing and Proposed Bikeways

	Atlantic	Cape May	Cumberland	Salem	Total
Off-Road	49.32	68.37	17.30	2.17	137.16
Existing	33.63	26.55 *	1.55	1.18	62.91
Proposed	15.69	41.82	15.75	0.99	74.25
On-Road	230.44	48.10	173.88	145.67	598.09
Existing	43.05	26.37	74.06	8.07	151.55
Proposed	187.39	21.73	99.82	137.59	446.53
Grand Total	279.76	116.47	191.18	147.83	735.25

Source: Cross-County Connection, updated with recent information from county planning departments, as relevant

* Does not include additional 8.17 miles of boardwalks, which have time-of-day restrictions for bicycles, 31.29 miles of dirt paths, and 8.93 miles of walking paths.



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Below are some of the key facilities in each county in the SJTPO region.

- **Atlantic County**
 - Off-road bike facility, from just east of Mays Landing that extends 7.6 miles to the Shore Mall
 - Off-road bike facility, from Pleasantville that extends 7.5 miles to Somers Point
 - More information on major bikeways in Atlantic County is available at www.aclink.org/PARKS/mainpages/Bikeway.asp
- **Cape May County**
 - Off-road facility, from Weatherby Road in Cumberland County, extending 10.6 miles through Woodbine along an abandoned rail line to Dennis Township
 - Off-road facility, from Main Street in Middle Township extending 7.5 miles north to the Cape May County Zoo
 - Off-road facility, from Somers Point extending 2.0 miles across the Route 52 Bridge into Ocean City. This facility connects to miles of bike lanes as well as sidewalks in Ocean City and will soon connect to the 7.5-mile bikeway from Somers Point to Pleasantville.
 - Cape May County also has miles of bike lanes in many of the shore communities, as well as boardwalks, though many have time-of-day restrictions for bicyclists, and dense sidewalk networks that connect between communities.
 - An interactive map with information on major bikeways in Cape May County is available at www.capemaycountymis.net/flexviewers/bike%20walk%20cape%20may%20county/. The map includes information on bicycle and pedestrian facilities and their proximity to landmarks and attractions.
- **Cumberland County**
 - The county has a 58.5-mile cross-county route running between Salem and Cape May Counties, and connecting the City of Bridgeton with the Bay Shore communities and numerous scenic attractions.
 - The County's Bike Routes Brochure, available on the County's website at: www.co.cumberland.nj.us/filestorage/171/215/2921/CC_Bicycle_Brochure.pdf, includes a map of this major route.
- **Salem County**
 - Designated bike lane, in the Pilesgrove/Woodstown area, from the Woodstown High School, extending 5 miles to recreation areas and other points of interest.
 - A combination of State and County routes with wide shoulders crosses the county in an east-west direction (many segments are currently identified as proposed bike routes) and could be upgraded to designated route status with minimal improvements.
 - Since there are few bike routes at present, no countywide bike route guides or brochures are available at this time.

- **Regional Routes** – In addition to bikeways designated or identified by the counties, NJDOT has identified tour routes, which combine some designated facilities with mostly on-road routes, and are intended to direct riders through scenic or historic sites throughout the region and State.
 - High Point to Cape May route,
 - Cumberland-Salem Revolution route
 - Cumberland County Bayshore Byways Ride
 - Cape May Seashore Ride
 - Route maps are available at www.state.nj.us/transportation/commuter/bike. Although many routes are not upgraded to the standards for a designated bikeway, the State has identified these as reasonably safe routes for cyclists.

Table 5, below, depicts the ratio of bikeway mileage per 10,000 residents. Counties have proposed an additional 520.78 miles of bikeways, (which would be an increase of over 142 percent if implemented in its entirety), to bring the existing and proposed mileage to a total of 735 miles. Based on this goal set by the counties, the region has completed 29.2 percent of its desired bikeway mileage, as of April 2016 (see Table 6, on the following page).

Table 5 - Existing Bikeway-Miles per 10,000 Residents

SJTPO Counties	Existing Bikeways (miles)**		Population (2010)		Bikeway Mileage per 10,000 Residents
	Total	Percent Of Regional Total	Total	Percent Of Regional Total	
Atlantic County	76.68	35.8%	274,549	46.2%	2.8
Cape May County	52.92	24.7%	97,265	16.4%	5.4
Cumberland County	75.61	35.3%	156,898	26.4%	4.8
Salem County	9.25	4.3%	66,083	11.1%	1.4
SJTPO Region	214.46	100.0%	594,795	100.0%	3.6

Source: Cross-County Connection, updated with recent information from county planning departments, as relevant

+ On-road and off-road bikeways

Counties have proposed an additional 520.78 miles of bikeways, an increase of over 142 percent if implemented in its entirety, bringing existing and proposed bikeways to 735 miles.


Table 6 - Existing and Proposed On-Road and Off-Road Bikeway-Miles per 10,000 Residents

Bikeway Mileage, SJTPO Region				SJTPO Population (2010)	Bikeways	
					Miles Per 10,000 Population	Percent of Total
	On-Road	Off-Road	Total			
Existing	151.55	62.91	214.46	594,795	3.6	29.2%
Proposed	446.53	74.25	520.78		8.8	70.8%
Total	598.09	137.16	735.24		12.4	100.0%

Source: Cross-County Connection, updated with recent information from county planning departments, as relevant

+ On-road and off-road bikeways

Since 2005, there has been an increase of more than 76 miles of bikeways in the region, a 55 percent increase, a rate of approximately 6.9 miles per year. The region should work to continue or increase this rate of growth, especially given the ambitious list of bikeways proposed in each county.

Gaps in the System

Although existing roadways may hold the potential to accommodate bicyclists safely, there are a number of factors such as traffic volumes, motor vehicle speeds, use and availability of the land and roadway, and surface conditions all need to be examined in order to determine bicycle compatibility. In addition, different road conditions represent different levels of compatibility to different users. For example, an unmarked shoulder may feel comfortable to a more experienced user; however, a novice or casual user may require a separated bike path to feel comfortable. For pedestrians, a further challenge is the inconsistent availability and condition of sidewalks, crosswalks, signals, overpasses, underpasses, trails, and bikeways. For example, while sidewalks may be more common in more urbanized areas, in suburban and rural areas, they are often not continuous or well maintained, making pedestrian use unattractive. Further, in lower-income urban communities, facilities may not be maintained for optimal use due to lack of local funding. Sidewalks need to be continuous, accessible, and well maintained in order to be useful. Many sidewalks in the region do not meet these criteria.

Like the rest of New Jersey, the impediments listed above for both bicycle and pedestrian travel are common and many are widespread in the region. Steps need to be taken to remove these barriers to bicycle and pedestrian travel in the region. If bicycling and walking are to become more widespread, a more bicycle friendly and pedestrian friendly environment must be created. Creating a friendlier environment for bicyclists and pedestrians requires better inclusion of these modes in the engineering, design, and operation of streets and highways. Although there is more to be done to identify the gaps within the

system, work in this area is being done and should continue to be a focus, working to support the *Transportation Matter's* goal to “Enhance the integration of connectivity of the transportation system.”

Opportunities to Build Upon

The bicycle and pedestrian network in the SJTPO region is growing, with plans for even more growth as resources become available. This growth has the ability to build upon South Jersey's inherent strengths, such as its proximity to the Greater Philadelphia Area and its growing network of multi-use trails, the already prevalent tourism industry, and the vast natural and social resources in the region. SJTPO will consider the development of a regional bikeway system, (similar to the Circuit Trails, described below), which spans across all four counties rather than looking at each county separately. In addition, an expanded network can be valuable in promoting economic development and can help improve access for households with limited or no access to an automobile.

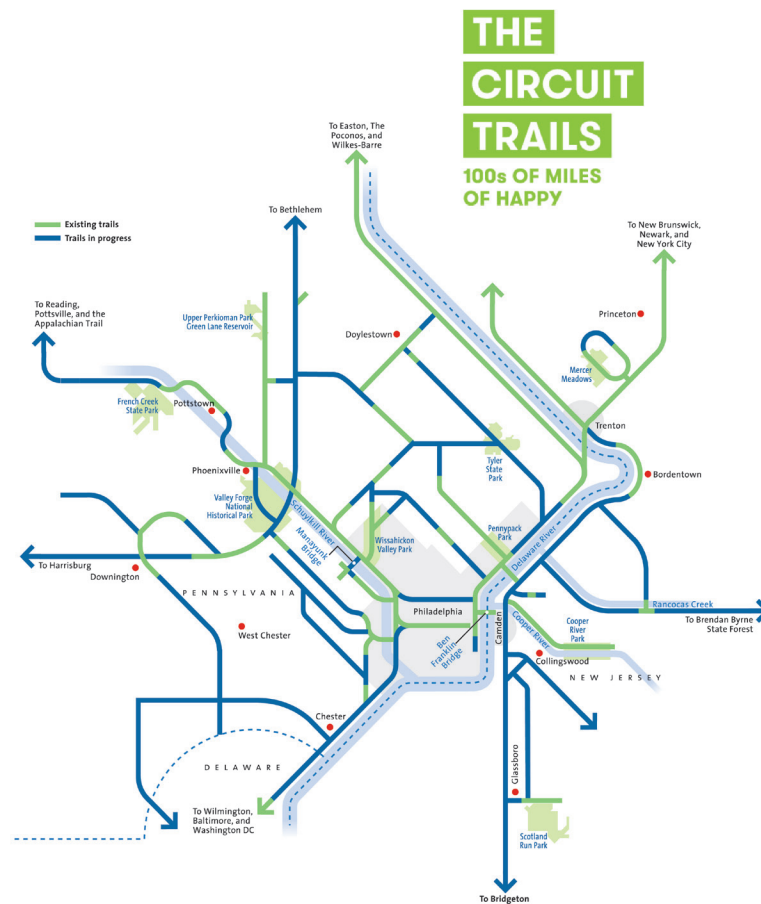
Nearby Examples of Success: The Circuit Trails

SJTPO's sister organization, the Delaware Valley Regional Planning Commission (DVRPC), which covers the Greater Philadelphia Area, working with partners across its nine-county region², has developed the Circuit Trails. The Circuit Trails is a 750-mile network of planned bicycle and pedestrian multi-use trails connecting people to jobs, communities, and parks in the Greater Philadelphia Area. To date over 300 miles have been built.

This represents two things to the SJTPO region – inspiration and connectivity. If the highly congested, densely developed Philadelphia Area can develop an extensive, regionally connected trails network, then the SJTPO region, which serves as a major attraction for tourists for its natural beauty, vast outdoor activities, and array of recreational and cultural amenities, can absolutely create a regionally connected system that serves South Jersey. Second, such a robust trails system nearby, which includes planned connectivity to the SJTPO region, gives a South Jersey system even more connection to destinations, users, and resources. This is important, as connectivity is essential to generate interest and incentive to use a system like this. Ultimately, a system that not only connects South Jersey residents to the region's vast resources, but also connects to Greater Philadelphia, is a system that will generate users and serve as a source of pride for South Jersey residents and visitors, consistent with *Transportation Matter's* goal to “Increase and enhance opportunities for travel and tourism.”

² These nine counties, which cover the Greater Philadelphia area and subsequently served by DVRPC include Camden, Burlington, Gloucester, and Mercer in New Jersey, and Philadelphia, Montgomery, Delaware, Bucks, and Chester in Pennsylvania.

Figure 11 - Map of The Circuit Trails, Network of Multi-Use Trails Across Nine PA & NJ Counties



Source: Tri-State Transportation Campaign. 2016.

Bike/Ped, Multi-Use Trails and Tourism – An Economic Driver

There are many reasons to promote the use of alternative modes, such as bicycle and pedestrian travel. A result of their impact on mobility, accessibility, and quality of life is that they improve the local economy. The impact of this is seen on multiple levels. It is intuitive to many that a well-connected bicycle and pedestrian network as well as multi-use trails provide an amenity that tourists enjoy, particularly when they connect to attractions and local businesses. Residential and commercial developers are recognizing the value of trail-oriented development and we are now seeing a new generation of bicycle-friendly buildings and projects. By adding bike-friendly amenities, developers and homebuilders are finding that they can

appeal to both ends of the demographic spectrum: young people who want to live closer to work as well as baby boomers who are looking for a more walkable and bikable lifestyle.³

Perhaps less known is that studies⁴ indicate that potential tourists that take advantage of these kinds of facilities are more affluent than are average residents, which presents a real opportunity for local economies. Further, amenities such as trails are highly demanded by prospective homeowners. According to the National Association of Homebuilders, “Trails consistently remain the number one community amenity sought by prospective homeowners.”

Providing amenities that are in high demand increases demand for local properties, which raises property values and results in generation of additional tax revenue for local communities. In short, everyone has roads but fewer communities have a good trail network, which makes that an amenity people are willing to pay for.

Health Benefits

In addition to the economic benefits described above, active transportation networks such as the Circuit Trails have significant health benefits with a multitude of activities that take place on these activities. In addition to being a bikeway system, the trails that comprise the Circuit Trail are good for walking, running, dog walking, and numerous other activities.

An Opportunity to Provide Equal Access

In addition to the benefits that bicycle and pedestrian facilities provide for all residents and visitors in the region, the benefits to households without access to a vehicle is much greater. It is easy to assume that everyone has an automobile as a necessity to conduct day-to-day activities, however despite the necessity of vehicle ownership in our region; many residents do not have reasonable access to one. In fact, 11.6 percent of all households in the four-county SJTPO region do not have access to a car. With 22.8 percent of households in Penns Grove, 24.8 percent in Salem City, and 46.1 percent in Atlantic City not having access to a vehicle and limited access to walking, bicycling, and transit, these communities become cutoff from the region altogether.⁵

New Jersey: A Bike/Ped Focused State

Since 2004, the Federal Highway Administration (FHWA) has been working to reduce pedestrian deaths by focusing extra resources on the cities and states with the highest rates of pedestrian fatalities. Efforts to focus on pedestrian crashes are

It is easy to assume that everyone has an automobile. However, despite the necessity of vehicle ownership in our region, 11.6 percent of all households in the SJTPO region do not have access to a car.

³ Urban Land Institute. Active Transportation and Real Estate: The Next Frontier. 2016.

<http://uli.org/wp-content/uploads/ULI-Documents/Active-Transportation-and-Real-Estate-The-Next-Frontier.pdf>

⁴ Economic Impact of Recreational Trail Use in Different Regions of Minnesota. Ernesto C. Venegas. University of Minnesota Tourism Center. November 2009. <http://atfiles.org/files/pdf/MinnesotaTrailEconomicImpact2009.pdf>.

⁵ South Jersey Transportation Planning Organization 2014 Household Travel Survey. June 2014. www.sjtpo.org/wp-content/uploads/2014/06/HouseholdTravelSurvey_2010.pdf.



South Jersey Transportation Planning Organization

important because of the greater likelihood of severe injury and death when involved in a crash. When a vehicle is in a crash, drivers are protected by an elaborate system of engineering designed to reduce the likelihood of injury or death, however when a bicyclist or pedestrian is hit by a car, there is nothing to protect them and the likelihood of serious injury or death is very high.

Nationally, though bicyclists and pedestrians make up only 3.4 percent of work commutes⁶, they make up 17 percent of fatalities⁷. As shocking as these statistics are, they are much worse in New Jersey, where 27.2 percent of roadway fatalities are bicyclists and pedestrians⁸; as a result, New Jersey is classified as a “Pedestrian Focused State.” This brings both resources and restrictions, but it means New Jersey needs to take the safety of pedestrians, and similarly bicyclists, very seriously until we can reduce these numbers.

New Jersey memorialized its commitment to advancing bicycle and pedestrian safety in its 2015 Update of the [Statewide Strategic Highway Safety Plan \(SHSP\)](#), where addressing Bicycle and Pedestrian crashes is indicated as a 1st Tier Priority. The SHSP indicates a number of strategies for reducing pedestrian and bicyclist crashes, including:

- **Improve pedestrian and bicyclist visibility and operations** at signal-controlled intersections by adding countdown timers and installing a Leading Pedestrian Interval (LPI) to signals to give pedestrians and bicyclists a 2- to 3-second head start. These enhancements have the potential to reduce crashes by 30 percent to 60 percent.
- **Implement road diets.** A road diet is a low-cost roadway reconfiguration that typically changes a four-lane roadway to a 3-lane roadway. Road diets are proven to reduce rear-end, sideswipe, and head-on crashes by approximately 40 percent, have little to no impact on traffic congestion, and provide a variety of opportunities to improve bicycle and pedestrian safety. In most installations, the cost of a road diet is kept low because the roadway is reallocated and restriped rather than reconstructed.
- **Improve traffic signs, pavement markings, overall lighting, and pedestrian-scale lighting** to make the roadway, intersections, and pedestrians/bicyclists more visible to drivers in low light and poor weather conditions. The crash reduction varies by technique, but the addition of streetlights has the potential to reduce incidences by 25 percent to 40 percent.
- **Use traffic calming to change driver behavior** along the most appropriate roadways by altering the physical roadway environment to slow traffic and make it safer for all users, primarily pedestrians and bicyclists. The most common

Road diets are proven to reduce rear-end, sideswipe, and head-on crashes by roughly 40 percent.

In addition, road diets have little to no impact on traffic congestion, and provide a variety of opportunities to improve bicycle and pedestrian safety.

6 Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012. Brian McKenzie. American Community Survey. May 2014. www.census.gov/prod/2014pubs/acs-25.pdf.

7 Quick Facts 2014. National Highway Traffic Safety Administration. January 2016. www-nrd.nhtsa.dot.gov/Pubs/812234.pdf

8 Bicycling in New Jersey [2014 Fact Sheet]. The League of American Bicyclists. http://bikeleague.org/sites/default/files/Summit2014/2014_Factsheet_New_Jersey.pdf.

techniques involve reducing the width of the roadway and adding vertical elements, such as speed humps, and tables.

- **Install sidewalks, curb extensions, Americans with Disabilities Act (ADA)-compliant curb ramps, and medians** to reduce pedestrian and bicyclist exposure to motor vehicles. These techniques have been shown to reduce crashes by as much as 50 percent.
- **Install High-Intensity Activated Crosswalk (HAWK) signals and Rectangular Rapid Flash Beacons** that are pedestrian activated and help ensure a safe crossing. Crash reduction factors have not yet been determined, but initial research shows promise.
- **Educate pedestrians and bicyclists** about safe walking and riding practices and their responsibilities for walking and crossing in accordance with the law through high visibility enforcement and public outreach and education campaigns.
- **Adopt and implement Complete Streets policies** that require planners and designers to consider all modes of travel for all ages and abilities when building new or improving existing roadways.
- **Include pedestrian and bicyclist safety in driver education** to ensure that new drivers understand the importance of sharing the road as prescribed by law.

Working collaboratively with the various safety partners in the State, SJTPO is seeking more opportunities to combine both safety education and infrastructure improvements whenever possible to reduce bicycle and pedestrian crashes and serious injuries. A multifaceted approach will help us achieve a greater reduction much faster. The SJTPO is devoting resources to promote bicycle and pedestrian focused projects where the greatest risk for crashes exist.

Complete Streets

In recent years, there has been a significant push to adopt Complete Streets policies in communities and states across the country. Throughout much of the 20th century, the transportation system was designed primarily, if not exclusively for automobiles. The result has been problems ranging from disproportionate injury and fatality rates among bicyclists and pedestrians to the health and social impacts that are the result of drastically declining rates of human-powered mobility. Complete Streets is an effort to bring bicycle and pedestrian travel, as well as public transportation into the equation when roadway facilities are designed, maintained, and updated. Complete Streets policies generally require all roadway projects to consider all modes.

New Jersey's Department of Transportation was among the first states in the country to adopt such a policy in 2009. This policy guides all projects for new or retrofitted facilities that receive state or federal funds. Prior to Complete Streets, standard practice was only to add bike, pedestrian, or transit accommodation when an additional justification was made; with this policy, these accommodations are presumed to be needed unless additional justification is made to exclude them. In other words, the burden of proof is needed to exclude them rather than to include them.



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In addition to the State policy, according to the [New Jersey Bicycle and Pedestrian Resource Center](#), as of June 30, 2016, 18 communities in the SJTPO region have adopted some form of Complete Streets policy:

- Atlantic City
- Buena Borough
- Cape May
- Downe Township
- Egg Harbor City
- Hammonton
- Linwood
- Margate
- Middle Township
- Northfield
- North Wildwood
- Ocean City
- Pleasantville
- Somers Point
- Vineland
- Wildwood
- Woodbine
- Woodstown

Planning Efforts to Improve the Bicycle and Pedestrian Environment

There are ongoing efforts going across New Jersey to advance bicycle and pedestrian access and safety. These include efforts at the state level, at SJTPO, and at the local county and municipal level.

Statewide Efforts

The [New Jersey Statewide Bicycle and Pedestrian Master Plan](#) offers five goals to encourage an approach to bicycling and walking as a routine part of the transportation system.

- **Create a bicycle and pedestrian infrastructure** by planning, designing, constructing and managing transportation and recreation facilities that will accommodate and encourage use by bicyclists and pedestrians and be responsive to their needs.
- Make community destinations, transit facilities, and recreation **facilities accessible and convenient to use** by all types and levels of bicyclists and pedestrians.
- **Reform land use planning policies**, ordinances, and procedures to maximize opportunities for walking and bicycling.
- **Develop and implement education and enforcement programs** that will result in reduction of crashes and a greater sense of security and confidence for bicyclists and pedestrians.
- Increase bicycling and walking by **fostering a pro-bicycling and pro-walking ethic** in individuals, private sector organizations and all levels of government.

In conjunction with the creation of bicycle and pedestrian infrastructure described above, there may be potential opportunities for rail right-of-way reuse, as was done in New York City's HighLine or the upcoming Reading Viaduct in Philadelphia.

These goals are designed to address bicycle and pedestrian advancement from all sides of the issue. SJTPO does not have direct authority over some functions, such as land use policy, but has and will continue to work with local counties and municipalities to advance these goals within our region.

Local Efforts

Numerous communities have been able to develop local Bicycle and Pedestrian Master Plans sponsored through the New Jersey Department of Transportation (NJDOT-OBPP) Bicycle and Pedestrian Local Technical Assistance Program. Through this program, municipalities have an opportunity to develop a comprehensive plan that will identify pedestrian and bicycle issues and outline recommendations to address deficiencies and integrate facilities. Local communities make the request to NJDOT and, if approved, are provided with consultant services to perform planning studies to evaluate needs and opportunities relating to bicycle and pedestrian circulation and safety. The studies are locally driven in a partnership arrangement with the local city or municipality and have a strong public outreach component.

The primary goal of these studies is to increase the safety and mobility for people biking and walking in local communities, thereby improving personal health, transportation options, and air quality. These plans outline recommended network of bicycle and pedestrian corridors, a range of improvements, implementation strategies, and identify areas in need of further study. This Program has included efforts in the following communities in the SJTPO region.

- Atlantic City, *2013*
- Cape May/ Cape May Point, *Ongoing*
- Deptford, *2009*
- Downe Township, *2014*
- Galloway, *2010*
- Linwood, *2010, 2012*
- Northfield, *2015*
- Ocean City, *2009, 2011*
- Ventnor/Margate, *Ongoing*
- West Cape May, *2008*
- Wildwood Crest, *2003*
- Woodbine, *2008*
- Woolwich, *Ongoing*

Cross County Connection

Cross County Connection is the Transportation Management Association (TMA) for southern New Jersey, Including the SJTPO region. TMAs are non-profit organizations that work with businesses, commuters, county and local governments, and state agencies to implement programs that reduce traffic congestion and improve air quality. Funding for New Jersey's TMAs is provided, in part, by the Federal Highway Administration, NJDOT, and NJ Transit. Cross County Connection is one of eight TMAs in New Jersey, providing numerous valuable services to South Jersey residents, including a number of efforts that advance bicycle and pedestrian accommodation, including the following:

- Educational programs, focusing on pedestrian safety and bike rodeos. This program is directed at 3rd and 4th graders.
- Information dissemination
- Applications, such as Transit Locator and Bike Route Locator, to assist in the reduction of single-occupancy vehicle congestion and encouragement of alternatives to the single-occupancy vehicle
- SRTS activities (currently provide activities in 15 schools in SJTPO region)
- Bike route inventories



Overall freight demand (all modes) is projected to grow by about 64 percent between 2007 and 2035.

3. Freight

In simple terms, freight means “goods in motion,” and more fundamentally, “an economy in motion.” A flexible, efficient, freight rail network that meets the ever-changing needs of the logistics industry is vital to serving New Jersey businesses and industries and maintaining New Jersey’s role as the premier commercial gateway for international trade on the Eastern Seaboard.⁹ In return for providing the infrastructure to support freight movement to the rest of the nation, New Jersey is uniquely situated to benefit from the industries that add value to that freight as it moves through the transportation system. With appropriate planning, freight activity can drive economic activity, create jobs, and support broader community quality of life goals.

Overall freight demand (all modes) is projected to grow by about 64 percent between 2007 and 2035. While *Transportation Matters* uses a 2040 horizon year, the statistics on freight projections, shown throughout this section, derive from the New Jersey Statewide Freight Rail Strategic Plan, which has a horizon year of 2035. With limited resources to build new capacity, it becomes especially important to effectively manage the existing multimodal transportation infrastructure to accommodate freight growth and select the most beneficial infrastructure projects to fund. Improved management of the existing system capacity and expansion of the system where required will help ease highway and rail network congestion, accommodate projected growth and provide cost-effective options for the transportation of passengers and goods.¹⁰

Findings from the *Southern New Jersey Freight Transportation and Economic Development Assessment* report, published in 2010, indicated that the overwhelming mode of freight transport within the region and state is truck. While the overall amount of truck traffic in the SJTPO region is modest relative to the rest of the state, it is forecast to grow. Trucks are also the dominant mode of transport in the intermodal freight business: truck to rail, truck to ship, and truck to air.

⁹ NJ Department of Transportation. *NJ Statewide Freight Rail Strategic Plan*. June 2014. www.njtransit.com/pdf/NJStateRailPlan.pdf.

¹⁰ Ibid.

Overview of Existing System

Freight volumes hauled across New Jersey's transportation system are expected to grow from 715 million tons in 2007 to 1.2 billion tons in 2035, an increase of 64 percent. The truck and airfreight modes are projected to grow the fastest, followed by rail and water modes as shown in Table 7, below. As also seen in Table 7, trucks carry the most freight in New Jersey by a large margin, followed by water, rail, and air. The share of total freight in New Jersey (by weight) carried by rail was 6 percent in 2007 and is projected to remain at about 6 percent in 2035. Indeed, a great amount of freight traffic moves into and out of the SJTPO region.

Table 7 - Freight Flows by Mode, 2007 and 2035

Mode	2007 Tons	2035 Tons	Percent Change	2007 Value (\$ thousands)	2035 Value (\$ thousands)	Percent Change
Truck	589,356,933	1,006,478,084	71%	\$2,409,057,077	\$5,430,284,396	125%
Rail	45,737,542	67,698,651	48%	\$62,267,766	\$98,713,903	59%
Water	76,364,258	92,727,254	21%	\$51,887,948	\$66,942,175	29%
Air	479,810	845,501	76%	\$3,680,778	\$13,778,671	274%
Other	2,668,956	3,253,928	22%	\$950,539	\$1,320,292	39%
Total	714,607,500	1,171,003,418	64%	\$2,527,844,107	\$5,611,039,436	122%

Source: NJ Department of Transportation. *NJ Statewide Freight Rail Strategic Plan*. June 2014.

As seen in Table 8, below, there is still a significant amount of rail freight traffic that moves into and out of the SJTPO region.

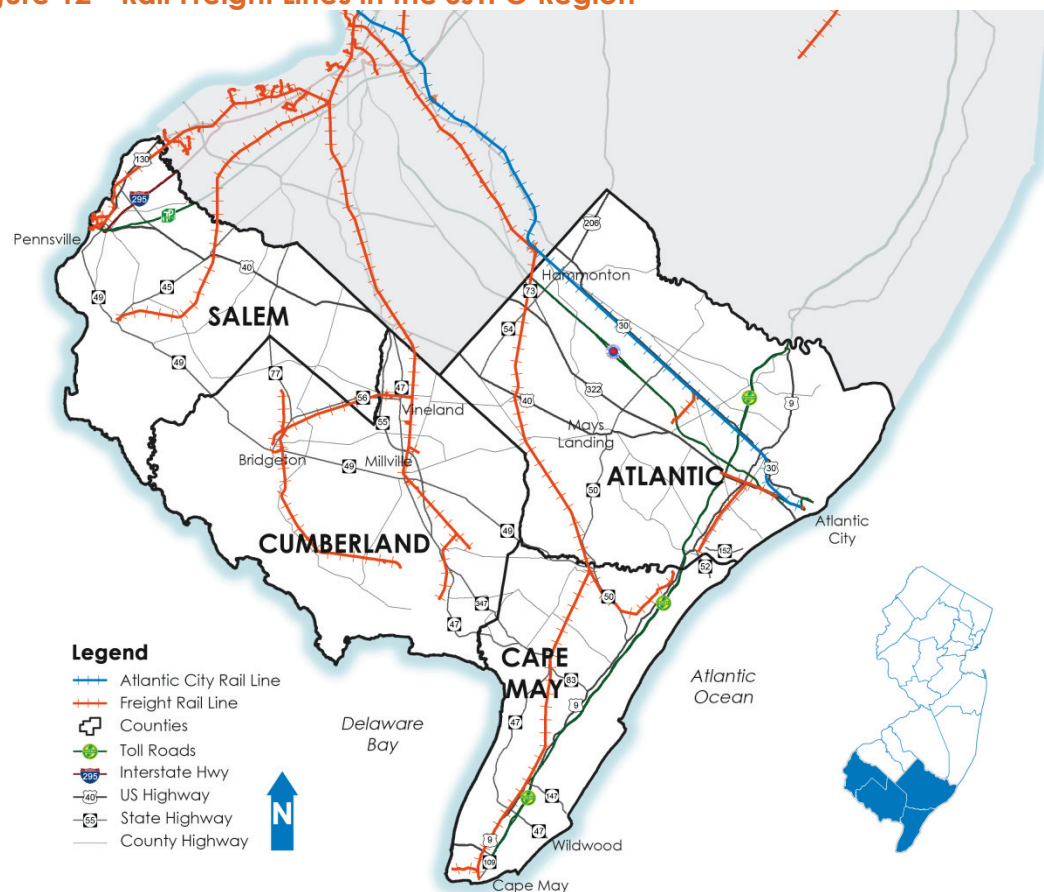
Table 8 - Sum of Inbound and Outbound Rail Flows, 2007

Jurisdiction	Inbound Tons	Outbound Tons	Total Tons
Atlantic County	150,480	2,777	153,256
Cape May County	541,899	363	542,261
Cumberland County	261,838	162,100	423,938
Salem County	1,332,081	286,662	1,618,743
New Jersey	24,657,640	12,807,291	37,464,931

Source: NJ Statewide Freight Rail Strategic Plan. June 2014.

The specific railroads located within the SJTPO region are listed in Table 9, on the following page. Figure 12, below, depicts the rail lines (both passenger and freight) within the SJTPO region.

Figure 12 - Rail Freight Lines in the SJTPO Region



The major commodities shipped by rail include petrochemicals, plastic pellets, construction materials, food products, raw materials for manufacturers, finished components, and waste/scrap materials. The freight rail network in the SJTPO region consists of two types of railroads:

- **Class III Railroads (also called short lines)**, which are the smallest railroads, with annual revenue of less than \$31.9 million. The SJTPO region has three short-line railroads, including Cape May Seashore Lines (CMSL), Southern Railroad Company of New Jersey (SRNJ), and Winchester & Western Railroad Co. (WW). Each short line

railroad has several lines, which link area industry and businesses to the Class I railroad system via the Conrail network.

- **Switching and Terminal Railroads**, which are a separate class of Class III railroad. These railroads transfer freight cars among larger railroads or operate within a facility or group of facilities.¹¹

Table 9 - Short-Line Railroads (SJTPO Region)

Name	No. of Lines	System Length (miles in NJ) ¹	Service Frequency	Major Commodities	\$ Value
Cape May Seashore Lines (CMSL)	<ul style="list-style-type: none"> • Richland-Tuckahoe Service • Rio-Grande-Cape May City Service (currently out of service) 	27		Tourism	n/a
Southern Railroad Company of New Jersey (SRNJ)	<ul style="list-style-type: none"> • Swedesboro to Salem, NJ • Winslow Jct. to just outside of Atlantic City • Winslow Jct. to Vineland (out of service) 	53			
Winchester & Western Railroad Co. (WW)	<ul style="list-style-type: none"> • Main Line (Millville to Dividing Creek, NJ) • Seashore Line (Millville to Dorchester, NJ) • Deerfield Branch (Bridgeton to Seabrook, NJ) • Bridgeton Port Branch (Bridgeton to the Port of Bridgeton, NJ) 	52 miles (approximately 48 in service)	5 days per week	Various industrial minerals for glass making (quarry product), corn syrup, several types of industrial sand, grain, refrigerant gases, liquefied petroleum gases, seeds, frozen vegetables and lumber	Proprietary

Source: NJ Statewide Freight Rail Strategic Plan, June 2014.

11 NJ Department of Transportation. *New Jersey State Rail Plan*. April 2015. www.state.nj.us/transportation/freight/rail/plan.shtm.



Key Freight Issues Summary

The *[Southern New Jersey Freight Transportation and Economic Development Assessment](#)* identified freight and goods movement as critical to the economic stability and vitality of the region. These include:

- 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.

In 2004, county representatives of SJTPO's Technical Advisory Committee (TAC) met to discuss issues related to the movement of freight in the region; many of the issues and concerns they raised were also reflected in the 2010 Southern New Jersey Freight Transportation and Economic Development Assessment report. The following list emerged:

- Beyond I-295 and the Turnpike, freeway capacity is limited and the region's location-related advantages dissipate rapidly. The time-cost of travel to available and affordable inland properties renders them ineffective for supply chain expansion.
- Double-stacked container freight on rail is increasing in an effort to accommodate the significant rise in the amount of freight that must be moved. Because of height restrictions, however, it cannot travel in southern New Jersey.
- Direct rail connections between North and South Jersey are limited and slow and the movement of goods by heavy rail is limited by 286,000 pound (286K) railcar capacity restrictions¹². This limits access of construction aggregates to

¹² A new standard, issued by the Association of American Railroads (AAR), which increased the maximum gross-weight-on-rail (empty weight of the rail freight car plus the weight of the load/lading therein) allowed per car from 263,000 pounds to 286,000 pounds (286K). This new standard became effective January 1, 1995. This 286K standard is significant because it encouraged the evolution of larger freight cars, which improved the operating efficiency of railroads and created opportunities for rail customers to realize transportation and material handling efficiencies. Cars with larger weight and/or cubic capacities allow railroads to carry the same amount of freight with fewer cars, thus decreasing the cost per each ton.

large markets to the north, hampering the region's cost competitiveness and renders many potential customers and markets for South Jersey's high quality aggregates inaccessible.

- All major freight corridors in the SJTPO region should be analyzed to identify any other chokepoints (e.g., Hunter Street Bridge in Woodbury) that preclude double-stacked containers.
- Significant trucking activity is causing capacity problems at many intersection and corridors across the region. Trucks have difficulty navigating tight turning radii in the Route 322 and 40 corridors, causing bottlenecks, especially during the summer. This is also true to a lesser extent in the Route 30 corridor where Egg Harbor Township contains chokepoints). Freight movement in Atlantic City is not a major problem since the casinos have established their own distribution centers off island; however, trucks bringing products in compete with tour buses and have difficulty navigating the city streets because of their size. Unlike the buses, trucks do not have designated routes in the city.
- Maintenance of rail facilities is crucial. Once rail freight capacity is lost, it cannot be easily regained.
- Freight movement in the SJTPO region is inherently disadvantaged and inefficient, because of its peninsular shape. Rather than accommodating through-travel, freight routes operate as one-way spur movements, moving into and out of the region and often travel empty on the reverse leg.
- 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.
- The Port of Salem offers limited facilities and poor highway access. Rail access into the Port of Salem is being improved as part of the \$18.5 million South Jersey Port Connections Project, described in more detail below. For a full assessment of freight issues, refer to the Southern New Jersey Freight Transportation and Economic Development Assessment report available at the Freight Planning section of the NJDOT website:
www.nj.gov/transportation/freight/plan/initiatives.shtm

Increasing interest in reducing greenhouse gas emissions has prompted greater consideration of alternative freight modes, such as rail. While rail is certainly a viable mode, there are several gaps in the region's rail infrastructure that must be addressed. The rail infrastructure is also in a poor state of repair, unable to support standard interstate rail capacity and speeds, resulting in slow speeds and frequent derailments. Investing in improvements to the rail infrastructure would greatly increase rail freight capacity.

Maritime freight transport is of particular interest to Atlantic and Cape May Counties; the latter is the fourth largest fishing port in the nation. The market for seafood products originating at this fishing port is both national and international. The sector is currently constrained by limited truck routes and the narrow width of the Middle Thorofare channel at Ocean



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Drive that restricts vessel size. Adding capacity for freight by truck and wider maritime navigation channels could assist the growth of the fishing industry.

Intermodal connections should be improved in the SJTPO region to facilitate the movement of goods through the region. Improving connections between truck, rail, and maritime traffic would allow goods produced in the region to have greater access to state and national markets.

Other Freight Plans that affect the SJTPO Region

Since the publication of the Southern New Jersey Freight Transportation and Economic Development Assessment, the State has published other two other major plans: the *NJDOT Statewide Freight Rail Strategic Plan*, published in June 2014, and the *NJ State Rail Plan*, published in April 2015. The primary goal and objective of the NJ Statewide Strategic Freight Rail Plan is to “identify the state and efficiency of the existing system, project future demand to be placed upon it, examine infrastructure improvements already in the works, determine what still needs to be done, and prioritize a series of actions to ensure that New Jersey is well served by freight rail.”¹³ To fulfill these goals and objectives, the recommendations of the *New Jersey Statewide Freight Rail Strategic Plan* focus on supporting enhancements to the freight rail infrastructure, operations and services that will:

- Facilitate the efficient and cost-effective movement of goods to businesses, industries and consumers both within and outside of New Jersey;
- Encourage business and industry retention and growth within New Jersey;
- Support anticipated growth within New Jersey’s maritime ports;
- Improve public safety;
- Create jobs, and
- Reduce emissions of greenhouse gases and enhance the quality of life within New Jersey.

The Delaware Valley Regional Planning Commission (DVRPC) also has its own Freight Plan, the DVRPC Long-Range Vision for Freight 2035, available at www.dvrpc.org/reports/09058.pdf. While the DVRPC region does not cover any of SJTPO’s counties, as much of the freight that comes to the SJTPO region has to go through the DVRPC region, a robust freight infrastructure system within the DVRPC region, as well as the SJTPO region, is critical.

¹³ Ibid. ES-6.

Towards these ends, the following intermodal and freight movement actions are recommended:

- Continue to upgrade New Jersey's short lines including secondary and light density lines to handle the current industry standard 286,000 lb. (286K) rail cars
- Identify and mitigate constraints inhibiting the movement of 286K railcars on selected passenger lines
- Improve intermodal connections, especially to areas of major employment and tourism and the Atlantic City International airport
- Improve access of local rail carriers to regional and interstate systems
- Maintain and upgrade rail facilities
- Examine potential transit options to improve accessibility to Atlantic City International Airport
- Continue to examine improvements to key freight chokepoints, especially in light of the Panama Canal expansion and the need for ports to accommodate Panamax and post-Panamax ships
- Continuation of the NJ Freight Rail Assistance Program
- Elimination of tunnel and bridge height and width constraints that restrict the movement of today's larger industry standard rail cars
- Provide freight rail connectivity between northern and southern New Jersey
- Enhance connectivity between the Class I and the short line railroads, and
- Expand intermodal yard capacity throughout the State.

The *New Jersey State Rail Plan*, published in April 2015, shares many of the same goals and objectives as the Strategic Plan. The Passenger Rail Investment and Improvement Act (PRIIA) (49 USC 22705) stipulates that future federal rail funding is contingent on a state having an approved state rail plan that includes the following:

- Inventory of existing rail transportation network
- Statement of the state's objectives related to rail transportation
- General analysis of rail's economic, transportation and environmental impacts
- Long-range investment program for current and future rail freight and passenger services
- Discussion of public funding issues for rail projects and listing of current and potential rail related funding sources
- Discussion of stakeholder identified rail infrastructure issues
- Review of freight and passenger intermodal rail connections and facilities
- Review of publicly funded rail projects that enhance rail-related safety
- Performance evaluation for passenger rail services



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- Compilation of previous high-speed rail reports and studies and a comprehensive view of the state's high-speed rail corridor(s) when present
- Statement that the state's rail plan complies with the Passenger Rail Investment and Improvement Act¹⁴

To be eligible for any future federal funds a state must demonstrate that it has the legal, financial, and technical capability to execute a project; the state rail plan provides proof of that ability. The *New Jersey State Rail Plan* has been developed to comply with all PRIIA requirements.¹⁵

NJDOT also completed another plan, the *NJ Statewide Freight Plan, Phase II*, although this was never formally published. This report examines the top six priority freight corridors identified in the 2007 *New Jersey Comprehensive Statewide Freight Plan*. The 2007 Plan prioritized New Jersey's key highway corridors based on overall truck volumes, tonnage moved, and connections to major freight facilities. While this study focuses on the top six highway corridors identified in the 2007 Plan, a review of the next set of priority roadways may be warranted under a supplemental study. These corridors were I-78, I-80, I-95 (the NJ Turnpike), I-295, I-287, and NJ-17. Of these corridors, only a small portion of I-95 (the NJ Turnpike) and I-295 cross the SJTPO region.

Specific Projects and Improvements

One of the recommended improvements identified in SJTPO's *Regional Transportation Plan 2040* (2012) was a comprehensive assessment of freight needs and issues within the SJTPO region, including an analysis of the Delair Bridge.¹⁶ Since that time, the South Jersey Port Connections Project, an \$18.5 million project to stabilize the Delair Bridge and bring it to 286k standards, has been completed. The plan is to eventually extend the rail connection to the Port of Salem. This project, which involves the upgrading and rehabilitation of the Salem County Short Line up to and including the Port Branch, (that part which goes to the Port of Salem), is still ongoing. Transportation Investment Generating Economic Recovery (TIGER) monies are slated to be used, as well as NJDOT funds, which have been approved for a number of pending and current construction projects. The Delaware Valley Regional Planning Commission (DVRPC) is looking to begin conversations in order to determine potential solutions.¹⁷ However, the outstanding issue is clearance on the Pennsylvania side, which does not allow for an adequate rail connection between Pennsylvania and the southern New Jersey ports via the Delair Bridge. Resolution of this issue is dependent on Pennsylvania making some investments. To date, funding has not been identified.

¹⁴ NJ Department of Transportation. *New Jersey State Rail Plan-Final Report*. April 2015.

¹⁵ Ibid.

¹⁶ SJTPO Regional Transportation Plan 2040 (2012).

¹⁷ NJDOT Rail Freight Sub-Committee. Meeting Highlights—December 15, 2015.

In addition to these policies as listed above, both the *NJ Freight Rail Strategic Plan* as well as the *NJ State Rail Plan* recommends a number of specific improvements that are either entirely within or at least partly within the SJTPO region. These are listed in Table 10, below.

Table 10 - Specific Freight Projects for SJTPO Region

	Sponsors	Railroad(s) Operators and/or Owners	Project Name/Description Revised	Municipalities	Counties	Cost (x1,000)	Source	Funding	Status
1	County of Salem Short Line	Southern Railroad of New Jersey (SRNJ)	Salem County Short Line track rehabilitation	Pilesgrove Township, Swedesboro, Logan Township	Salem, Gloucester	\$1,500	NJDOT FY 2011 Update Report of the NJ State Rail Plan, July 1, 2010	NJ Rail Freight Assistance Program	Funded
2	Conrail (CR) Shared Assets	CR Shared Assets	Bordentown Secondary and Vineland Secondary Track: Create additional yard capacity from Delair Bridge to Woodbury	Multiple	Camden, Gloucester, Cumberland	Unknown	DVRPC Long Range Freight Plan	Unknown	Suggested Project in Plan
3	Conrail (CR) Shared Assets	CR Shared Assets	Penns Grove Secondary: General track improvements from Woodbury to Penns Grove	Penns Grove	Salem	\$4,300	Southern New Jersey Freight Transportation and Economic Development Assessment	Unknown	Proposed
4	JP Rail, Inc. d/b/a Southern Railroad of NJ	JP Rail, Inc. d/b/a Southern Railroad of NJ	Rehabilitate Pleasantville Secondary Track to FRA Class 2 Standards	Egg Harbor Township	Atlantic	\$1,110	NJDOT FY 2011 Update Report of the NJ State Rail Plan, July 1, 2010	NJ Rail Freight Assistance Program	Funded
5	South Jersey Port Corporation	Southern Railroad of New Jersey (SRNJ)	Port of Salem: Track improvements from Swedesboro to Port of Salem, dockside rail improvement.	Salem, Swedesboro	Salem	\$21,500	Southern New Jersey Freight Transportation and Economic Development Assessment	TIGER Conrail	
6	Winchester & Western Railroad	Winchester & Western Railroad	Seashore Branch Runaround Track	Millville	Cumberland	\$571	NJDOT FY 2011 Update Report of the NJ State Rail Plan, July 1, 2010	NJ Rail Freight Assistance Program	Funded

Source: NJ Statewide Freight Rail Strategic Plan. June 2014



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In addition to the projects defined above, the Clara Barton/John Fenwick Service Area, located in Pedricktown in the vicinity of Milepost 5.4 on the New Jersey Turnpike, has been identified as a “Key Problem Area” in the *New Jersey Statewide Freight Plan, Phase II*, meaning that analysis of data has revealed a significant need for a safety, maintenance, expansion, or policy improvement. With a high crash cluster identified in this area, this specific location warrants a safety improvement.

Consistent with *Transportation Matters’* goals of: “Promoting accessibility and mobility for the movement of people and goods,” as well as “Supporting the regional economy,” SJTPO will continue to identify locations where better intermodal facilities and infrastructure is needed in order to promote intermodal connectivity. SJTPO will also continue to work with regional partners to evaluate truck routes and other critical freight corridors for accessibility, reliability, safety, and other system performance measures in order to develop and prioritize projects.

4. Public Transportation

Although transit service is available in every county of the SJTPO region, it is generally sparse due to low population densities. Most of the region’s transit service is concentrated in Atlantic County, specifically within Atlantic City. However, there are many unmet transit needs in the region amongst transit-dependent and rural populations. Additionally, as employment continues to spread out along highway corridors, new bus services may be needed and expansions of existing services may be warranted.

Regional Transit Services Overview

The thousands of commuters and tourists that work and visit Atlantic City on a daily basis provide the demand that is necessary for successful transit operations. Relatively low population densities for much of the SJTPO region mean that transit service is sparse because of lower demand and therefore higher costs.

Passenger Rail Service

Atlantic City Line

NJ Transit offers commuter rail services between 30th Street Station in Philadelphia to the Atlantic City Rail Terminal seven days a week on its Atlantic City Rail Line (ACRL). The Atlantic City Rail Line includes stops in Philadelphia (30th Street), Cherry Hill, Lindenwold, Atco, Hammonton, Egg Harbor City, Absecon, and Atlantic City. The Atlantic City Rail Line hosts not only NJ Transit rail service, but also daily freight services operated by a short line, the Southern Railroad Company of New Jersey.

In November 2013, NJ Transit released its “Atlantic City Line Rail Operations Study,” which assessed and evaluated potential infrastructure and operational improvements to the Atlantic City Rail Line. The study identified the need to invest

in improvements to the rail line, including adding stations, such as the Atlantic City International Airport and more train service. However, at the current time, there is no capital funding available for any of these improvements, which range from \$145.0 million to \$575.0 million depending on the particular scenario.¹⁸ In spite of limited capital funding, the study recommended the following:

- Continued monitoring of Atlantic City, one of the two major Atlantic City Rail Line markets, to assess and update economic and demographic trends related to future potential growth in ridership
- Continued monitoring of the Pomona/Atlantic City surrounding area land use and roadway changes, and working with key agencies, including the Port Authority of NJ & New Jersey, which manages the Atlantic City Airport, regarding a future rail station to serve this area, and connections to the airport by special bus services.¹⁹

The 2009 Atlantic City Regional Transportation Plan, developed by the Casino Reinvestment Development Authority (CRDA), also highlights the need for a “new Atlantic City Rail Line Airport Station at North Pomona, with shuttle service to the Atlantic City International Airport, and from the Airport to Atlantic City.” The regional multimodal center would be located at the Atlantic City Airport but would act as the point where auto and air travelers convert to transit travelers. The center is planned to include substantial parking to encourage visitors to park and then take bus services into Atlantic City.

The Five-Mile Beach Electric Railway Company

The Five-Mile Beach Electric Railway Company (run by the Great American Trolley Co.) operates a trackless boardwalk tram, trackless trolleys, and "community-based services" in Cape May County. Service is provided via the Cape May Loop, Ocean City Loop, Wildwood and Wildwood Crest Loops, the Wildwood Downtown Loop, and the North Wildwood, Wildwood Crest, and Rio Grande routes. All routes operate only during the summer, with the exception of the North Wildwood, Wildwood Crest, and Rio Grande routes, which operates year-round, except the trolley does not service area campgrounds. A complete listing of the routes and schedules can be found at www.gatrolley.com.

¹⁸ NJDOT Rail Freight Sub-Committee. Meeting Highlights—December 15, 2015.

¹⁹ Ibid.



Passenger Bus Service

Local and Intrastate Bus Service

NJ Transit provides a variety of local bus routes within the SJTPO region, as indicated in Table 11, below.

Table 11 - NJ Transit Local Bus Service Routes.

Route Number	Routes
468*	Penns Grove – Woodstown
501	Atlantic City – Brigantine Beach
502	Atlantic City – Hamilton Mall – Atlantic Cape Community College
504	Bungalow Park – Chelsea Heights – Ventnor Plaza
505	Atlantic City – Margate – Longport
507	Atlantic City – Ocean City
508	Atlantic City – Richard Stockton College – Hamilton Mall
509	Atlantic City – Somers Point
510	Cape May – Wildwood Shuttle (summer only)
552	Atlantic City – Cape May
553	Atlantic City – Upper Deerfield
554	Atlantic City – Lindenwold PATCO
559	Atlantic City – Lakewood

Source: NJ Transit

Note: *Operated by Salem County Transit under contract with NJ Transit Corporation.

Local Bus service is provided by NJ Transit and other operators. In Atlantic City, mobility is fostered by the Atlantic City Jitneys, providing service along four primary routes. The service is operated 24 hours a day, 365 days a year. Additional shuttle bus services are also operated in the region. Shoreline Express Tours, one of the operators, runs a non-casino hotel and motel shuttle.

In addition to the new Atlantic City Airport Station at North Pomona, as cited above, the 2009 Atlantic City Regional Transportation Plan includes the addition of a city transit hub designed to improve connections between rail services and casinos. Planned for completion in 2017, this new hub would facilitate easier mobility from outside Atlantic City to the

waterfront tourist areas for both visitors and workers employed by the casinos and other tourism-oriented businesses. The AC RTP further identified two potential bus rapid transit (BRT) routes to facilitate commutes from neighboring municipalities. These routes would improve access for commuters who work in the tourism-oriented shore regions: the first BRT line is planned to run between Atlantic City and Egg Harbor Township; and the second, between Egg Harbor Township and Mays Landing.

The Delaware River and Bay Authority (DRBA) also provides bus shuttles from the Cape May Ferry Terminal to the Cape May Bus Terminal. All shuttle bus service is scheduled to coincide with the arrival and departure of the ferry. According to the DRBA website, two continuously looping shuttles operate in Delaware, one between Lewes and the ferry terminal and the other among the Delaware Transit Corporation (DART) Park & Ride lot, the Tanger Outlets, Rehoboth Beach, and the ferry terminal. The Cape May shuttle continuously loops between downtown Cape May and the ferry terminal. During the summer tourist season, it operates daily. The shuttle operates with weekend service only for part of the pre-summer season. More information is available from the [DRBA's website](#) or from their information and reservation office at 1-800-64-FERRY.

Interstate Bus Service

In addition to operating commuter rail service on the Atlantic City Line, NJ Transit provides interstate commuter bus services in the region, linking the SJTPO region to cities such as Philadelphia and New York City. Table 12 lists interstate bus services operating in the SJTPO region.

Table 12 - NJ Transit Interstate Bus Routes

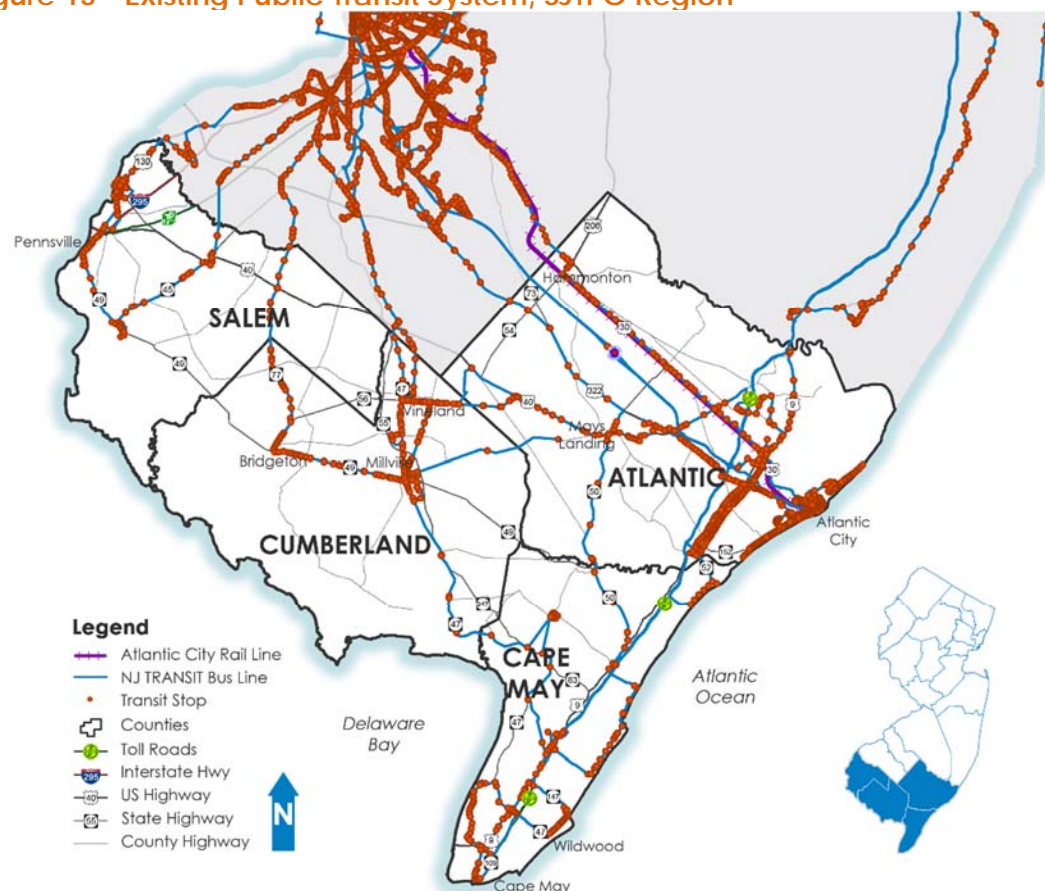
Route Number	Routes
313	Philadelphia - Wildwood - Cape May via Route 47
315	Philadelphia - Wildwood - Cape May via Black Horse Pike
316	Philadelphia - Wildwood - Cape May Express (summer only)
319	New York - Atlantic City - Wildwood - Cape May
401	Philadelphia - Salem
402, 410, 412	Philadelphia - Woodbury
408	Philadelphia - Millville
410	Philadelphia - Bridgeton
551	Philadelphia - Atlantic City

SOURCE: NJ Transit.

More information about DRBA services is available from the [DRBA's website](#) or from their information and reservation office at 1-800-64-FERRY.

Figure 13, below, depicts the existing transit system within the SJTPO region.

Figure 13 - Existing Public Transit System, SJTPO Region



Casino Bus

In 2015, Atlantic City was visited by more than 18 million people; about 6 percent of whom, or more than 1.2 million, arrived by bus.²⁰ The number of visitors arriving by transit reduces the number of auto trips in the city each day, improving the overall operating characteristics of the region and Atlantic City's roadway system as well as reducing the environmental impacts of automobile traffic.

²⁰ Atlantic City Tourism Sales Barometer. 1/21/2016. www.atlanticcitynj.com/userfiles/pdfs/2015_barometer_december.pdf.

The South Jersey Transportation Authority (SJTA) actively supports programs to facilitate the casino bus operations. The SJTA oversees a bus management program to regulate all casino related bus activities in Atlantic County, including bus intercept, bus parking, bus maintenance, site capacities, traffic management, computerized and electronic permits or medallion validation, routes of travel, discharge and loading of passengers, bus operations and activities, enforcement, and maintenance of a daily bus manifest. The SJTA operates several casino bus parking facilities, providing services to help promote the ongoing use of transit vehicles to bring at least a quarter of all visitors to Atlantic City.

Other Bus Services

In addition to NJ Transit's local bus service, other operators also provide local bus service. In Atlantic City, mobility is fostered by the Atlantic City jitneys, administered by the [Atlantic City Jitney Association](#) (ACJA). The ACJA jitneys provide service along four primary routes within Atlantic City, as well as service to and from Atlantic City to the ACY as well as the Atlantic City Rail Terminal. The service is operated 24 hours a day, 365 days a year. Additional shuttle bus services are also operated in the region. These include Tropiano Transportation, a private carrier, which offers shuttle bus service from the Atlantic City International Airport to casinos within Atlantic City. The Shoreline Bus Company also runs a shuttle service serving casinos and other hotels within Atlantic City.

In summary, the environmental benefit of these visitors arriving by bus versus private automobile is significant. The SJTPO supports the SJTA's efforts to promote private bus operations within Atlantic City. This is consistent with *Transportation Matters'* goal of "Promoting transportation choices for the movement of people and goods."

Ferry Services

Cape May has a bi-state ferry service that offers a 17-mile, 80-minute cruise across the Delaware Bay from Lewes, Delaware, to Cape May on a daily basis throughout the year. The Cape May-Lewes Ferry, owned and operated by the DRBA, provides the service via a fleet of three vehicles. This service runs 365 days a year and accommodates pedestrians, bicyclists, and autos. Each vehicle can hold up to 100 cars and approximately 800 passengers. From 2014 to 2015, passenger traffic on the ferry increased 2 percent, from 767,209 to 782,241 persons, while vehicle traffic increased 1.6 percent, from 262,010 to 266,149 vehicles.²¹ More information about the Cape May-Lewes Ferry is available at the [DRBA's website](#).

The DRBA additionally operates a "three fort ferry crossing" linking Fort DuPont in Delaware City, Delaware, to Fort Delaware on Pea Patch Island to Fort Mott in Pennsville.

**More information about
the Cape May-Lewes
Ferry is available at the
[DRBA's website](#).**

21 Maxwell Reil & Richard Degener. "Cape May-Lewes Ferry traffic up 2 years in a row." The Press of Atlantic City. January 2016.



Park-and-Ride Facilities

There are a number of park-and-ride facilities in the SJTPO region, both state-owned and joint-use facilities. Table 13 provides a description of the official park-and-rides available in the SJTPO region.

Table 13 - Official NJDOT Park and Ride Locations in the SJTPO Region

County	Location	Town
Atlantic	Exit 4--Atlantic City Expressway, Intercept lot	Pleasantville City
Atlantic	Atlantic City Bus Terminal	Atlantic City
Atlantic	Atlantic City Service Area, Garden State Parkway	Galloway Township
Cape May	Interchange 25, Garden State Parkway	Upper Township
Cape May	Ocean View Service Area	Dennis Township

Source: www.nj.gov/transportation/commuter/rideshare/prlocate.shtml, (accessed January 20, 2016.)

Ridesharing/Alternative Commuter Services

Cross County Connection is the Transportation Management Association (TMA) servicing the SJTPO region. Transportation Management Associations are non-profit member corporations that coordinate local commuter transportation services, including, but not limited to, public transportation, vanpools, carpools, bicycling, and pedestrian modes, as well as trip reduction strategies such as alternative work schedules and telecommuting; and provide other similar services for New Jersey businesses, employees, developers, individuals and other groups. The Cross County Connection is available to assist any resident, business, or local government agency in southern New Jersey with ridesharing or other transportation needs. The Cross County Connection keeps potential carpool participants on file for possible matching. In partnership with the SJTA, as well as other agencies, the Cross County Connection also operates a few shuttles serving residents of the four-county SJTPO region. These commuter services lead to a reduction in single-occupancy vehicle (SOV) trips, which is beneficial for air quality and helps to mitigate traffic congestion.

In addition to the services described above, the Cross County Connection offers an array of other services, including the development of specialized web and smartphone applications that assist users in locating and using public transportation. SJTPO will continue to explore additional partnership opportunities with Cross County Connection, which is in line with *Transportation Matters* goals. A full array of Cross County Connection services can be found at www.driveless.com. A full description of the three types of public transportation services offered in each county, including fixed-route, demand-responsive (paratransit), and passenger rail, can be found in each county's 2015 Human Service Transportation Plan Updates, located on the [SJTPO Document Library](#) page.

More information about the full array of Cross County Connection services can be found at www.driveless.com.

Future Projects and Recommendations

It is critical to build upon the transit services that currently operate in the region so that the mobility offered by these essential services is maintained and improved. The SJTPO will work with NJ Transit to assess and identify necessary transit service enhancements in the region, including an examination of existing bus routes and service levels.

Currently, the only rail corridor offering commuter rail service in the SJTPO region is the Atlantic City Rail Line. The South Jersey Regional Rail Study, published in 2002, provides the basis for more detailed planning to reactivate one or more abandoned rail lines for passenger service. Another option that should be considered is a bus rapid transit (BRT) system. Bus rapid transit offers advantages of generally lower costs than fixed rail systems; and, depending on the alignment, they can utilize exclusive right of way or share right of way with other vehicles. SJTPO will engage with NJ Transit to determine if there are potential bus rapid transit opportunities in the SJTPO region, which would help “Promote accessibility and mobility for the movement of people and goods,” one of the goals of *Transportation Matters*.

A bus rapid transit system connecting Philadelphia to Gloucester and Camden Counties is currently under consideration by NJ Transit. The proposed South Jersey Bus Rapid Transit System (SJBRT) will provide a new, high-quality transit service between park/rides in Gloucester and Camden Counties and downtown Camden and Center City Philadelphia. NJ Transit is actively engaged with FTA in finalizing the environmental study for the proposed South Jersey Bus Rapid Transit System, which will improve transit service along the Atlantic City Expressway, Routes 42 and 55, Interstates 76 and 676, and downtown Camden and Philadelphia. The South Jersey Bus Rapid Transit System is projected to provide about 6,400 passenger trips once implemented. Decreasing commute times from adjacent counties into Philadelphia could encourage more trips originating in the SJTPO region and connecting to Philadelphia via bus rapid transit nodes in neighboring Camden and Gloucester Counties.

In addition, the Delaware River Port Authority (DRPA) is investigating the feasibility of a light rail transit (LRT) line between Camden and Glassboro. At the current time, NJ Transit is providing technical assistance to advance the DRPA-led environmental review for the proposed 18-mile light rail line. This environmental review is necessary for this roughly \$1.6 billion project to become potentially eligible for federal capital funds. Designation of a project sponsor and identification of funding sources remain outstanding issues. SJTPO continues to monitor this project, as a Glassboro-Vineland link is likely to become more feasible if a Camden-Glassboro light rail transit is implemented.

In accordance with Goal 1, “Promoting transportation choices for the movement of people and goods,” and Goal 5, “Mitigate traffic congestion,” the following transit actions are recommended:

- Assess and identify potential transit service enhancements and expansion in the SJTPO region, including an examination of existing routes, service levels, and gaps; affordable mobility options; and potential rail corridors including Pleasantville



South Jersey Transportation Planning Organization

- Continue exploring the option of reactivating one or more of the abandoned rail lines evaluated by the South Jersey Regional Rail Study²² for passenger service
- Investigate using abandoned rail right-of-way for conversion to bus rapid transit system
- Determine if there are potential bus rapid transit opportunities in the SJTPO region, especially to and within Atlantic City because of its high volumes of bus traffic. Enhance regional access to the proposed bus rapid transit catchment areas in Gloucester and Camden Counties.
- Ensure adequate accessibility and mobility options to the transportation-disadvantaged populations, including those zero-car households and other environmental justice communities.

5. Human Service Transportation

Human Service Transportation programs and services are provided by a range of state, county, and local agencies as well as private, non-profit organizations to serve the needs of transit-dependent populations such as senior citizens, persons with disabilities, and low-income persons. The programs are administered or operated by various state, county, and local agencies, and organizations. At the state level, two services are provided: Access Link, which is a state-administered demand-responsive transportation service for the disabled; and Medicaid transportation, which provides Medicaid recipients with transportation to medical services. County governments in the region operate specialized countywide transportation for populations who are transit dependent, and various county agencies provide transportation for their clients. Non-profit agencies such as Easter Seals, the Puerto Rican Action Committee, and Pearl Transit of Salem County provide transportation services to their clients at the local, county, or regional level.

There is an insufficient level of coordination of services among providers within each of the counties. Agencies tend to operate their own transportation program independently, serving only clients who meet specific eligibility requirements (for example, senior citizens, persons with disabilities, and low-income persons). The Federal “United We Ride” initiative was created to address the need to coordinate human service transportation in order to reduce costs and increase the quality, efficiency, and expansion of services. In the most recent response to this initiative, SJTPO completed the 2015 Human Service Transportation Plan Update²³ for its four counties, which supports *Transportations Matter’s* goal of “Promote accessibility and mobility for the movement of people and goods.”

Human Service Transportation Plan Recommendations

The 2015 HSTP Update includes an inventory of existing services and providers, identifying service needs and gaps, and recommending improvements to correct needs and deficiencies. Most importantly, it proposes various options for achieving

²² www.sjtpo.org/wp-content/uploads/2016/06/SJRailStudy_Dec02.pdf.

²³ www.sjtpo.org/library.

service coordination at the county and regional level. Government and private agency applications for various FTA and State grant programs (such as seniors and the Disabled (5310) and the New Jersey Job Access and Reverse Commute (JARC) Programs), that fund human service transportation systems operations must be compatible with the identified needs and recommendations of the Human Service Transportation Plan. In addition, these grant applications must comply with all applicable federal and state regulations and guidelines. SJTPO then reviews and ranks these applications based, in part, on the Update.

Within the SJTPO region, the 2015 Human Service Transportation Plan recommends the following coordination alternatives for organizing human service transportation to reduce service duplication:

- **Implement the proposed Atlantic County Regional One-Call Center**, which would provide for information to users on transit services in the county. Once in operation, the One-Call Center can be used as the foundation for participation of other agencies and organizations in the SJTPO region in this service. In addition to its physical presence, efforts should be made to have a strong online presence through a text service, website, and web app to expand its reach and usefulness while using transportation.
- **Encourage Contracts for Service between major county human service transportation providers** (e.g., Cape May Fare Free Transportation, Atlantic County Transportation Unit) and other transportation providers (e.g., Access Link and agencies such as Arc of New Jersey and NJ Easter Seals) to provide needed trips and reduce duplication of services
- **Create a permanent coordinating council** within each county where agencies and organizations involved in human service transportation can meet to share information, identify coordination opportunities, and establish coordination and funding strategy implementation priorities
- **Create a Regional Coordination Council**, which would include the four SJTPO counties. The Regional Coordination Council could address coordination issues across county and state boundaries and coordinate grant submissions for existing services within the South Jersey region
- **Utilize resources of Cross County Connection**. Cross County Connection has a website and a brochure that can be used to provide public information about transit options available and help with marketing assistance to transportation services in the SJTPO region
- **Establish a Transportation Coalition in each SJTPO County** that should include the county citizens' advisory committee, NJ Transit, the South Jersey Transportation Authority (SJTA), transportation providers, local stakeholders, and elected officials. Its purpose would be to advise decision makers on the transportation needs of the community, increase the local support for transportation services, and address statewide issues that are barriers to regional coordination.



South Jersey Transportation Planning Organization

- **Create the position of Regional Mobility Manager** to promote and facilitate coordination of the various transportation services and improve service delivery provided to customers in the SJTPO region. This Manager could help establish a One-Call Center that would provide all trips for the residents of this region.
- **Consolidate individual interstate SJTPO county transit services to medical facilities** in Wilmington and Philadelphia into a single multi-county regional service
- **Consider merging the Cumberland County Department of Employment and Training/Cumberland County Public Transit Service** with the Cumberland Area Transit System (CATS) for the purpose of reducing administration costs and duplicative services

Specific Human Service Transportation Plan recommendations to establish services within the SJTPO region are detailed below:

- **Route 54/40 Shuttle**
This proposal (which has been implemented) included nine designated stops between the Hammonton Rail station and Richland, with direct connections to NJ Transit buses and rail stations. This service began in January 2016 and is operated by SJTA.
- **Service from Woodbine to Atlantic City**
This proposed service would include a transit route from Woodbine to Ocean City, Somers Point, Absecon, Margate, Ventnor, and Atlantic City.
- **Service from Woodbine to the Southern Part of Cape May County**
This proposal would provide service between Woodbine and areas in the southern part of Cape May County, and would supplement existing New Jersey Transit routes.
- **Service from Northern Cape May County to Atlantic City**
This proposed service would include increasing service hours on NJ Transit routes 319 and 315, and providing additional stops on existing NJ Transit route 552 in Upper Township. In addition, more public transportation service routes should be offered for Woodbine, Upper Township, and Marmora in Cape May County with service through Ocean City that has access to Atlantic City.
- **Extending the Hamilton Mall Route to the Atlantic Cape Community College**
Presently, there is a gap in service between the Atlantic Cape Community College and the NJ Transit route that serves the Hamilton Mall. This proposal would extend the Hamilton Mall route to the College.
- **Extend Hours of Service in the Evening and Morning**
There is a need for earlier morning and later evening transit service hours in Cape May and Salem Counties. In many cases, workers and others riding transit have longer days due to the low service frequency and have to wait an

hour or more to catch a bus in the morning or evening. This proposal would provide additional service hours in the morning and evening to existing routes or the creation of new routes with earlier and later hours.

- **Add Weekend Service**

This proposed service would provide additional weekend routes in Cape May County in areas with unmet high transit demand needs. Salem County has needs for weekend service, particularly in the Salem City area and the northwestern areas of the county.

- **Daily Service to Vineland from Cape May**

Existing fixed-route service between Vineland and Cape May is provided by NJ Transit. This route provides three to four round-trips daily between Cape May and Philadelphia, with stop locations including Vineland employment centers and major locations such as Cumberland County College. This proposed service increases the number of round-trips per day between these communities and locations, increases service during the winter season, and provides additional stops along the routes between Cape May and Vineland.

- **Feeder Service to Connect Fairton, Cedarville, and Port Norris**

This proposed feeder service would connect Fairton, Cedarville, and Port Norris in Cumberland County.

- **Daily Service between Laurel Lake and Port Norris**

Presently, there is no transit service between Laurel Lake and Port Norris in Commercial Township, Cumberland County. This proposed daily service would connect these communities to high frequency service areas, reduce the need and cost to run demand-response vehicles into these outlying rural areas and increase the passengers per hour served.

- **Service between Northwestern Salem County (Penns Grove) and Bridgeton**

As there is no transit route directly serving the Northwestern quarter of Salem County (Penns Grove) and Bridgeton, this proposed service would include a direct transit service between Penns Grove and the City of Bridgeton.

- **Service from Eastern Salem County to Vineland Transit Hub**

This proposal would provide service from the Salem County communities of Elmer and Olivet to the Vineland Transit Hub.

- **Service to Wilmington and Elsmere in Delaware**

There is a need for providing employment trips from Salem County to Wilmington and Elsmere in Delaware. This proposed employment route would connect Carneys Point to Wilmington and Elsmere in Delaware.

- **Pureland Shuttle (by SJTA)**

In conjunction with other agencies and institutions, (including the CCCTMA), the South Jersey Transportation Authority (SJTA) has started a Pureland circulator service within the Pureland Industrial Park in Gloucester County (just north of Salem County). Given its size and the lack of walking paths, getting around the Industrial Complex is a difficult and complicated task for transit riders once they arrive at the Industrial Complex. The various transit



services that provide transportation to the Complex have a transfer hub at Pureland so that passengers can transfer onto the SJTA circulator service. In 2015, SJTA also started a shuttle between Pureland and NJ Transit's Avandale Station in Sicklerville, Gloucester County.

Human Service Transportation Plan Funding Issues and Alternatives

Implementing even a portion of the recommendations listed above and maintaining the current level of human service transportation services requires a major, stable funding source. These currently include federal and State grant programs such as FTA Sections 5310 and 5311, and New Jersey Job Access and Reverse Commute (JARC). The Senior Citizen and Disabled Resident Transportation Assistance Program represent a major source of funding for local transportation services, but depend on gaming revenue from New Jersey's casinos.

Since the casino industry in Atlantic City has been in decline over last few years, funding under the Senior Citizen and Disabled Resident Transportation Assistance Program is also in decline and the transportation services that it supports are in danger of being curtailed. In light of this loss of revenue, transportation service providers have considered and implemented other funding options, including transit vehicle advertising and ridership fares and donations. Other options will need to be explored in the future if an adequate level of service for the State's transportation-dependent population is to be continued.

In line with our goal of "Promoting transportation choices for the movement of people," SJTPO will continue to work with our regional partners to advance recommendations of the Coordinated Human Service Transportation Plan.

6. Roadway System

Overview of the Roadway Network

As it is in all developed areas, the dominant mode of travel in the SJTPO region is its system of highways and roadways. Planning for the safe and efficient movement of traffic on this system is complicated by the fact that traffic volumes in parts of the region can vary considerably throughout the year due to the seasonal nature of the shore and gambling-based resort industry in the eastern counties of Atlantic and Cape May.

The SJTPO region is served by several major limited access regional highways. These include:

- **Garden State Parkway**- a north-south route that runs through the eastern portions of Atlantic and Cape May Counties and provides access to the region's shore-based resort areas, such as Atlantic City, Ocean City, Wildwood and Cape May. The Parkway, which is managed by the NJ Turnpike Authority, is a multi-lane highway within the region that connects this area to counties, and New York, to the north and the State of Delaware (via NJ 109, US 9 and the Cape May Ferry) to the south.

- **Atlantic City Expressway** – an east-west multi-lane route that runs through the central portion of Atlantic County, connecting Atlantic City with Gloucester County to the west and providing access to the Garden State Parkway and the Atlantic City International Airport. The Expressway, a toll road managed by SJTA, is subject to seasonal traffic congestion with improvements made periodically to increase capacity. The Expressway links with the 2.3-mile Atlantic City-Brigantine Connector (completed in 2001), a limited access highway and tunnel providing access to Atlantic City’s Marina District and Brigantine City.
- **New Jersey Turnpike and I-295** – are both north-south limited access routes that run through the western portion of Salem County, connecting Delaware with counties to the north and the Philadelphia and New York City Metropolitan region. Though less than ten miles of the two highways are within Salem County, they both serve the function of diverting regional traffic off the county’s local road system.
- **NJ 55** – a north-south four-lane limited access freeway that runs through the eastern portion of Cumberland County, providing access to Gloucester County to the north and NJ 47 in Maurice River Township to the south. It also provides intra-county access for local residents within the Vineland/Millville urban areas. Its connection with NJ 47, a two-lane road, tends to impede the flow of southbound traffic and forces NJ 47 and other local roads to serve regional needs.

- US 40 and NJ 49** - both are major east-west routes that connect the western Salem County area (and NJ Turnpike and the Delaware Memorial Bridge) with the Garden State Parkway and resort areas in Atlantic and Cape May Counties. The regional travel function of both roads is impeded as they pass through small urban areas and towns such as Woodstown (US 40) and Bridgeton (NJ 49). US 40 passes near the interchange of the Atlantic City Expressway in Hamilton Township, allowing the Expressway to serve as an alternate to US 40 for traffic going to and from the Atlantic City area. NJ 49 connects with, (and essentially continues as), US 130 in Pennsville Township at the I-295 interchange.

- **US 322/US 30 (Atlantic County)** – both of these routes, running parallel in relatively close proximity, connect the Gloucester County area with Atlantic City and points in between (US 322 merges with US 40 in Hamilton Township). They are primarily four lane roads and serve regional travel and local access (there is considerable development along the eastern section of these routes as they near resort areas). The Atlantic City Expressway serves as an alternate to regional east-west traffic along this corridor and helps to reduce traffic along US 40/322.
- **US 9 (Atlantic and Cape May Counties)** – provides north-south access to the shore communities of Margate, Atlantic City and Brigantine, and runs almost the entire length of both counties and the SJTPO region. The Garden State Parkway, which runs closely parallel to this route, serves as an alternate to regional traffic along this corridor and has helped to reduce traffic along US 9.
- **NJ 47 (Cumberland and Cape May Counties)** – This major regional route connects Gloucester County in the north with Wildwood in Cape May County in the south. It provides access to the major commercial areas along and near this corridor in the Vineland and Millville urban area, and is a four-lane road within a part of Vineland. NJ 55, which runs closely parallel to this route, serves as an alternate to regional traffic along this corridor and has helped to reduce traffic along NJ 47. As noted above, NJ 55, at its southern end, terminates at and connects with, NJ 47 in Maurice River Township. NJ 347 also serves as an alternate to NJ 47 in this Township and in Cape May County, allowing travelers to bypass the bayshore section of NJ 47.

Other major State and US routes include:

- **NJ 77 (Cumberland County)** – connects the City of Bridgeton and NJ 49 with Mullica Hill and NJ 45 in Gloucester County,
- **NJ 45 (Salem County)** – connects the City of Salem with US 40 in Woodstown and central New Jersey,
- **NJ 56 (Cumberland and Salem Counties)** – an east-west route that connects NJ 77, north of Bridgeton, with NJ 47 in Vineland City, and
- **NJ 50** – provides north-south movement between Egg Harbor City and the Cape May County shore areas, and links the Expressway with the Parkway.

In addition to the above, a network of county and municipal roads serve local, county, and regional travel needs, and provide local access to residential, commercial, industrial, and recreational and resort areas, including Delaware bayshore towns and scenic areas. Total public road mileage in the SJTPO region by jurisdiction is shown below.


Table 14 - SJTPO Public Road Mileage by Jurisdiction

	NJDOT	Authority	County	Municipal	Park	Total
Atlantic	145	58	371	1,382	9	1,965
Cape May	74	31	201	730	26	1,062
Cumberland	89	0	540	662	0	1,291
Salem	86	9	353	429	5	882
SJTPO Region	394	98	1,465	3,203	40	5,200

Source: NJDOT, 2014

Issues and Needs

The basic concern of the regional transportation process is to preserve and maintain the condition and safety of the existing system, and to identify and implement needed major projects that improve the safety, efficiency, capacity, and regional function of that system beyond its current state.

System Maintenance

Even if the roadway system functioned as intended with respect to traffic movement, these roadways and related facilities (guiderail, traffic signs, and signals) would still be subject to deterioration and obsolescence. This requires an ongoing monitoring process and maintenance program and a stable and adequate funding source to support this program. Projects that fall within the scope of a maintenance program include road resurfacing and repaving, traffic signal retiming, replacement of deteriorated or outdated traffic signs and signals, and even bridge rehabilitation and replacement. The programs set up to monitor the condition of the system (e.g., the various State and MPO management systems), and identify and program projects for funding are discussed below. Extensively used by planners and engineers, management systems collect and analyze data to help prioritize strategies.

Major System Improvements

Due to increasing traffic volumes and changing traffic patterns and the public's regional travel needs, transportation planning involves the continuous assessment of the adequacy, capacity, and safety of the road system itself. Traffic volumes nearing or exceeding a roadway's carrying capacity can result in travel delays, traffic congestion, and hazardous driving conditions. Regional through-traffic in towns and small urban areas can create congestion within these areas and impede through traffic movement. Ever-worsening storm surges and flooding (resulting in part from the effects of climate change) along the region's coastal and bayshore areas can result in damage to and closure of roads and bridges. Correction of these problems can involve major road improvements such as road widening, road and bridge elevation above projected flood levels, addition of

travel lanes, or even the construction of new road links and bypasses. However, social, economic, and environmental constraints and limited funding for major roadway improvements can be a barrier to the task of upgrading the road system.

Within recent years, several noteworthy improvements have been made to the region's road system, including

- The addition of travel lanes along sections of the Garden State Parkway (north of Atlantic City) and Atlantic City Expressway (west of the Parkway) to ease congestion
- Reconstruction of a section in the southern end of the Parkway to a limited access highway by eliminating several at-grade crossings and adding Parkway interchanges, and construction of a new jughandle off Route 109 at the southern end of the Parkway (milepost 0) to facilitate the flow of southbound Parkway traffic onto Rt. 109 (2016)
- Construction of the Atlantic City Connector from the eastern Expressway terminus to the City's marina district and resorts (2001)

An example of these types of major improvements discussed above that are currently being considered and/or recommended include:

- Extension of NJ 55 to the Garden Parkway in Cape May to ease seasonal congestion on local roads
- Safety and congestion management improvements on the NJ Routes 55/47/347 corridor
- Major interchange improvements on NJ 55 at NJ 47 and Route 552 in Cumberland County
- Completion of several missing interchange movements along the Garden State Parkway in Cape May County
- The elevation of numerous roadways and bridges above projected flood levels in Atlantic and Cape May Counties
- New direct road connection between the Expressway and the Atlantic City Airport in Atlantic County (2009 CRDA Atlantic City Regional Transportation Plan recommendation)

The SJTPO Transportation Improvement Program (TIP), which is updated every two years, identifies the funding sources that support system preservation and major system upgrades, the criteria for project selection, and the projects selected and programmed for improvement. Locally sponsored projects, included within the SJTPO TIP, prioritize maintenance of the existing system over expansion of system facilities, as we work to “Restore, preserved, and maintain the existing transportation system,” which is one the goals identified within this *Transportation Matters* plan. In addition to projects identified in the TIP, there remain over \$660 million in critical needs projects, largely related to maintenance, along roadways and bridges throughout the region that have no identified funding source.

The SJTPO *Critical Project Needs List* compiled in 2016 (See Appendix A.2) show the (currently unprogrammed) high priority road and bridge projects identified by the SJTPO counties and municipalities. As can be seen in this list, road resurfacing and repaving as well as bridge rehabilitation and replacement represent a significant portion of the projects.



Information Resources

An important component of the transportation planning process is, and will continue to be, the information system and resources that guide problem identification and project prioritization and selection.

- NJDOT has, over the years, created and continues to maintain various management systems relating to road pavement condition, bridge condition, safety, and roadway congestion.
- SJTPO has also developed its own congestion management and GIS-based asset management systems and, through its federally funded annual Technical and Subregional programs, have completed numerous studies and plans relating to the problems and needs of the regional transportation system.
- As cited above, SJTPO provides numerous tools and technical assistance to help the subregions evaluate and maintain their respective systems and meet their other transportation needs. These include a pavement system for all four counties and the City of Vineland, and a sign management system for Atlantic and Cumberland Counties, and the City of Vineland (currently in progress).
- SJTPO also administers a public outreach program, including a Citizens Advisory Committee and a newsletter that solicits input from the public on the region's transportation problems and needs.
- County and municipal government agencies have developed their own transportation plans, and they and other agencies and authorities (e.g., Casino Reinvestment Development Authority) have commissioned studies, such as the 2015 Atlantic County Economic Development Strategy and Action Plan, which identifies major development projects that will need to be supported by infrastructure improvements, and the 2009 Atlantic City Regional Transportation Plan, and 2013 City of Millville Transportation Improvement Study, which recommend specific major roadway and bridge improvement projects in their respective municipalities.

The findings and recommendations resulting from all of these efforts often lead to projects that are programmed in the SJTPO and State TIP. All these efforts relate to the *Transportation Matters* goal of “Restoring, Preserving, and Maintaining the Existing Transportation System.”

Summary

Regional transportation planning is an ongoing process that must take into account the goals and objectives established by the State and MPO, as well as social, economic, environmental, and fiscal constraints. A bypass or new road extension may facilitate the movement of through traffic along an arterial road, but may also negatively affect the economy of a town dependent on this traffic or have negative environmental impacts. Furthermore, given the limited amount of funding for road projects, the need to maintain the existing road system and correct serious roadway hazards and problems (including flood damage) will typically take precedence over the type of major system upgrades mentioned above. Transportation planning must balance immediate needs with positive benefits against negative impacts and funding constraints.

5. SAFETY

The South Jersey Transportation Planning Organization (SJTPO) has a long-standing record of placing a high priority on safety. If users of the transportation system do not reach their destination safely, nothing else matters. SJTPO has joined advocates of safety advancement across the country in adopting a vision of “Towards Zero Deaths.” We need to ask ourselves what role we play in working towards zero fatalities on our roadways. **We have to ask ourselves whom among our family and friends are we willing to lose on our roadways, and then realize that can mean only zero fatalities are acceptable.**

As such, SJTPO is taking a multifaceted approach to identify the causes of crashes and fatalities and is working to make improvements that address safety in a variety of different ways. To that end, SJTPO is working rigorously to advance improvements to area infrastructure as well as to educate people on how small changes in behavior can make a huge difference in increasing safety on area roadways. SJTPO is working to integrate safety into the core functions of the transportation planning process.

Statewide Strategic Highway Safety Plan

All states are required to develop a Strategic Highway Safety Plan (SHSP). The SHSP provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roadways. It identifies the key safety needs in the State and guides investment decisions towards strategies and countermeasures with the most potential to save lives and prevent injuries. It is a data-driven, multi-year, comprehensive plan that establishes statewide goals, objectives, and key emphasis areas and integrates the four E's of highway safety – engineering, education, enforcement, and emergency medical services (EMS). The SHSP allows highway safety programs and partners in the State to work together in an effort to align goals, leverage resources, and collectively address the State's safety challenges.

New Jersey recently adopted an updated SHSP, which establishes priorities for areas of emphasis in addressing safety on New Jersey's roadways. SJTPO's efforts in addressing infrastructure and public behavior are consistent with the State's priorities in the SHSP and are unique in their multi-faceted approach. New Jersey's SHSP can be found at www.state.nj.us/transportation/about/safety/sshsp.shtm.

New Jersey recently adopted an updated SHSP, and identified the following as First Priority Emphasis Areas in addressing transportation safety:

- ***Lane Departure***
- ***Drowsy and Distracted Driving***
- ***Aggressive Driving***
- ***Intersections***
- ***Pedestrian and Bicycle***
- ***Mature Drivers (Over the age of 64)***
- ***Enhanced Delineation and Friction for Horizontal Curves >>***



Making our Infrastructure Safer

SJTPO has been engaged in a number of activities to strengthen its Local Safety Program in recent years, focused on both infrastructure and behavior. For the infrastructure component, work has been to develop an intuitive, data-driven process to identify and vet projects for advancement. SJTPO is utilizing federal funding from the Highway Safety Improvement Program (HSIP) to fund infrastructure projects selected through the Local Safety Program. The purpose of HSIP is to achieve a significant reduction in fatalities and serious injuries on all public roads. This includes all roadways, regardless of ownership – including federal, state, county, and municipal roadways.

SJTPO's Local Safety Program guides HSIP-eligible projects in Atlantic, Cape May, Cumberland, and Salem Counties through a data-driven, five-step, strategic approach to improving highway safety. The result is that limited safety dollars go to locations with the greatest need and to countermeasures that best address the identified problem.

Step 1 – Location Selection

Project locations must generally be selected in one of two ways: using the “hot spot” approach, by selecting a location from one of four lists of “Hot Spot” locations, or using a systemic approach. The Hot Spot approach utilizes lists of locations ranked based upon the number and severity of crashes in a three- to five-year period. The systemic approach is based on the understanding that all drivers encounter some risk throughout the roadway network. This approach identifies that risk and applies low-cost, proven countermeasures over a large area to reduce the risk. SJTPO will work to incorporate safety improvements based on both the hot spot and systemic approaches.

Step 2 – Problem Identification

A detailed analysis of a selected site's crash history is needed to understand the problem and ensure appropriate improvements are selected. It is not enough to select a location from the Network Screening lists; identifying a location with a significant crash history does not directly translate into a project that can be funded through the Local Safety Program. However, proper diagnosis of the problem can help to identify an eligible project. Road Safety Audits (RSAs) can be valuable in problem identification.

A **Road Safety Audit (RSA)** involves a group of professionals from different fields (engineers, planners, local police, community leaders, etc.) comes together and conducts an in-person evaluation of a location to identify needed safety improvements. The understanding developed through an RSA not only helps identify the problem and best solution, but also ensures the most effective use of safety funds. SJTPO has been nationally recognized for its early adoption of Road Safety Audits to address safety.

FHWA Proven Safety Countermeasures: FHWA has studied and identified nine safety countermeasures that are proven effective in addressing specific crash types. These should be considered in all local safety projects:

- Roundabouts
- Corridor Access Management
- Backplates with Retroreflective Borders
- Road Diet
- Medians and Pedestrian Crossing Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacon
- Longitudinal Rumble Strips and Stripes on Two-Lane Roads
- Safety EdgeSM

Step 3 – Countermeasure Selection

Selecting an appropriate countermeasure to address the problems at a location is a key step in the process. For locations selected based on network screening, countermeasures must address the types of crashes at the particular location. For a systemic approach, countermeasures must address the geometric roadway features related to the targeted crash type. SJTPO strongly encourages the use of proven safety countermeasures.

Step 4 – Benefit-Cost Analysis

The SJTPO uses the Highway Safety Manual (HSM) to evaluate the cost-effectiveness of each safety improvement. The HSM is a relatively new tool, which can be used to quantify safety objectively, by estimating crashes at a location and measuring the effectiveness of an improvement on safety. SJTPO was an early adopter of the HSM to measure the effectiveness of a proposed safety countermeasure. Beginning in 2015, all safety projects in New Jersey that use funds from the HSIP will use this objective HSM analysis. This step in the process is not applicable for systemic applications.

Step 5 – Technical Committee Review

The final step is review by a Technical Review Committee, comprised of SJTPO, Federal Highway Administration (FHWA), and the New Jersey Department of Transportation (NJDOT) staff including Local Aid, Bureau of Environmental Resources, and Bureau of Data and Safety. In addition to reviewing applications for quality, the Committee assesses whether projects are "shovel ready," and determines if there are any "fatal flaws" that require delaying the project.

Educating for Safer Behavior

SJTPO's Local Safety Program is unique in its dual focus on infrastructure improvements and behavior. For many years, SJTPO has had a robust behavioral focus, with a strong emphasis on safety education. SJTPO collaborates with a number of organizations on programs that address different facets of safety, presenting education programs to schools within the SJTPO region. Programs are specifically targeted to the appropriate age group.

These safety programs are designed to bring awareness to the many risks presented to drivers, passengers, bicyclists, and pedestrians on area roadways and teach simple ways to improve safety. This is a part of SJTPO's commitment to work Toward Zero Deaths and ensure that all roadway users get home safely.

Programs for High School Students

Share the Keys

This research-based, data-driven program is designed to reduce teen driver crash risks by increasing parental involvement. The program ensures that all parties fully understand the risks and responsibilities associated with driving and are equipped with the tools needed to build safe driving skills for life. Topics include understanding New Jersey's graduated driver license

Pioneering Advancements in Safety:

In 2011, SJTPO became the first agency in New Jersey to utilize the Highway Safety Manual (HSM) in support of a local safety project, a data-driven process that will continue to guide SJTPO in selecting quality projects in the future.



From 2012 to present, the Share the Keys Program has been presented 33 times to 6,059 people in the SJTPO region as well as several schools in Camden and Gloucester Counties.

Since 2012 “Car Crashes, It’s Just Physics” has been presented 167 times to approximately 4,785 students.

Since 2013, “Teens and Trucks” has been presented 17 times to 2,150 students.

Since 2012, the “Most Dangerous Place on Earth” program has been presented 320 times to approximately 14,590 students.

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(GDL), being a good role model for your teen driver, effectively enforcing the GDL law, increasing practice driving hours, and controlling the keys. The 60 to 90-minute program is designed for parents and their teens during the pre-permit or permit stage of license, generally tenth and eleventh grade students.

Car Crashes, It’s Just Physics

This interactive program incorporates science, math, and physics and their relationship to crashes into the safety lesson. By using these tools, the student can determine how crashes occur and how the related forces cause injuries and death. It helps the student better understand how to avoid crashes and how to protect themselves as well as their occupants. The 40-90 minute program is a real-world application of their education.

Teens and Trucks

This two-part program allows high school age students to move outside the classroom and educates young drivers about the importance of safe driving from the vantage point of a truck driver. While in the classroom setting, teens are taught on how to be aware of the blind spots, the three-second rule, and to keep a safe distance around large trucks and buses. The students are taught to avoid all types of distractions, including talking to passengers, adjusting the radio or GPS, eating, drinking, reading, using a cell phone, reaching for something dropped on the floor, or any other activity that removes your attention from the road. During the second part of the program, several stations are set up outside of the school to teach students about the limitations and characteristics of large trucks and buses compared to passenger vehicles and motorcycles. The classroom portion of this program is approximately 40-45 minutes in length.

Most Dangerous Place on Earth

On a daily basis, one of the most dangerous places for any person to be is on a highway. This program is designed for all grades of high school students with the flexibility to be tailored to the time constraints (period length) of the school. The program covers the actual statistical likelihood of being involved in a crash and gives a realistic picture of the potential danger anyone faces when part of the traffic mix. Additionally, the program covers distracted driving, drinking and driving, occupant protection, and when appropriate as per student age, defensive driving techniques. This presentation can be adjusted to be appropriate for 9th, 10th, 11th, and 12 graders as well as all adult drivers.

Programs for Elementary and Middle School Students

Occupant Protection for Middle School Students

This program provides information and tips for middle school students on how to wear a seatbelt properly. It provides an overview of crash dynamics and the forces one experiences during a vehicle crash. It further emphasizes the importance of passenger participation in safe transportation. The students receive hands-on training in how to adjust their seatbelts properly for maximum safety and comfort. Other occupant protection equipment in the vehicle is also discussed. This program runs approximately 30 to 45 minutes.

Bicycle and Pedestrian Safety

This presentation has the ability to be tailored to a wide audience ranging from elementary to middle school aged children and can be fit to a school schedule, generally 30-40 minutes in length. This presentation addresses using proper safety equipment, while emphasizing the rules and laws pertaining to bicycle safety. The pedestrian safety portion of the presentation addresses New Jersey's pedestrian safety laws and encourages children to be aware of their surroundings when in, around, or near the roadway. This presentation is also utilized for education associated with the Safe Routes to School program.

Belts on Bones

This program is designed for early elementary aged children (kindergarten through third grade) who are transitioning from a child restraint to a booster seat. The goal of the program is to ensure the child is properly secured in an occupant restraint in the rear of the vehicle. A vehicle-training seat and a booster seat are used to emphasize and promote the proper use of a booster seat for children of these ages. The program further empowers the child to discuss these issues at home. The 30-45 minute presentation makes use of a combination of live demonstrations and video clips.

Belts, Bones, and Buses

This program is very similar to the Belts on Bones program with the added component of school bus safety, both on and off the bus. A school bus seat is used to demonstrate proper use of the lap belt and speaks to general school bus safety. The 30-45 minute program is geared toward elementary aged children in first through fifth grade.

Programs for Adults

Car-Fit for Senior Drivers

This AAA/AARP program is designed to provide a quick but comprehensive check of how well a driver and their vehicle work together. It was designed with the senior driver in mind because of their frailty, which makes them more vulnerable to serious injuries during a crash. The goal of the assessment is to make sure the driver is seated properly to ensure the best view and control of the vehicle and that the driver receives the maximum benefit of their vehicle's occupant restraint systems. The 15-20 minute assessment is held at various Senior Citizen Centers throughout the region.

Child Passenger Safety (CPS) – Car Seat Inspection Program

The Child Passenger Safety Program provides education for parents and caregivers on how to install a child restraint system in their vehicles properly. Parents can have their seats checked and inspected by trained child passenger seat technicians.



SJTPO works with county and local law enforcement agencies to provide car seat inspections to help parents get the information they need to ensure children are properly secured in the car.



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CPS – Transporting Children Safely

This one-hour program is taught in a classroom setting using the National Highway Traffic Safety Administration (NHTSA) curriculum on proper selection, direction, location, and installation of child seats. Parents and caregivers are given tips and techniques to ensure their passengers are riding safely. This program can be an educational resource for parent organizations, community groups, social service organizations, and businesses in the region.

CPS – Child Passenger Safety Technician Training

This program offers Child Passenger Safety (CPS) Technician Certification status to individuals who successfully complete the course. CPS Technicians use their knowledge and expertise at a variety of community-based activities such as child seat safety check inspections and events. The curriculum developed by the National Highway Traffic Safety Administration (NHTSA) is a comprehensive 32-hour training.

CPS – Restraint Systems on School Buses National Training

Many school districts are required to transport preschool age children and infants to schools in our region. The curriculum of this program, provided by the National Highway Traffic Safety Administration (NHTSA) addresses proper use and installation of child seats on school transport vehicles. The course runs for approximately 8 hours and provides classroom and hands-on training in school buses. The training is available to school district employees such as drivers, aids, mechanics, and administrators that are involved in the transport of preschool age children and infants in their districts.

Opportunities to Expand on Bicycle and Pedestrian Safety Awareness

SJTPO recognizes that continuing education and awareness is important for all users of the transportation system. SJTPO is always exploring opportunities to improve safety in our region. Examples of this include the “[Street Smart](#)” campaign, led by the North Jersey Transportation Planning Authority (NJTPA), which teaches roadway users to “check their vital signs,” a reference to the roadway signs that are vital to the safety of bicyclists and pedestrians. This program is tailored to New Jersey’s traffic laws and has been implemented successfully in cities and towns across northern and central New Jersey. Another example includes a program from the National Highway Traffic Safety Administration (NHTSA), called “[Everyone is a Pedestrian](#),” which highlights that at some point in our trip, everyone is a pedestrian and links to federal resources on pedestrian safety. These programs represent successes and opportunities that SJTPO can take advantage of to bring the safety message to all users, going beyond the younger users covered in current safety outreach programs.

Moving Safety Forward

SJTPO will continue recent efforts to bolster its safety programs by working to more seamlessly integrate infrastructure safety efforts with behavioral safety. This includes using crash data to identify locations in need of safety education or attacking major safety issues with infrastructural improvements and education as well as partnering with law enforcement efforts. This effort is in recognition of the fact that we can only move towards zero death on our roads by using an “all of the above”

approach. Toward this end, SJTPO will continue to work with state partners to align safety investments with priorities identified in the Strategic Highway Safety Plan (SHSP) and in areas where we are seeing the greatest risk of crashes. As New Jersey has been recognized as a “Pedestrian Focused State” for its unusually high crash rates for pedestrians, SJTPO is putting a greater focus on bicycle and pedestrian infrastructure improvements through its involvement with the Safe Routes to Schools and Transportation Alternatives Programs as well as other efforts. Finally, SJTPO is working aggressively to make the Safety Program more efficient by working with state and regional partners to utilize best practices and streamline work among partners to advance the goal of driving down crashes and fatalities in South Jersey.

In summary, the numerous SJTPO initiatives in safety planning, safety project development, and safety education and programming all relate to the *Transportation Matters* goal of “Improve Transportation Safety.”



6. ENVIRONMENTAL CONSIDERATIONS

Regional Environmental Context

In the ongoing regional transportation system planning process, consideration must be given to the negative effects which the vehicular traffic on this system can have on the natural and human environment, and the impacts the changing natural environment can have on this system (particularly on facilities such as roads, bridges, rail lines and tunnels).

The South Jersey Transportation Planning Organization (SJTPO) region is filled with a multitude of precious environmental resources, including:

- Coastal and freshwater wetlands
- Wildlife habitat areas
- Prime farmland
- Forested areas
- Natural Scenic Areas
- Wild and Scenic Rivers
- Unique natural areas such as the Pinelands and the coastal environment

Careful consideration of the natural resources and significant environmental features in the SJTPO region is an essential part of the long-range transportation planning process. The Coastal Area Facility Review Act of 1973 (CAFRA) established the CAFRA zone, as the bounds of CAFRA regulation. Certain activities undertaken within the CAFRA zone are regulated by the Division of Land Use Regulation and require permits.²⁴

Covering approximately 335,000 acres in parts of Atlantic, Cape May, and Cumberland Counties, the Pinelands Area is a million-acre mosaic of forests, farms, and towns that lies above trillions of gallons of water. In addition to year-round residents, the region provides refuge for 135 rare plant and animal species. As a critical part of its mission to safeguard the Pinelands, the Pinelands Commission is charged with overseeing land use and development in this special part of southern New Jersey. They do this via the Pinelands Comprehensive Management Plan, last updated in 2014.²⁵ Commission staff members review public and private applications for development, evaluating proposals by using scientifically based standards

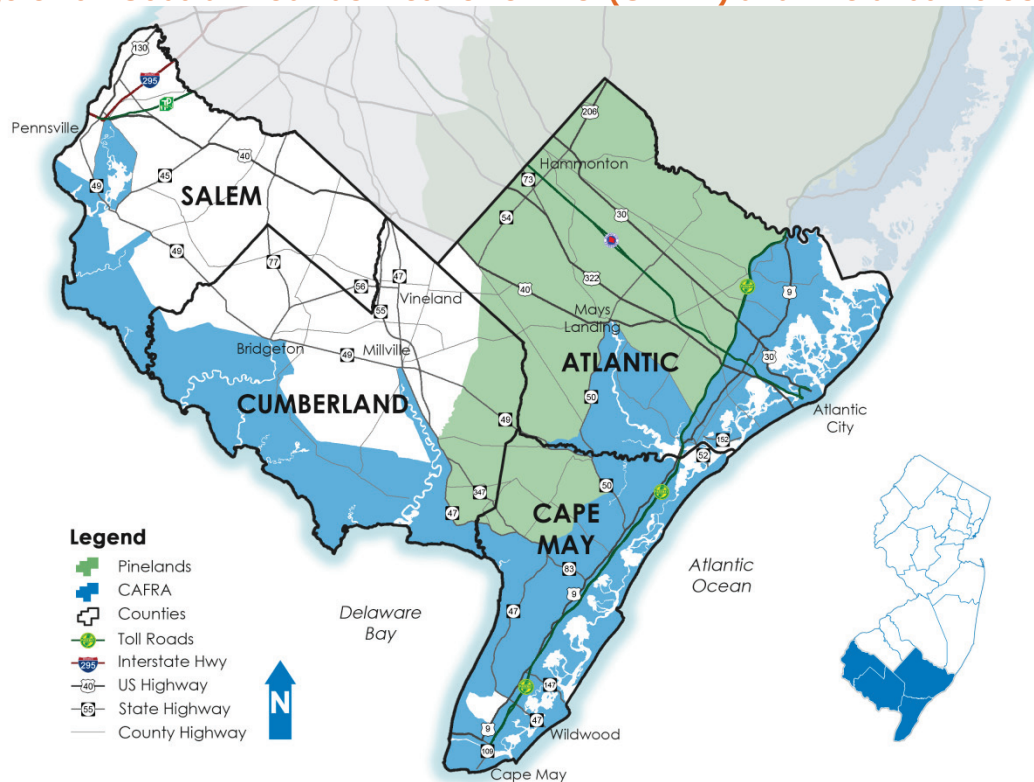
²⁴ For further information on CAFRA and the required permits, see www.nj.gov/dep/landuse/coastal/cp_main.html.

²⁵ The latest Pinelands Comprehensive Management Plan is available at: www.nj.gov/pinelands/cmp/CMP.pdf.

to ensure that the Pinelands’ ecological health is protected. Development proposals must meet a series of environmental standards, such as those that protect water quality, wetlands, and threatened and endangered species, among other standards.

Figure 15, below, shows the boundaries of the Coastal Area Facilities Review Act (CAFRA) and Pinelands protected natural areas.

Figure 15 - Coastal Area Facilities Review Act (CAFRA) and Pinelands Protected Natural Areas



Air Quality Conformity

Ground level ozone is a gaseous compound formed when Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOCs) combine in the presence of sunlight. A significant portion of the ozone concentration in the air comes from mobile sources such as automobiles and trucks. Because the SJTPO region falls within the Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE, it is subject to air quality conformity requirements, as mandated by the Federal Clean Air Act. Transportation conformity is demonstrated by comparing future projections of emissions from on-road vehicles with emission budgets that are established in the State Implementation Plan (SIP), the State’s plan for meeting National Ambient



There is a broad scientific consensus that greenhouse gas (GHG) emissions caused by human activity are impacting the earth's climate, and that increasing atmospheric GHG concentrations will result in very significant adverse global, regional and local environmental impacts.

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Air Quality Standards (NAAQS). “Conformity” refers to conforming to, or being consistent with, the SIP. *Transportation Matters* conforms to the emissions budgets established in the SIP. The detailed conformity determination is located in Appendix B.

Climate Change and Greenhouse Gas Emissions

Another major environmental concern within the SJTPO region, nationally and internationally, is the increase in average temperatures due to emissions of greenhouse gases, such as carbon dioxide (CO₂). There is a broad scientific consensus that greenhouse gas (GHG) emissions caused by human activity are affecting the earth's climate, and that increasing atmospheric GHG concentrations will result in very significant adverse global, regional, and local environmental impacts. Definite evidence exists of an increase in the statewide average temperatures. According to a 2013 report entitled, “State of the Climate: New Jersey,” issued by the Rutgers Climate Institute, the statewide average temperature 56.0°F in 2012 was the highest in 118 years of records. This average is 2.8 °F above the 1981-2010 mean. Nine of the ten warmest calendar years on record have occurred since 1990 and the five warmest years have occurred since 1998, consistent with the long-term upward trend of 2.2°F per century.²⁶ The report goes on further to note that the past 25 years have been characterized by more unusually warm months in New Jersey than unusually cold months. The disparity has been even greater since 2000, as unusually warm months have outnumbered unusually cold months by 25 to 2.²⁷

Projected effects of climate change include rising sea levels, increased storm surge, and increased frequency and severity of storms, all of which could affect the region's transportation facilities. As with increasing average temperatures, there is also evidence of rising sea levels. The rate of global sea level rise has increased in recent decades, with an average rate of 1.2 inches per decade since the early 1990s. While rates of sea level rise vary globally, sea levels along the New Jersey shore have risen faster than the global average. At Atlantic City, where records extend back to 1912, sea level has risen by an average rate of 1.5 inches per decade. The rate of sea level rise is greater along New Jersey's coastal plain because the land is subsiding at the same time the water levels are rising.²⁸

In October 2012, New Jersey experienced one of its most extreme meteorological events ever, Superstorm Sandy. The most destructive element of Sandy was the powerful storm surge that was produced by the large area of strong winds and the unusual west-northwestward track of the storm. While the New Jersey counties to the north of the SJTPO region experienced a greater impact from Sandy than the SJTPO region, much of the SJTPO region still experienced significant impacts. For example, much of the iconic Boardwalk in Atlantic City was damaged, and many of the residents in Atlantic City experienced flooding in their homes. Homes and businesses in communities such as Fortescue along the Delaware Bay

²⁶ Rutgers Climate Institute. “State of the Climate: New Jersey.” 2013. <http://climatechange.rutgers.edu/resources/state-of-the-climate-new-jersey-2013>.

²⁷ Ibid.4.

²⁸ Ibid.6.

also experienced severe damage. Most scientists and researchers believe that the average intensity of storms such as Sandy is likely to increase, in terms of maximum wind speed and rainfall, as well as the frequency. There is also high confidence that the impacts of future storms are likely to be more severe because of rising sea levels.²⁹

Furthermore, numerous studies have shown that vehicular emissions (primarily from automobiles, trucks, buses and other on-road vehicles) are a major contributor to GHG levels in the atmosphere. The 2014 SJTPO Regional Greenhouse Gas Emissions Inventory revealed that, in 2010, the largest emissions sector in the inventory in the SJTPO region was transportation, representing 45.5 percent of gross emissions.

Given this consensus and understanding, government officials and agencies at the national and state level have developed policies and plans to deal with this problem. In 2007, the Governor of New Jersey signed the Global Warming Response Act (GWRA), which called for the reduction of GHG emissions to 1990 levels by the year 2020, followed by a further reduction of emissions to 80 percent below 2006 levels by 2050. As noted above, the SJTPO's initial response was to prepare a Regional Greenhouse Gas Emissions Inventory in order to better understand the source of the GHG emissions in the SJTPO region.

New Jersey's Progress to Date

According to the GWRA, the 2020 limit is a quantity equal to the 1990 emissions total (baseline), which has been estimated to be 125.6 million metric tons of carbon dioxide equivalent (MMTCO₂e), and the 2050 limit is a quantity 80 percent less than the 2006 emissions. Since the 2006 emission level has been estimated to be 127.0 MMTCO₂e, the 2050 limit is 25.4 MMTCO₂e. On a statewide level, emissions have been going down, from 112.7 MMTCO₂e in 2010, to 104.6 MMTCO₂e in 2012, a 7.2 percent decrease.³⁰ This translates into a decrease in emissions per capita on a statewide level from 12.87 mtCO₂e (metric tons of carbon dioxide equivalents) to 11.7 mtCO₂e, a 9 percent decrease. Since 2008, statewide greenhouse gas emissions have been consistently below the 2020 limit.

There are several reasons that have been put forward to explain the decline in statewide Greenhouse Gas Emissions. These include:

- **More reliance on natural gas**, which emits less GHG per unit of energy, as opposed to coal in some electricity generating plants.
- **Increased energy efficiency** encouraged by State policies and following a long-standing national trend, which has led to lower energy use and GHG emissions. In addition, there has also been a rise in vehicle fuel efficiency, as

²⁹ Ibid.7.

³⁰ Michael Aucott, PhD et al. "2012 Update to New Jersey's Statewide Greenhouse Gas Emissions Inventory." Rutgers Climate Institute. March 2015.



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reflected by the rise in the Corporate Average Fuel Efficiency Standards (CAFE) standards to 35.5 miles per gallon (mpg) in 2016, an increase of more than 20 percent from 27.5 mpg in 2000.³¹

- **A trend of more electricity production from photovoltaic sources**, which has resulted in less generation from fossil fuel sources, lowering GHG emissions.³²

While it appears that New Jersey is on track to meet the 2020 emissions target of 125.6 MMTCO₂e, to attain the 2050 target of 25.4 MMTCO₂e, the current GHG emissions must be reduced by approximately 75 percent, from 104.6 MMTCO₂e to 25.4 MMTCO₂e. As such, SJTPO needs to implement strategies that reduce GHG emissions. These are described in more detail in the next section.

Emissions Reduction Strategies

Generally, there are at least two major ways to respond to the problem of emissions, be they ozone, greenhouse gases, or some other pollutant – these are mitigation and adaptation. In the former, the objective is to reduce emissions in numerous ways, including new and innovative technology (e.g., electric-powered vehicles), reduction of vehicle miles traveled (VMT), conservation (promoting energy efficiency), and sequestration (e.g., through woodland preservation). The objective of adaptation is to attempt to minimize the negative effects of global warming (severe weather, storm surges, etc.) on the human environment through such means as elevation of roads and bridges above anticipated flood levels, construction and fortification of dams and levees to make them more resilient, and planning and enhancement of storm evacuation routes.

With respect to mitigation, SJTPO is involved in projects and plans that reduce emissions from mobile sources by focusing on projects that facilitate the movement or flow of traffic, as opposed to an increase in capacity, thereby reducing overall travel time and vehicle idling. As part of its involvement in the transportation improvement process, the MPO's project development review process includes measures that modify or discourage proposed roadway capacity improvements that would result in negative air quality impacts. Federal and state regulations often require an environmental assessment or a comprehensive Environmental Impact Statement (EIS) where a proposed project would involve a significant increase in the carrying capacity of a transportation facility. The findings of these statements may require mitigation strategies to minimize negative impacts or they may suggest significant project modifications. These plans and projects include major road and intersection improvements, the construction of new roads and bypasses, and traffic control improvements that maximize traffic flow. The MPO also promotes transportation choices that reduce traffic volume and VMT, including bus and passenger rail transit, rail freight (which reduces truck traffic) and bicycle and pedestrian facilities.

³¹ National Highway Traffic Safety Administration. "December 2014 Summary of Fuel Economy Performance" www.nhtsa.gov/fuel-economy.

³² Ibid. 6.

With respect to adaptation, SJTPO has worked in cooperation with NJDOT and the North Jersey Transportation Planning Authority (NJTPA) in preparing a study of climate change impacts on infrastructure on a statewide basis. Although not currently programmed, SJTPO is considering undertaking a climate change adaptation study and plan as a future Unified Planning Work Program (UPWP) Technical Study. Current and future studies such as these can serve as important information resources in the transportation planning and improvement process.

In addition to SJTPO's efforts, many of SJTPO's subregions are actively involved in climate change mitigation, adaptation, and related initiatives. Both Atlantic and Cape May County received Post-Sandy Planning Grants from the New Jersey Department of Community Affairs. This a two-part grant. Part 1 is the development of a Strategic Recovery Planning Report, which identifies areas of risk and potential land use-related solutions to mitigate future damage. Once this is complete, the county master plans will be rewritten to include resiliency and other issues as part of the criteria for post-Sandy funding. Both of these Plans will be completed later in 2016. Further, in 2014, the State of New Jersey Office of Emergency Management (OEM) released its Hazard Mitigation Plan (HMP), which goes into more detail on the natural and human-caused hazards facing New Jersey, based on current science and research. NJDOT was part of the team that helped to develop this Plan. The State Hazard Mitigation Plan outlines strategies to reduce risks from hazards, and serves as the basis for prioritizing future project funding.³³ In summary, SJTPO and its subregions, along with the State, will continue to promote and enact mitigation and adaptation strategies to reach the statewide GHG emissions reduction goals.

³³ The State of New Jersey 2014 Hazard Mitigation Plan. www.ready.nj.gov/programs/mitigation_plan2014.html.



7. SCENARIOS

Given the challenges of forecasting a future with a variety of unknowns and much uncertainty, many MPOs as well as other public and private entities are using scenario planning as a way to visualize what the future may look like under a given set of conditions. It is a useful tool in preparing any type of plan and formulating goals for the future.

Scenario planning can be formally defined as a: Process of visualizing:

- What future conditions or events are probable,
- What their consequences or effects would be like, and
- How to respond to, or benefit from, them.³⁴

The South Jersey Transportation Planning Organization (SJTPO) is using scenario planning to identify what the impacts of certain transportation investments would be on the system performance, given our existing and future demographic trends and projections. This “glance” into the future is intended to provide decision makers as well as the public a better idea of how our current investments are affecting the system performance and how a few “alternate” scenarios may impact the system.

Demographics

Gradual long-term growth is expected in the SJTPO region. As seen in Figure 16, and Table 15 and Table 16, on the following pages, the year-round population is projected to increase by approximately 7 percent by 2040 to approximately 636,800 residents, while year-round employment is projected to increase by approximately 4.5 percent by 2040 to approximately 344,700 jobs. Both of these demographic trends imply that there will be a corresponding increase in travel demand. During the summer season, with the increase in visitors and seasonal employment, the population region-wide almost triples, and this trend is expected to continue through 2040.³⁵

³⁴ www.businessdictionary.com/definition/scenario-planning.html. Accessed April 13, 2016.

³⁵ Obviously, the seasonal influx is concentrated in the Shore areas of Atlantic and Cape May counties. For additional details on the demographic projections as well as the associated methodology, see Appendix B.

Figure 16 - SJTPO Region: Expected Population and Employment Growth, 2015-2040

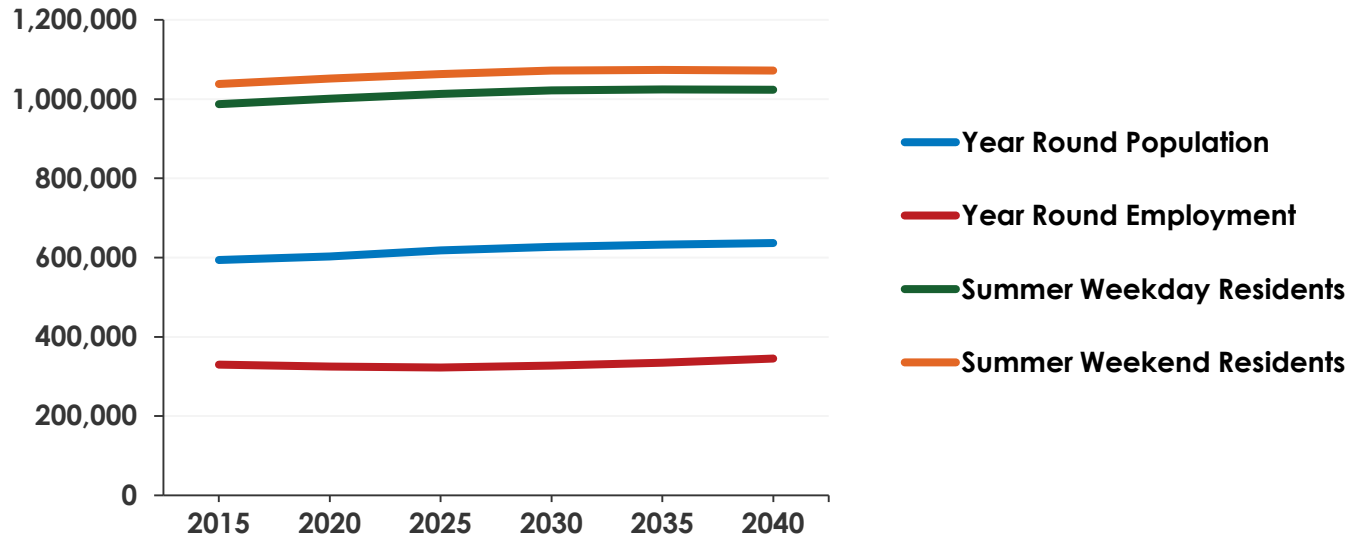


Table 15 - SJTPO Projected Population Growth, 2015-2040 (thousands)

	2015	2020	2025	2030	2035	2040
Atlantic	276.0	286.4	296.7	305.6	312.7	318.2
Cape May	94.7	92.2	89.5	86.6	83.2	79.5
Cumberland	158.6	162.6	166.4	169.9	173.1	176.2
Salem	64.8	65.2	65.3	64.9	64.1	62.9
Total	594.1	606.4	617.9	627.0	633.1	636.8


Table 16 - SJTPO Projected Total Employment Growth, 2015-2040 (thousands)

	2015	2020	2025	2030	2035	2040
Atlantic	165.0	162.1	159.9	162.7	166.3	170.8
Cape May	63.5	63.6	64.2	65.3	66.8	68.9
Cumberland	73.0	72.6	72.9	74.2	76.5	80.0
Salem	28.0	26.7	25.8	25.2	24.9	25.1
Total	329.5	324.9	322.8	327.3	334.6	344.7

Source: SJTPO Demographic Projections. CGR, RLS. 2016.

The South Jersey Travel Demand Model (SJTDM) is a software analysis tool used by SJTPO to estimate traffic volumes on all major roads in the region. Ongoing improvements are being made to the SJTDM with the goal of fitting the model as closely as possible to real-world travel conditions. The model runs in the Cube Transportation Modeling Suite with many customizations to adapt the model to the SJTPO region. The model was recently recalibrated to the results of the 2014 South Jersey Household Travel Survey and to recent traffic counts conducted by NJDOT to ensure that modeled traffic volumes closely match real-world traffic volumes.

Scenario Development

For *Transportation Matters*, the SJTDM has been used to model travel for both a base year (2015), intended to reflect present travel conditions, and a future year (2040), intended to predict travel for the long-range plan, given specific demographic and transportation network inputs. This specific set of inputs and other assumptions are entered into the regional travel model, leading to a specific set of outputs. The entire chain is referred to as a scenario. The base-year model uses current regional population and employment data, as well as the current road network. The model can predict hourly traffic volumes on all major roads, and the base year scenario has been calibrated against the recent traffic counts provided by NJDOT and other agencies. Future-year projections of population, employment, and road network changes are then added to this model in order to forecast regional travel in the year 2040.

For *Transportation Matters*, we ran one base year scenario, and three future year scenarios. They are listed below and depicted in Figure 17, below.

Figure 17 - SJTDM Scenarios

SJTDM Scenarios	
2015 Base Year	<ul style="list-style-type: none"> • Represents present conditions • Based on 2015 estimates of population and employment, as well as the current road network
2040 Business as Usual*	<ul style="list-style-type: none"> • Represents future conditions • Based on regional population and employment forecasts, as well as a road network that includes all regionally significant road construction projects approved in the 2016-2025 Transportation Improvement Program (TIP), as well as those non-Federally funded projects included in the air quality conformity analysis. • Note that while system preservation and maintenance projects make up a large part of the TIP, only those projects that alter network capacity are modeled.
2040 Critical Needs*	<ul style="list-style-type: none"> • Represents potential future conditions with increased transportation funding for "critical needs" projects identified by subregions • Same regional demographics as Business as Usual • Includes all regionally significant projects in the 2016-2025 TIP as well as critical needs that could be modeled
2040 Bridge Closures*	<ul style="list-style-type: none"> • Same demographics as "Business as Usual" • Simulated the closure of three critical bridges* to the barrier islands: <ul style="list-style-type: none"> ○ JFK Bridge, EHT to Longport, Atlantic County ○ Roosevelt Boulevard into Ocean City, Cape May County ○ Ocean Drive Bridge, Lower Township into Wildwood, Cape May County

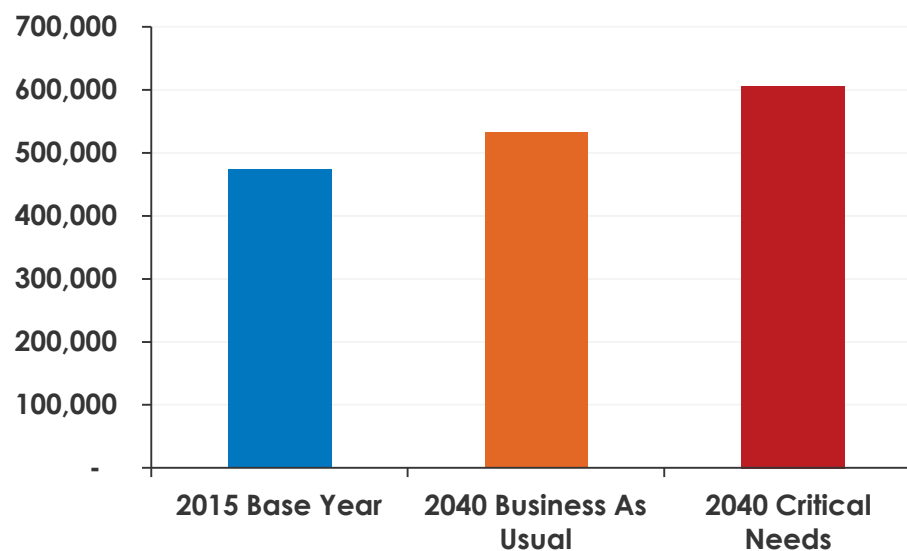
*For further details on the specific projects included in the Business as Usual, 2040 Critical Needs Scenario, and the Bridge Closure scenarios, see Appendix A.2.

+ Note: These specific bridges were chosen because they are on critical links to the barrier islands and based on consultation with the counties. Other "bridge closures" could also be modeled.



One common measure of roadway performance is Level of Service, which characterizes roadway congestion and delay with a letter grade, ranging from A to F. Level of Service A indicates virtually no congestion or delays, while Level of Service F indicates very high congestion and delays. The SJTDM can be used to estimate the Level of Service of individual roadways for both the base- and future- year. The model estimates level of service using Highway Capacity Manual (HCM) methodology, which assigns levels of service based on traffic volume and roadway type. While the model can be set to predict travel during certain times of the day, we use the PM Peak Period (defined as 3:00 PM to 7:00 PM in the SJTDM) in this analysis, as that is generally the part of the day that sees the highest traffic volume.

Figure 18 - Vehicle-Hours Traveled (VHT) Change, 2015-2040



Source: SJTDM

Figure 18, above, depicts the projected growth in vehicle-hours traveled from the present through 2040. As the Critical Needs scenario adds new roadways such as the Route 55 extension, this scenario is projected to have even greater growth in vehicle-hours traveled. Figure 19, on the following page, depicts the Level of Service across the 2015 Base Year and 2040 Business-as-Usual Scenarios for the PM Peak Period. From 2010 to 2040, more VMT are categorized as D, E, and F, which suggests a general decline in performance. These results clearly show that “business-as-usual” will only lead to a worsening of system performance. However, as stated above, as many of the projects in both the TIP as well as the Critical Needs are maintenance projects that cannot be modeled, it is likely their benefits are not being reflected in these scenarios.

Figure 19 - Vehicle Miles Travelled (VMT) by Level of Service, PM Peak Period



Source: SJTDM

Subarea (Project-level) Analysis

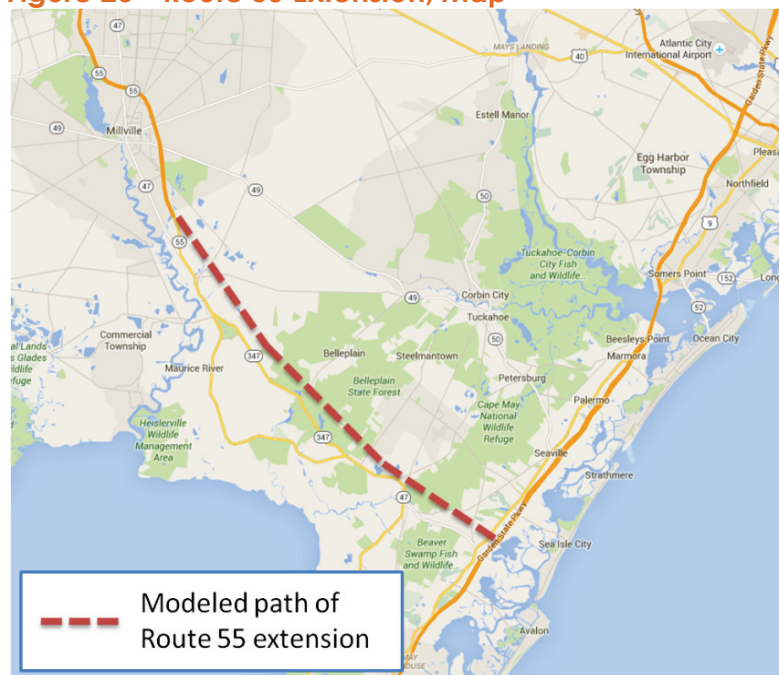
Although little improvement is seen at the system level across each scenario, when we look at specific projects, we can see some improvement as far as congestion mitigation and Level of Service (LOS). This was done for the major capacity enhancement projects in the Critical Needs scenario. LOS, a common measure of roadway performance, characterizes roadway congestion and delay with a letter grade, ranging from A to F. Level of Service A indicates virtually no congestion or delays, while LOS F indicates very high congestion and delays. The SJTDM can be used to estimate the LOS for the entire SJTPO transportation system as well as individual roadways for both the base- and future years. From 2015 to 2040, more VMT are categorized as D, E, and F, which suggests a general decline in performance.

Route 55 Extension

For the first project, we looked at the Route 55 extension, a critical need identified by Cape May County. This project extended Route 55 from its current southern terminus at its junction with Route 47, and extends into a new interchange at the Garden State Parkway in Dennis Township near Route 83 and Sea Isle Boulevard.

Figure 20, below, shows the approximate alignment of this project, as coded in the SJTDM.

Figure 20 - Route 55 Extension, Map



As can be seen from Table 17, on the following page, it appears that this improvement did actually attract additional traffic, and take traffic off Route 47 SB, the current major north-south highway to the Shore within that corridor. It also took a lot of traffic off Route 83 (eastbound and westbound), a major east-west highway into Sea Isle City. From a congestion management standpoint, model projections show that this project will have a positive impact. Note that the northbound volumes appear much higher than the southbound volumes due to this being a typical weekday PM period, when visitors are returning home from the shore. In the AM period, southbound traffic is greater.

According to the model, the Route 55 Bypass SB will definitely attract additional traffic. It also adds some traffic to SW Blvd. SE, although since it was only carrying 81 vehicles per the PM peak hour before, this probably will not overburden the system. This improvement also seemed to alleviate some traffic from Delsea Drive. However, it also led to increased traffic on Lincoln Avenue SB, and Sharp Street SB. As such, the model is showing mixed results for this particular improvement.

Table 17 - Route 55 Extension, Before and After Analysis

Roadway	Before		After	
	Volume	LOS	Volume	LOS
Route 47 SB, just south of current 55 terminus	1,123	D	1,037	D
Route 47 NB, just south of current 55 terminus	1,805	E	1,382	D
Route 55 extension SB, just south of current terminus			1,601	A
Route 55 extension NB, just south of current terminus			4,026	B
Route 83 WB, near US-9	2,282	C	452	B
Route 83 EB, near US-9	1,136	B	458	B
Route 55 extension EB, near interchange with GSP			1,601	A
Route 55 extension WB, near interchange with GSP			4,027	B
Route 47 SB, in Middle Township (just south of Rt 83)	488	B	505	C
Route 47 NB, in Middle Township (just south of Rt 83)	1,572	E	1,484	E

Source: SJTDM

Millville Projects

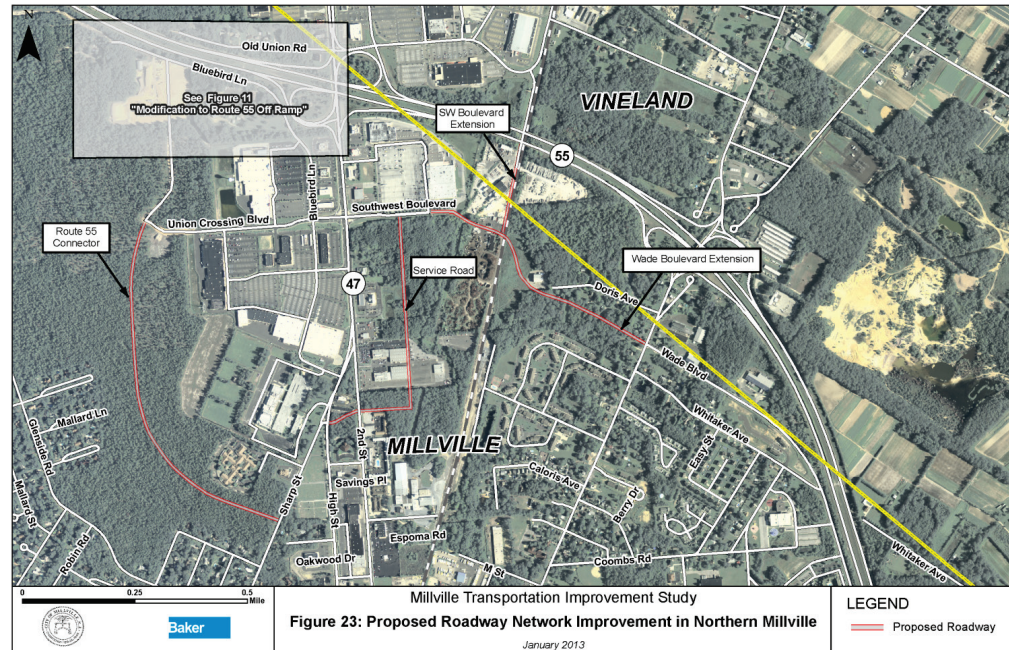
The second set of projects we looked at was a series of improvements in Millville that were from *the City of Millville Transportation Improvement Study*.³⁶ They consisted of:

- A Route 55 bypass that ties into Sharp Street (Figure 21 MB Study)
- Wade Boulevard extension
- SW Boulevard Extension

A schematic of these improvements are depicted in Figure 21, on the following page. According to the model, the Route 55 Bypass SB will definitely attract additional traffic. It also adds some traffic to SW Blvd. SE, although since it was only carrying 81 vehicles per the PM peak hour before, this probably will not overburden the system. This improvement also seems to alleviate some traffic from Delsea Drive. However, it also led to increased traffic on Lincoln Avenue SB, and Sharp Street SB. As such, the model is showing mixed results for this particular improvement.

³⁶ Michael Baker, Jr., Inc. "City of Millville Transportation Improvement Study—Final Report." May 2013.

Figure 21 – Millville Improvements, Map



Source: Michael Baker, Jr., Inc. Millville Transportation Improvement Study. May 2013.

Table 18 - Millville Improvements, Before and After Analysis

Roadway	Before		After	
	Volume	LOS	Volume	LOS
Delsea Dr SB	2,465	B	1,705	B
Sharp St SB	1,000	E	1,348	F
SW Blvd SB	81	A	783	D
Lincoln Ave SB	1,499	E	1,881	E
Route 55 Bypass SB	-	-	708	D
SW Blvd Extension SB	-	-	837	D
Wade Blvd Extension WB	-	-	477	C

Source: SJTDM

Bridge Closures

Finally, as many of the critical needs projects identified by the subregions were bridge rehabilitation and/or bridge reconstruction projects, we modeled the impact to the system if they were to be taken out of service. Note that, at this time, there are no plans to close any of these bridges. A Before and After Analysis was conducted for each of these hypothetical bridge closures, and the results of each are depicted in Table 19, Table 20, and Table 21, on the following pages.

(1) JFK Bridge, EHT to Longport

For the JFK Bridge, the traffic that would normally use the bridge was diverted to parallel bridges serving the same travel movement: the Margate Boulevard Bridge (eastbound and westbound), the Route 40 Bridge (eastbound and westbound), and the Atlantic City Expressway Bridge (eastbound and westbound). This is depicted in Table 19, on the following page. From the model results, closure of the JFK Bridge looks like it is going to have a significant negative impact to the system, resulting in more traffic on these bridges and a lower Level of Service.

Figure 22 - JFK Bridge, Map




Table 19 - JFK Bridge, Before and After Analysis

Roadway	Before		After	
	Volume	LOS	Volume	LOS
JFK Bridge EB, Egg Harbor to Longport	1,785	F	Closed	
JFK Bridge WB, Egg Harbor to Longport	1,389	E	Closed	
Margate Blvd Bridge EB	1,088	E	1,350	E
Margate Blvd Bridge WB	981	E	1,130	E
Route 40 Bridge EB	5,347	D	5,713	E
Route 40 Bridge WB	5,451	D	5,989	E
Atlantic City Expressway Bridge EB	9,034	C	9,259	C
Atlantic City Expressway Bridge WB	6,041	B	6,072	B

Source: SJTDM

(2) Roosevelt Boulevard Bridge into Ocean City

The second bridge closure that was simulated was the Roosevelt Boulevard Bridge into Ocean City, the results of which are depicted in Table 20, on the following page. This carries almost 22 percent more traffic than the JFK Bridge. Similar to the JFK Bridge, the model predicts a diversion of traffic from the Roosevelt Boulevard Bridge to parallel roadways serving the same movement. These include the Bay Avenue Bridge (Northbound and Southbound), as well as the Route 52 Causeway (Eastbound and Westbound). The resulting LOS would also be poorer on Route 52 westbound.

Figure 23 - Roosevelt Boulevard Bridge, Map



Table 20 - Roosevelt Boulevard Bridge, Before and After Analysis

Roadway	Before		After	
	Volume	LOS	Volume	LOS
Roosevelt Blvd Bridge EB	2,172	E	Closed	
Roosevelt Blvd Bridge WB	2,776	F	Closed	
Bay Ave Bridge NB	494	C	596	C
Bay Ave Bridge SB	363	B	559	C
Route 52 Causeway EB	3,368	C	3,339	B
Route 52 Causeway WB	5,840	E	6,623	E

Source: SJTDM

(3) Ocean Drive Bridge into Wildwood Crest (Cape May County)

The third bridge closure, the Ocean Drive Bridge into Wildwood Crest, (mapped in Figure 24, below), does not currently have a huge amount of traffic using it, especially relative to the Roosevelt and JFK Bridges. As seen in Table 21, on the following page, like the other two bridge closures, this will divert more traffic onto parallel roadways accessing the barrier island; namely, the Route 47 Bridge (eastbound and westbound), as well as the Route 147 Bridge (eastbound and westbound). Unlike the other two bridges, however, this does not seem to result in as significantly lower Level of Service, suggesting that both of these roadways (Route 47 and Route 147, respectively), are not yet at capacity and can probably handle more traffic. Aside from the impacts to the physical infrastructure, closure of this bridge could have significant economic impacts to a region that is already experiencing some economic challenges.

Figure 24 - Ocean Drive Bridge, Map

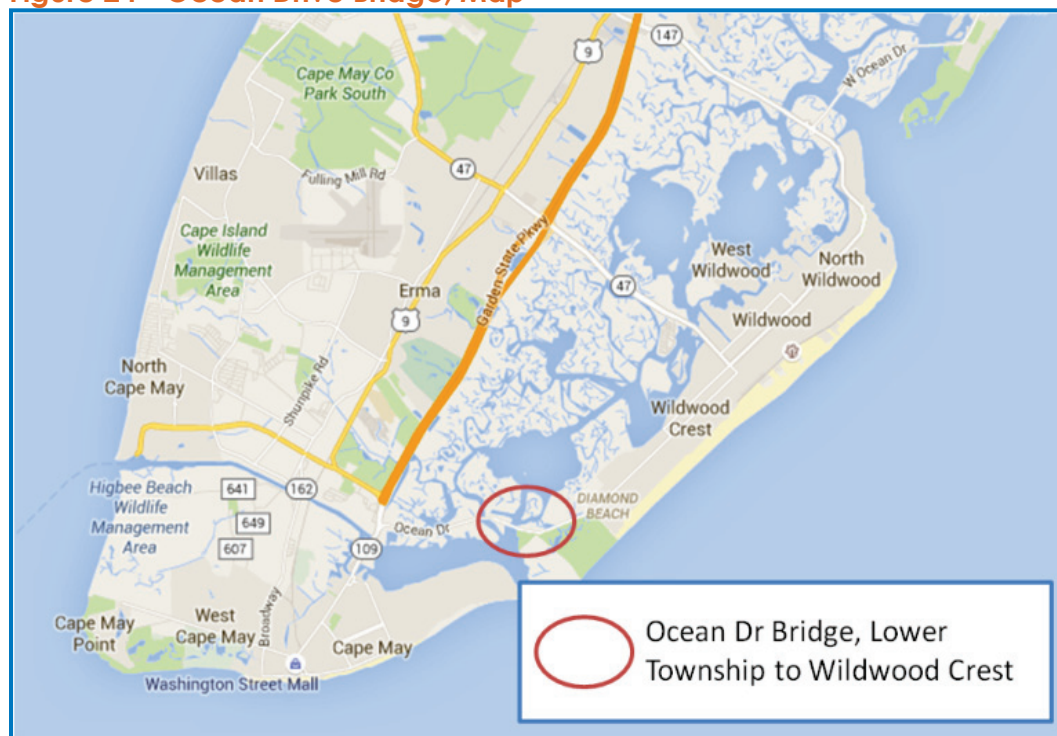


Table 21 - Ocean Drive Bridge, Before and After Analysis

Roadway	Before		After	
	Volume	LOS	Volume	LOS
Ocean Drive Bridge EB	311	B	Closed	
Ocean Drive Bridge WB	290	B	Closed	
Route 47 Bridge into Wildwood EB	2,433	B	2,515	B
Route 47 Bridge into Wildwood WB	4,432	C	4,300	C
Route 147 Bridge into Wildwood EB	1,397	A	1,378	A
Route 147 Bridge into Wildwood WB	2,812	B	2,695	B

Source: SJTDM

From both the demand-side and supply-side perspectives, it is clear that as the SJTPO region continues to grow over the next 25 years (albeit at a fairly slow pace), travel delay and congestion can be expected to gradually increase, and transportation network improvements are not expected to fully offset the 9.5 percent growth in VMT projected by 2040. Furthermore, as evidenced by the continued surge in seasonal traffic, especially to the Shore areas in Atlantic and Cape May Counties, it is vital that the bridges connecting the mainland to the barrier islands off the Atlantic County and Cape May County coast remain in good condition, from both a public safety as well as an economic standpoint. In addition to their economic function, many of these bridges serve as critical evacuation routes, which are likely to become more prominent as extreme weather events, such as Hurricane Sandy, become more and more frequent.



8. FINANCIAL PLAN

Introduction

Federal transportation planning requirements assert that fiscally constrained financial plans are a required element of regional transportation plans for Metropolitan Planning Organizations (MPOs). However, MPO plans may include, for illustrative purposes, additional projects, beyond identified revenues of the financial plan if additional resources were to become available. While the plan is fiscally constrained, these projects only address the most pressing needs due to funding limitations. The transportation needs of the region go far beyond those projects listed in this Plan.

Due to severe funding constraints and projected revenue that is expected to grow at a rate slower than inflation for the foreseeable future, the vast majority of SJTPO funds are used for maintenance and improvements in order to preserve our present infrastructure. Even with the present focus on system preservation, there are still a number of unmet critical needs, which total \$660 million dollars.

Revenues and expenditures presented in this Plan are based on reasonable assumptions regarding the availability of funding, based upon the best information available at the time of this Plan's adoption.

Transportation Improvement Program (TIP)

Funding for transportation improvements in the SJTPO region is dedicated through FY 2025. The actual budgeting of federal and state funds for projects within the MPO is a product of the development of a regional TIP, the State Transportation Improvement Program (STIP), and the Annual Capital Program. From year to year, there may be significant variations in the amount of funds actually programmed within an MPO as needs and specific project implementation schedules dictate. This fluctuation primarily results from projects along the state system within the MPO region as opposed to locally sponsored projects.

The SJTPO TIP includes lists of state and federally funded projects on the state and local system, public transit projects, and statewide transportation programs scheduled for implementation within the next ten fiscal years (2016 through 2025). The TIP provides for approximately \$1.1 billion in Year of Expenditure dollars for transportation investments in southern New Jersey for this period and it includes a detailed description and funding schedule for each project and program. This figure excludes the statewide programs, for which SJTPO receives a portion of funding that is allocated to the entire state. The FY 2016–2025 TIP is constrained to currently available funding. The FY 2016–2025 TIP was developed over a number of months by NJDOT, NJ Transit, and SJTPO. To develop the TIP, projects are screened for feasibility of advancement to implementation, including a verification of scope and cost. Projects that pass this initial screening are placed in the project pool for further evaluation and review.

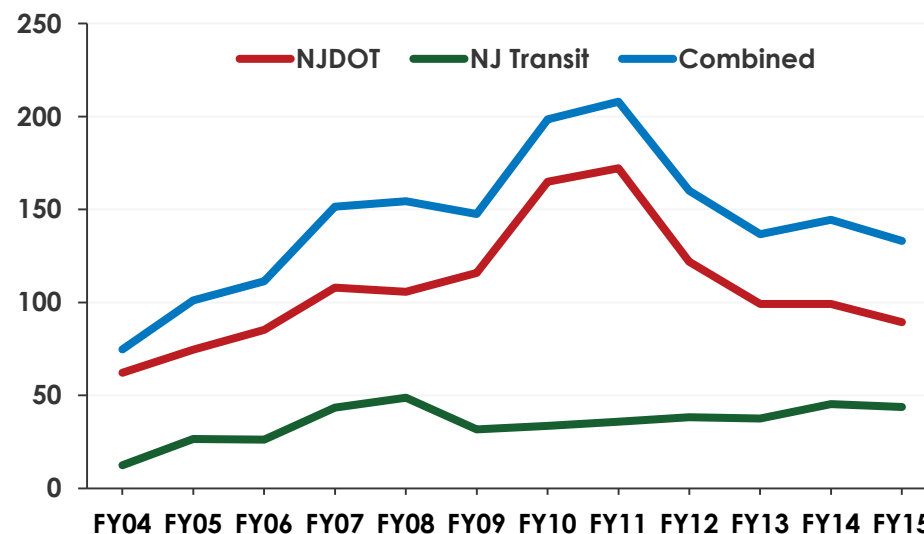
Since the TIP is fiscally constrained, many proposed and necessary projects cannot be included in the TIP. Transportation experts in the four-county SJTPO region have identified Critical Unfunded Needs, as presented in Appendix A.2. This list includes numerous critical needs with a total cost of \$660 million that goes beyond the funding anticipated between now and the year 2040. These reflect today's critical needs, which leads to future challenges as the region continues to develop and transportation needs increase. Insufficient funding means these unmet critical needs will continue to grow, especially as the region's existing transportation system ages.

Continued federal and state funding is required to support the SJTPO's short-term investment program. Although adequate funding levels are in place to support this plan's short-term investments, ongoing planning studies will identify additional short- and long-term investments needed in the region. Allocation of funds will be a product of a planning process that includes needs analysis, prioritization, project selection, and the TIP negotiation process. Fiscally constrained Plan updates and TIPs ensure that investments are economically feasible for the region.

The need to maintain the existing highway system in a state of good repair is an enormous task and of paramount importance to the SJTPO region. The scale of existing maintenance needs has necessitated focusing the vast majority of resources and efforts on making necessary repairs to the system. In particular, many bridges throughout the region are either structurally deficient or functionally obsolete. This backlog of bridge projects must be systematically addressed to bring all bridges into a state of good repair. Deferring maintenance leads to increased long-term maintenance cost and shortened useful lifecycles. The SJTPO region will require additional levels of funding to preserve the existing transportation infrastructure and significantly more to begin addressing the critical needs.



Figure 25 - Funds Received by SJTPO, NJDOT, NJ Transit, & Combined, FY 2004 – 2015, (\$ Millions)



Source: FY 2004-2025 SJTPO TIPs.

Federal Funding Sources for SJTPO

The major federal funding sources for transportation projects in the SJTPO region are described in Table 22 and Table 23 (on the following pages) as authorized through MAP-21 and the FAST Act. There are additional sources of funding as well, including discretionary and demonstration funds, which are awarded on a competitive basis to projects that meet Federal Highway Administration or the Federal Transit Administration criteria.

Table 22 - Federal Funding Sources – Highway Programs

Formula Funds	Eligible Uses
Congestion Mitigation and Air Quality Improvement (CMAQ) Program	<ul style="list-style-type: none"> • Non-recreational bicycle and pedestrian improvements • Transit investments, including transit vehicle acquisitions • Traffic flow improvement projects, including HOV lanes • Diesel engine retrofits and alternative fuel projects • Projects that shift travel demand to non-peak hours
High Priority Projects (HPPs) Program	<ul style="list-style-type: none"> • Specified high priority projects in SAFETEA-LU. (note: MAP -21 contained no new HPP earmarks and HPP has been repealed)
National Highway Performance Program (NHPP)	<ul style="list-style-type: none"> • Construction, reconstruction, restoration rehabilitation, preservation and operational improvements on NHS • Construction, replacement, rehabilitation and protection of bridges on NHS
Rail- Highway Crossing Safety	<ul style="list-style-type: none"> • Elimination of hazards at public and private railway / highway crossing
Surface Transportation Block Grant Program (S-TBG), formerly the Surface Transportation Program (STP)	<ul style="list-style-type: none"> • Construction of highways, bridges and tunnels • Transportation system operational improvements • Transit capital projects • Recreational trails and pedestrian and bicycle projects • Highway and transit safety infrastructure improvements
Transportation Alternatives Program (TAP)	<ul style="list-style-type: none"> • Construction, planning and design of on and off road pedestrian and bicycle trail facilities and infrastructure that provide safe routes for non-drivers • Conversion of abandoned rail lines for walking and bike trails
Ferry Boat and Terminal Facilities Construction Program (FPB)	<ul style="list-style-type: none"> • Construction of ferry boats, terminals and maintenance facilities



Formula Funds	Eligible Uses
State Planning & Research (SPR)	<ul style="list-style-type: none"> • Engineering and economic surveys and investigations • The planning of future highway programs and local public transportation systems and the planning of the financing of such programs and systems • Development and implementation of management systems • Studies of the economy, safety and convenience of surface transportation • systems and their regulation and taxation • Research and development necessary in connection with the planning, design, construction and maintenance of highway, public transportation and intermodal transportation systems • Research and training on engineering standards and construction materials for transportation systems

Source: FHWA. FTA.

Table 23 - Federal Funding Sources – Transit Programs

Formula Funds	Eligible Uses
State of Good Repair Grants (5337)	<ul style="list-style-type: none"> Grants to assist State and local governmental authorities in maintaining public transportation systems in good repair
Urbanized Area Formula Program (5307)	<ul style="list-style-type: none"> Capital investments in bus and bus-related activities and in new and existing fixed guideway systems
Alternative Analysis (5339)	<ul style="list-style-type: none"> Assist in financing evaluation of all modal and multimodal alternatives for identified transportation needs in a broadly defined travel corridor
Seniors and Disabled (5310)	<ul style="list-style-type: none"> Capital and operating assistance for transportation services that improve mobility for seniors and the disabled
Rural Transit and Intercity (5311)	<ul style="list-style-type: none"> Purchase of buses and related equipment and operating assistance for bus services in non-urbanized areas Promoting coordinated transit services and connection to rural NJ Transit bus and rail services
Public Transportation Emergency Relief Program (5324)	<ul style="list-style-type: none"> Eligible operating costs relating to evacuation services, rescue operations, temporary public transportation services, and reestablishing or expanding public transportation route service in response to an emergency (i.e., a natural disaster, such as a hurricane or flood, affecting a wide area)

Source: FHWA, FTA.



South Jersey Transportation Planning Organization

Table 24, below, includes a detailed breakdown by funding category for FY 2016 for both NJDOT and NJ Transit resources. The table below displays the total resources by agency as compared to the funds distributed to the SJTPO region, shown for the current fiscal year (FY 2016). The revenue estimates shown in this table is a result of extensive collaboration among NJDOT, NJ Transit, and New Jersey's MPOs.

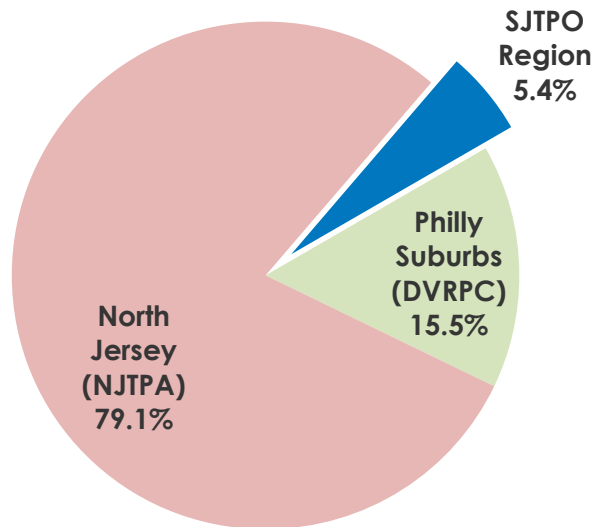
Table 24 - Funding Sources (\$ millions), NJDOT, NJ Transit, & SJTPO, FY 2016

Funding Category	NJDOT	SJTPO	Funding Category	NJ Transit	SJTPO
FHWA: CMAQ	\$51.0	\$2.1	FHWA: CMAQ	\$50.0	-
FHWA: Ferry	\$2.0	-	FHWA: STP-DVRPC	\$8.0	-
FHWA: High Priority	\$42.1	-	FHWA: STP-NJTPA	\$70.5	-
FHWA: NHPP	\$524.3	\$41.9	FHWA: STP-SJTPO	\$7.5	\$7.5
FHWA: Other Funds	\$1.0	-	FHWA: STP-Statewide	\$82.5	-
FHWA: Rail-Hwy Crossing	\$4.0	\$2.0	FHWA: TAP	\$1.0	-
FHWA: Safety	\$54.1	\$2.0	FTA: Section 5307	\$281.3	\$16.1
FHWA: SPR/PL	\$30.9	\$0.9	FTA: Section 5307-TE	\$2.7	\$0.0
FHWA: STP-DVRPC	\$11.9	-	FTA: Section 5310	\$7.2	\$0.5
FHWA: STP-NJTPA	\$14.4	-	FTA: Section 5311	\$4.2	\$0.3
FHWA: STP-SJTPO	\$2.6	\$2.9	FTA: Section 5324	\$871.4	-
FHWA: STP-Statewide	\$38.1	\$4.0	FTA: Section 5337	\$157.0	\$2.0
FHWA: TAP	\$15.5	\$0.5	FTA: Section 5339/5307	\$15.0	\$1.1
FTA: SPR/PL	\$3.9	\$0.4	Casino Revenue	\$18.8	\$1.3
Other Funds	\$1,345.1	-	Match Funds	\$12.3	\$0.9
State: TTF	\$743.5	\$31.1	Metro North	\$0.7	-
			Operating	\$5.9	\$0.3
			State: TTF	\$503.5	\$13.6
NJDOT Totals	\$2,884.4	\$88.0	NJ Transit Totals	\$2,099.5	\$43.6
Total SJTPO Funds via NJDOT & NJ Transit \$131.5					

Source: FY 2016-2025 Statewide TIPs, Financial Tables 2, 4, and 9.

Looking at Statewide TIPs, over the last 12 years (FY 2004-2015), the SJTPO region has received 5.4 percent of available funds from NJDOT and NJ Transit (excluding statewide programs), as depicted in Figure 26, below. When looking only at the NJDOT funds distributed, SJTPO received 7.6 percent of the funds over the same time period. SJTPO received 2.8 percent of the total NJ Transit funds distributed during the same 12-year period.

Figure 26 - Distribution of NJDOT and NJ Transit Funds to MPOs, FY 2004 – 2015



Source: FY 2004-2025 Statewide TIPs, Financial Tables.

State Highway and Transit Funding

In addition to the federal funding described above, the State of New Jersey provides funding through the New Jersey Transportation Trust Fund (TTF), which was created in 1984 to provide a stable source of funding for transportation improvement projects. The most recent renewal occurred in June 2011 for FY 2012-2016. As depicted in Table 24, on the previous page, in FY 2016, the state is expected to receive approximately \$1.247 billion (\$743.5 billion via NJDOT, \$503.5 billion via NJ Transit), of which SJTPO is expected to receive \$44.7 million (\$31.3 million via NJDOT, \$13.6 million via NJ Transit). Revenues for the TTF come from motor fuel taxes, appropriations from the General Fund, bonding, heavy truck and diesel fees, and contributions from toll road authorities.

The TTF revenue estimates assume no growth until FY 2017, when the existing TTF is scheduled to run out. Consistent with the State's current FY 2016-2025 TIP, *Transportation Matters* does assume a stream of Transportation Trust Fund funding of more than \$477.8 million through FY 2025.



South Jersey Transportation Planning Organization

The historical growth rate in capital program appropriations was over 6 percent from the inception of the TTF in FY 1985 to FY 2012. However, the State as a whole has been spending much more than it currently collects in revenue. In addition, the State has not yet identified long-term funding sources required to meet the projected future needs of the Trust Fund. Therefore, SJTPO conservatively assumes that TTF revenues will increase at a rate slower than inflation, until FY 2040.

As noted earlier, the majority of funding will be targeted toward investments that preserve and maintain our region's existing transportation facilities. The bulk of the region's future transportation system is already in place and must be maintained and preserved so it can continue to serve both current and future needs.

Investment Package – Future Year Build Scenario (Business as Usual)

For *Transportation Matters*, two scenarios are assumed based on changes in the transportation network that are a direct function of funding apportionments and projected demographics. These scenarios are discussed in more detail in Chapter 7 – Future Transportation Scenarios. The first scenario is a baseline or “Business-As-Usual” Scenario, in which funding is assumed to increase at a rate slower than inflation for the duration of *Transportation Matters*. The investment package for this scenario consists of all existing federal and state projects funded through the FY 2016–2025 TIP, as well as future TIP projects through this horizon. However, the Business-As-Usual Scenario assumes that all projects will be road and bridge preservation with no expansion. A complete list of these projects, as well as a map can be found in Appendix A.

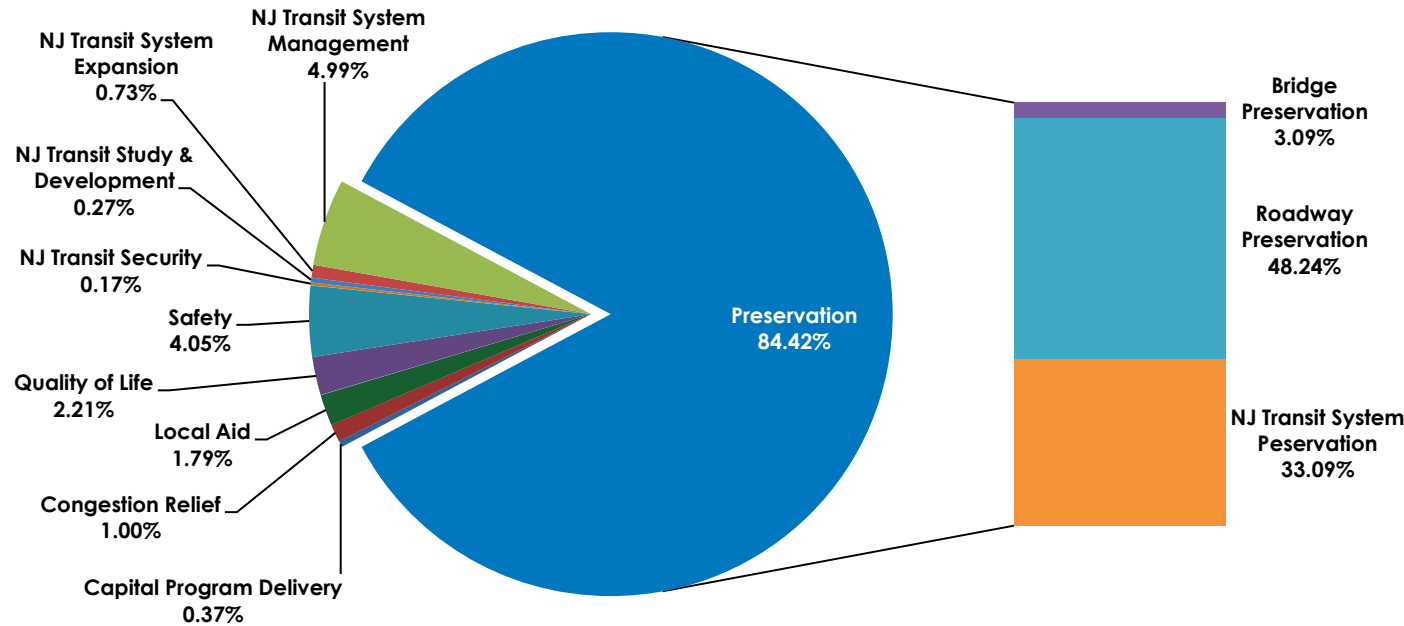
The SJTPO TIP consists of two types of projects: State Lead and Local Lead. Highway projects, on the state system, normally start as needs statements that clearly identify specific problems, needs, or opportunities. Need statements come from various sources, including elected officials, county and local planning agencies, NJDOT staff, users of the State's transportation system, SJTPO-funded studies, NJDOT's Capital Investment Strategy, corridor strategies developed through the planning process, and *Transportation Matters*. Since only a few of the many need statements received, can be advanced to project development, they are evaluated by both SJTPO and NJDOT.³⁷

Most of the projects and programs are categorized into 12 categories. Figure 27, on the following page, depicts the proportion of funding that falls into each funding category in the FY 2016-2025 TIP. Of the approximately \$1.1 billion in funding programmed in the SJTPO region, 84.4 percent of funds or \$922.9 million went towards System Preservation work (Bridge Preservation, Roadway Preservation, and NJ Transit System Preservation³⁸). This left less than 6 percent to other NJ Transit activities (System Management, System Expansion, Study and Development, and Security), 4.0 percent for Safety projects, 2.2 percent for Quality of Life projects, such as CMAQ and TAP-funded projects, and less than 3.2 percent for all other projects. It is important to note that no money is allocated for roadway system expansion.

³⁷ SJTPO FY 2016-2025 TIP, p. 4.

³⁸ In the FY 2016-2025 TIP, System Preservation is a NJ Transit project category.

Figure 27 - Project Mix (\$ millions), FY 2016–2025



Source: FY 2016-2025 TIP.

Projected Cost Assumptions

Cost estimates for State projects utilize the inflation estimation techniques embedded in Trns•port,³⁹ a suite of software modules that supports the NJDOT construction programs and is used by NJDOT, consultants, and contractors. Trns•port was developed by the American Association of State Highway and Transportation Officials (AASHTO) and is used by more than 40 states. The software manages the construction program from cost estimation through to proposals, bids, awards, and construction and materials management. Trns•port accounts for the anticipated percentage of inflation per year until work begins on the job; if that number is not known, a program default based on historical data is used.

In addition to the State's estimation method, Trns•port, transportation experts at the County or Municipal level prepare cost estimates based upon bid pricing of recent projects on the local systems. The result is the costs of projects in the TIP are displayed as Year of Expenditure values.

³⁹ For more information on this program, see: www.state.nj.us/transportation/business/trnsport/estimation.shtml.



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For purposes projecting future projects expenses in the region, in addition to the projects with the TIP, SJTPO is assuming that project costs will increase at an annual inflation rate of 4 percent.⁴⁰ This assumption is consistent with guidance received by FHWA in the absence of State and/or local data.

Projected Funding Assumptions

Figure 28, on the following page, displays the historical trend of funds distributed to the MPOs from FY 2004 through FY 2015. The figures represent the dollars, expressed in millions, distributed to the three MPOs for both NJDOT and NJ Transit resources. Stateside program funding is excluded from these values. The historical growth rate is 2.91 percent per year over the 12-year time period.

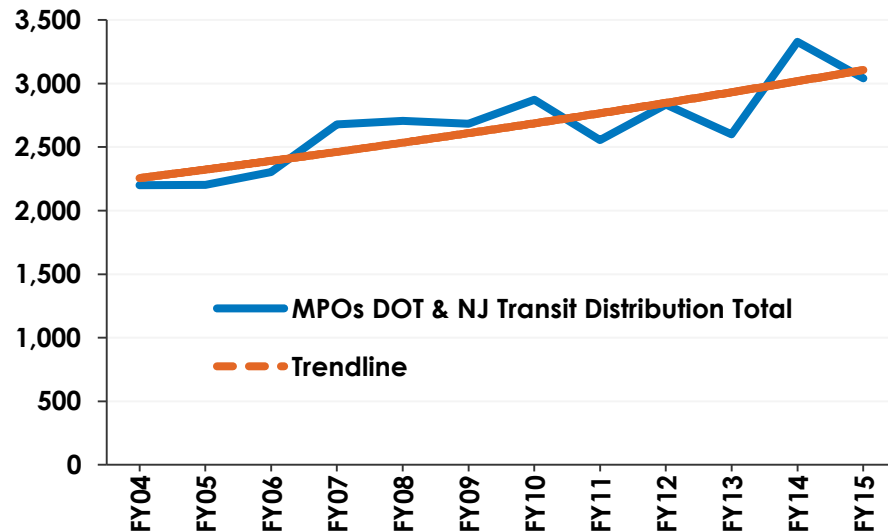
FAST-Act was signed into law on December 5, 2015, which included an increase in funding during the length of the federal legislation. The first year (FY 2015 to 2016) of FAST Act, funding increases by 6.8 percent. This is followed by smaller increases in funding under FAST-Act, including 2.7 percent in FY 2017, 2.0 percent in FY 2018, 2.5 percent in FY 2019 and 2.4 percent in FY 2020.

The historical rate of 2.91 percent per year was used as the projected funding growth rate for the post-FAST Act years (FY 2021 to 2040) of the Plan. Federal guidance allows for the use of historical apportionments including a growth rate estimated based on previous authorizations.⁴¹

⁴⁰ This is consistent with the Federal Guidance: *Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers*. www.fhwa.dot.gov/planning/guidfinconstr_qa.cfm.

⁴¹ “When the horizon year for the metropolitan transportation plan...extends beyond the current authorization period for federal program funds, ‘available’ funds may include an extrapolation based on historic authorizations of federal funds that are distributed by formula” and “a growth rate estimated on the basis of previous authorizations can be used to approximate the future annual growth rate of Federal authorizations.” In addition, “the Federal funding reflected in the TIP and STIP (and the supporting financial plan) for projects...may be based on authorization levels for each year, although obligation authority limitations may be utilized for a more conservative approach.” US DOT, Federal Highway Administration, *Financial Planning and Fiscal Constraint for Transportation Plans and Programs Questions & Answers*, accessed March 17, 2016. www.fhwa.dot.gov/planning/guidfinconstr_qa.cfm.

Figure 28 - Historical Distribution of Funds to MPOs, NJDOT, and NJ Transit Combined, FY 2004– 2015 (Statewide program funding is excluded)



Anticipated Loss of CMAQ Funding

While the SJTPO region is currently in nonattainment for the 8-hour ozone standard, as a “marginal nonattainment area,” SJTPO anticipates attaining the current ozone standard of 75 ppb (0.075 ppm) in 2016. In 2015, the EPA promulgated a more stringent 8-hour ozone standard of 70 ppb.

Assuming an attainment year of 2020 for this newer standard, and a 10-year maintenance plan following that, it is very probable that the SJTPO region will gain “attainment” status of the 70 ppb standard by 2030. As a result, SJTPO is assuming a loss of local CMAQ funding, currently \$1.9 million per year, beginning in FY 2030. In addition, if we assume that the MPOs receive 50 percent of NJDOT’s projected annual allocation of \$26 million, equating to \$13 million, and SJTPO receives 5.4 percent of \$13 million, approximately \$700,000, then the SJTP region can reasonably expect a total loss of CMAQ funds of approximately **\$2.6 million** in CMAQ funding beginning in FY 2030.



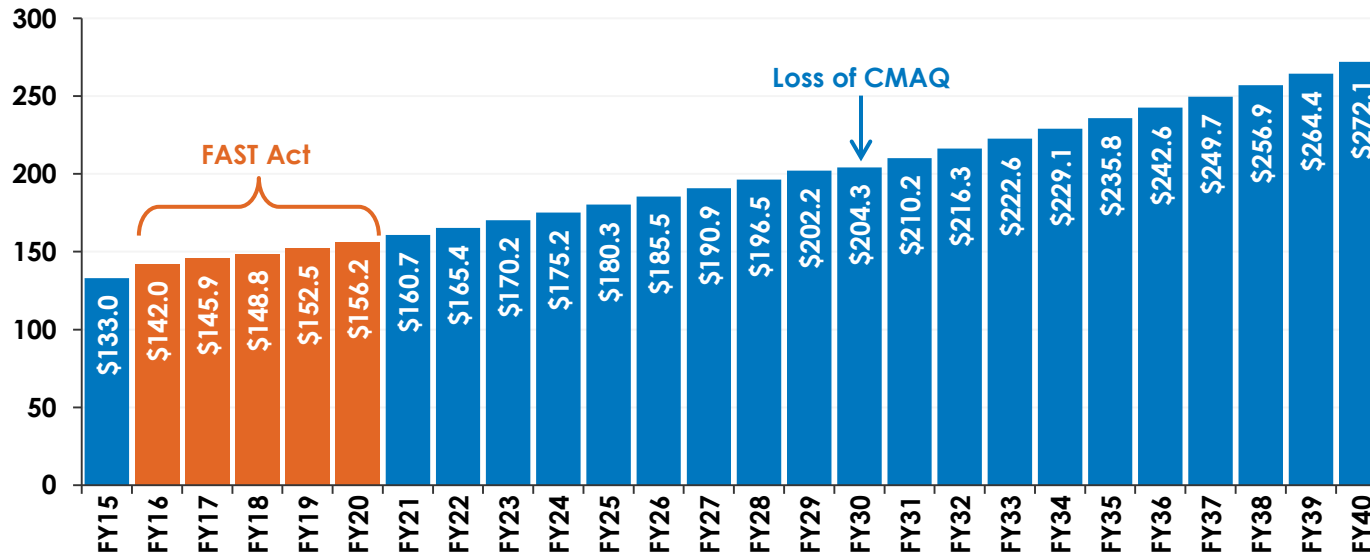
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The SJTPO funding expected for fiscal years 2016- 2040 of *Transportation Matters* was constructed as follows:

FY 2015	The Statewide FY 2014 -2023 TIP Financial Table (Table 9) value for FY 2015 of NJ Transit and NJDOT funds.
FY 2016-2020	The 2015 figure was adjusted for the FAST Act percent increase to estimate the values for 2016 -2020 (FY 2016: 6.8 percent, FY 2017: 2.7 percent, FY 2018: 2.0 percent, FY 2019: 2.5 percent, and FY 2020: 2.4 percent).
FY 2021-2029	The years 2021–2029 were adjusted by a growth rate. This growth rate was based on the historical (FY 2004–2015) change of funding amounts available to MPOs in New Jersey. This did not include the statewide funding included in the TIPs. The historical growth rate for this period was 2.91 percent.
FY 2030-2040	As indicated below, it is assumed that CMAQ funding will not be available to SJTPO for the years FY 2030-2040. Therefore, no CMAQ funding is included in the totals for these years. After subtracting CMAQ, funding continued to grow at the 2021-2019 rate of 2.91 percent.

Figure 29, below, projects the funding with the SJTPO region given the assumptions described on the previous page.

Figure 29 - Projected SJTPO Funding Available (\$ millions), FY 2016–2040



Source: SJTPO.

The analysis conducted in this section for the Business-As-Usual Scenario does not account for any increases in funding to meet the Critical Needs identified by SJTPO-region local stakeholders. The Critical Needs scenario, discussed in more detail in *Chapter 7 - Scenarios*, identifies the Critical Needs projects, the transportation impacts of the unmet needs, potential responses, and estimated project costs.

Major Issues Facing Transportation in South Jersey

NJDOT conducts the transportation budgeting process in collaboration with the state's three MPOs to develop each MPO's TIP, the STIP, and the Annual Capital Program. The TIP for the SJTPO lists projects, plans, and programs scheduled for implementation within the next 10 fiscal years. For over 30 years, New Jersey's Transportation Trust Fund has provided a stable source of funding; however, its long-term outlook is unknown. Clearly, additional funding is important to achieve the region's goals and objectives, as costs to address maintenance needs and to accommodate the existing travel demand as well as any future demand induced by projected regional growth will be considerable.

This Chapter has detailed the financial conditions that form the backdrop of *Transportation Matters*, both in terms of transportation investment in the region in recent years as well as likely future transportation investments. However, three



“The state invests in transit up north and in the bigger cities because it’s easy, they know they’ll get more riders, but the needs are much higher in our region. When a person in the city doesn’t have a car, they can walk or ride a bike, when a person down here doesn’t have a car, there are no alternatives, they can’t get to work.”

~ Public comment during
Round 1 Pop-up session at
Vineland Library

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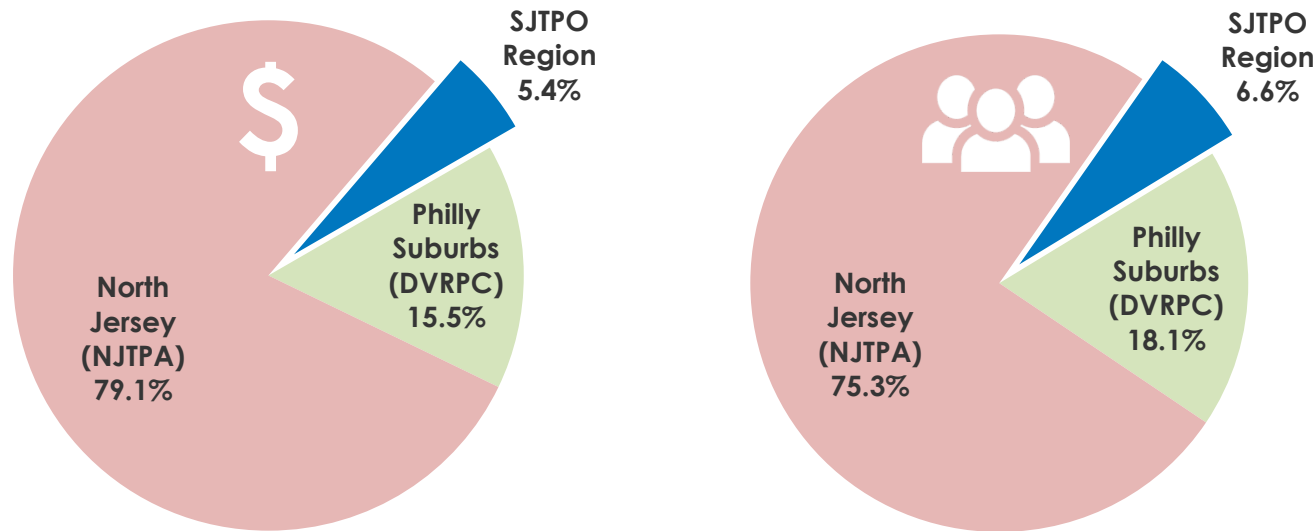
issues ultimately present the major barriers to advancing transportation in the region and they all relate to the distribution of financial resources and the critical underfunding of infrastructure in the SJTPO region.

Issue #1: The region’s share of state transportation dollars is far lower than share of state population

MPOs receive transportation dollars from numerous funding sources, as described earlier in this chapter, however the distribution of those funds, while complicated, is critical to equitably address the needs to system users throughout the state. SJTPO has a long history of receiving fewer transportation funds than are appropriate given the region’s share of state population. Other factors could also be discussed, such as that given the rural nature of the SJTPO region, trip distances are on average longer than in other regions of the state. Another factor could include that, as regional household incomes are lower than the state average and poverty rates are higher, communities in the SJTPO region are less able to raise local tax revenue to address unfunded needs yet needs are often greater in communities in poverty.

These are all important factors, but the clearest, simplest argument to show how much less funding the SJTPO region receives, is in looking at regional year-round population. **In fiscal years 2004 through 2015, communities in the SJTPO region only received 5.4 percent of state transportation funds, despite representing 6.6 percent of the population** (see Figure 30, on the following page). The difference between 5.4 percent and 6.6 percent may not appear significant at first glance, but **this represents over \$391 million in lost transportation investments in the region since 2004**. These funding sources ultimately come through two different agencies, the New Jersey Department of Transportation (NJDOT) and NJ Transit. NJDOT funds do generally reflect the region’s population; however, NJ Transit invests 2.8 percent of its resources in our region. Though these funds are separate, the impacts of the two are closely tied together. When the transit system is underfunded, the roadway system must bear a heavier burden, as roadways users do not have an alternative to driving.

Figure 30 - FY 2004-2015 Funding (Left) vs. Population (Right), by MPO Region



The result of this imbalance is that the overall transportation system in the SJTPO region suffers, with needs far outpacing resources.

Issue #2: The region's transportation needs are defined by a 177 percent spike in summer population with no funding to address this need.

The SJTPO region is unique. The eastern half of our region is lined with beautiful shorelines, fun and lively boardwalks and dotted with communities and attractions that bring hundreds of thousands of visitors to the region each day throughout the summer months. While SJTPO's population throughout the year is nearly 600 thousand, it grows to nearly 1.3 million on a typical summer weekday, and balloons to over 1.6 million on a typical summer weekend, representing a more than 177 percent increase over the year-round population⁴². This summer population, particularly the summer weekend population, represents the real needs of the region far more accurately than the year-round population. This is true because of the wear and tear this traffic places on area roads and bridges and due to congestion that pushes local roadways far beyond capacity. As was discussed in the previous section, transportation funding for our region does not keep up with year-round population and falls woefully short of the real needs represented by the summer population.

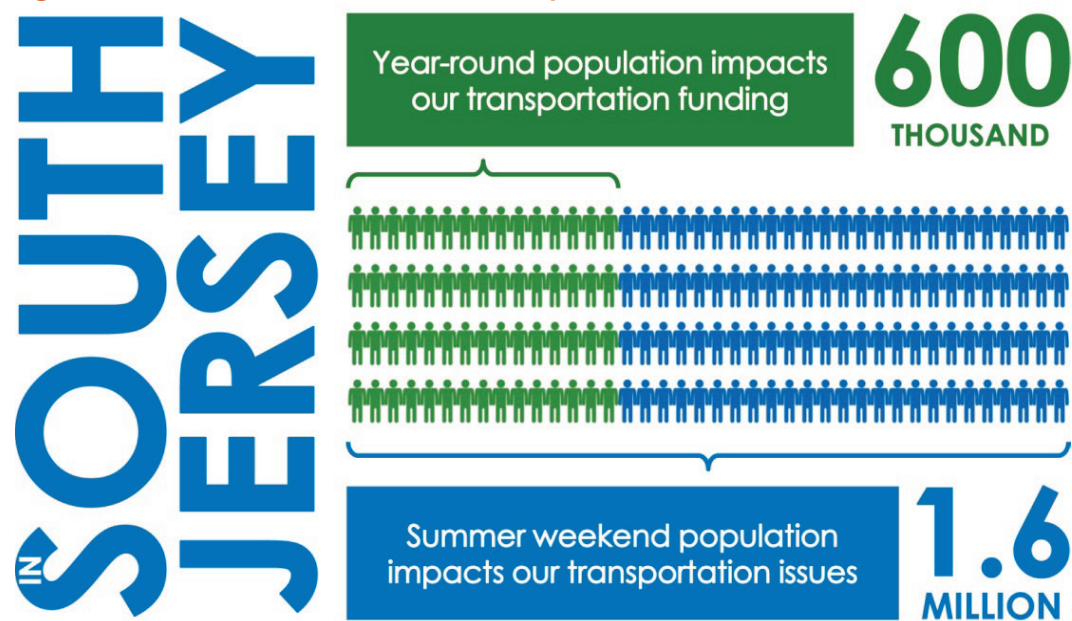
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This may not appear significant at first glance, but this represents over \$391 million in lost transportation investments in the region since 2004.

⁴² The Center for Regional and Business Research (CRBR), Atlantic Cape Community College. 2012. SJTPO 2040 Demographic Forecast. www.sjtpo.org/wp-content/uploads/2016/06/RTP2040_Appendix1-Demographics.pdf.



Figure 31 - Year-Round vs. Summer Population, 2015



Issue #3: The cost of critical needs projects in the region vastly outpace available funding

In fiscal year 2016, the SJTPO region anticipates that it will receive \$142 million to address transportation needs, with increases of less than 3 percent through 2040, which will not keep up with anticipated inflation. This funding will largely be needed to address basic maintenance of the existing transportation system, yet will fall woefully short of addressing all of the critical needs. This excludes any projects that reflect the priorities and issues raised by the region's residents, as each of those projects would necessitate a reduction in critical maintenance work. Transportation experts in the four-county SJTPO region have identified numerous critical needs with a total cost of \$660 million that goes beyond the funding anticipated between now and the year 2040. These reflect today's critical needs; additional needs will arise through the 24-year planning horizon. Further, this does not include a \$1 billion project to extend Route 55 from its current terminus south of Millville to the Garden State Parkway. Cape May County has indicated that this project is critical to address crashes along Routes 47/347 and to ensure safe evacuation of the hundreds of thousands of visitors that come to the county during a typical summer day. Such an extensive critical needs list (Appendix A) is very concerning to SJTPO, particularly in light of the fact that SJTPO funding does not keep up with year round population and does not consider the huge influx of population in the summer months. These issues must be addressed to ensure that these critical needs do not develop into major system failures, risking the safety of roadway users.

9. SYSTEM PERFORMANCE

In this chapter, we will provide an overview of the performance-based planning provisions introduced in the MAP-21 transportation legislation, and continued in FAST ACT. Performance-based planning has been integrated into the South Jersey Transportation Planning Organization (SJTPO) regional planning process to ensure that transportation dollars are being spent as cost-effectively as possible.

MAP-21 Update

MAP-21 presented requirements for performance-based planning. Even though MAP-21 expired on September 30, 2014, the performance-based planning requirements set out in the legislation are likely to continue with the FAST Act.⁴³ It sets national goals in several areas that are to be addressed through the application of performance measures and their related performance targets. There are also required performance measures that are being developed by national organizations and the planning community. The states must work with MPOs to set targets that relate to these performance measures, and the MPOs are to incorporate these statewide performance measures and targets into their regional plans and processes. MPOs may also, and should be incorporating other performance measures pertaining to their regional goals.

Currently SJTPO is utilizing the performance measures that have already been recommended or are likely to be recommended and adopted in the near future by the national organizations, the planning community, and NJDOT. SJTPO is also working with NJDOT to establish targets related to the performance measures.

National Goals Areas and Performance Measures⁴⁴

The Safety Performance Rule was finalized in March 2016 and became effective in April 2016. The Safety Performance Rule, along with the performance measures from the other proposed rules are listed below.

Safety⁴⁵

- **Number of Fatalities**—Five-year rolling average of the count of the number of fatalities on all public roads for a calendar year
- **Fatality Rate**—Five-year rolling average of the Number of Fatalities divided by the Vehicle Miles Traveled (VMT) for a calendar year.

⁴³ AASHTO.

⁴⁴ <http://scopm.transportation.org/Pages/default.aspx>. January 26, 2016.

⁴⁵ National Performance Management Measures. Highway Safety Improvement Program, Final Rule. 81 FR 13882-13916. www.federalregister.gov/articles/2016/03/15/2016-05190/highway-safety-improvement-program. April 11, 2016.



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- **Number of Serious Injuries**—Five-year rolling average of the count of the number of serious injuries on all public roads for a calendar year.
- **Serious Injury Rate**—Five-year rolling average of the Number of Serious Injuries divided by the Vehicle Miles Traveled for a calendar year.

The remaining goal areas and performance measures are laid out in proposed rules that have not yet taken effect and are described below:

Infrastructure Conditions

- **Bridges⁴⁶**
 - **Percent of National Highway System (NHS) Deck Area on Structurally Deficient Bridges**— National Highway System bridge deck area on structurally deficient bridges as a percentage of total National Highway System bridge deck area
 - **Percent of Non-National Highway System Deck Area on Structurally Deficient Bridges**—Non-National Highway System bridge deck area on structurally deficient bridges as a percentage of total Non-National Highway System bridge deck area.
 - **Percent of National Bridge Inventory (NBI) Bridges by Need Category**—Percentage of all National Bridge Inventory highway bridges with needs for routine or cyclic maintenance (CM), preventive maintenance (PM) and Rehabilitation & Replacement (RR)
 - **Percent of National Bridge Inventory Bridge Deck Area by Need Category**—Percentage of National Bridge Inventory highway bridges with needs for routine or cyclic maintenance (CM), preventive maintenance (PM) and Rehabilitation & Replacement (RR)
- **Pavements**
 - **Interstate Pavement in Good, Fair, and Poor Condition based on the International Roughness Index (IRI).**
 - Percentage of 0.1-mile segments of Interstate pavement mileage in good, fair, and poor condition based on the following criteria:
 - **Good:** International Roughness Index is less than 95
 - **Fair:** International Roughness Index is between 95 and 170
 - **Poor:** International Roughness Index is greater than 170

⁴⁶ National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program. Proposed Rule. 80 FR 325. www.federalregister.gov/articles/2015/01/05/2014-30085/national-performance-management-measures-assessing-pavement-condition-for-the-national-highway. January 26, 2016.

- **(b) Non-Interstate National Highway System Pavement in Good, Fair, and Poor Condition based on the International Roughness Index (IRI).**
 - Percentage of 0.1 mile segments of Non-Interstate National Highway System pavement mileage in good, fair and poor condition based on the following criteria:
 - **Good:** International Roughness Index is less than 95,
 - **Fair:** International Roughness Index is between 95 and 170, and
 - **Poor:** International Roughness Index is greater than 170

The following performance measures are recommended by AASHTO's Standing Committee on Performance Management. They have not yet been enacted or prescribed as part of any proposed rule.

Congestion Reduction

The System Performance Rule that is expected to contain specific congestion measures has not yet been issued at this time. SJTPO utilizes the recommended measures, which are:

- **Annual Hours of Delay (AHD).** Travel time above a congestion threshold (defined by State DOTs and MPOs) in units of vehicle - hours of delay.

This selection is also one of the CMAQ performance measures recommended to date. SJTPO will work with NJDOT in the future to establish the congestion threshold.

System Reliability⁴⁷

- **Annual Hours of Delay (AHD)** – Travel time above a congestion threshold (defined by State DOTs and MPOs) in units of vehicle-hours of delay on Interstate and National Highway System corridors. Reliability Index (RI₈₀) –the ratio of the 80th percentile travel time to the agency-determined threshold travel time.

Freight Movement and Economic Vitality⁴⁸

- **Annual Hours of Truck Delay (AHTD)**—Travel time above the congestion threshold in units of vehicle-hours for Trucks on the Interstate Highway System.

⁴⁷AASHTO SCOPM MAP-21 Notice of Proposed Rule-Making Checklist. (System Perf.).

scopm.transportation.org/Documents/SCOPM%20TF%20SYSTPM%20Checklist.pdf.

⁴⁸ AASHTO SCOPM MAP-21 Notice of Proposed Rule-Making Checklist (Freight).

scopm.transportation.org/Documents/SCOPM%20TF%20Freight%20Checklist.pdf. January 26, 2016.



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- **Truck Reliability Index (RI₈₀)**—The Reliability Index is defined as the ratio of the total truck travel time needed to ensure on-time arrival to the agency-determined threshold travel time (e.g., observed travel time or preferred travel time).

Environmental Sustainability (CMAQ)⁴⁹

- **Annual Hours of Delay (AHD).** Travel time above a congestion threshold (defined by State DOTs and MPOs) in units of vehicle - hours of delay reduced by the latest annual program of CMAQ projects.
- **Criteria Pollutant Emissions.** Daily kilograms of on-road, mobile source criteria air pollutants, which include Volatile Organic Compounds (VOC), nitrogen oxides (NOx), particulate matter (PM), and carbon monoxide (CO), reduced by the latest annual program of CMAQ projects.

Reduced Project Delivery Days⁵⁰

Transportation Performance Management represents the opportunity to prioritize needs, align resources, and to optimize system performance in a collaborative manner. This transition to performance-based planning supports the legislation known as MAP-21 and will continue through the FAST Act. MAP-21 has generated six elements for performance-based planning (see Figure 32, on the following page). SJTPO has been involved in collaboration meetings with NJDOT during the development of the Enterprise Information System (EIS) project tracking system, and the system is being made available to SJTPO for tracking projects in our MPO region. The purpose of the system is to reduce project delivery delays, and to track the project delivery performance of individual DOT commissioners.

Six Elements Interconnected

It is vital that the elements are interconnected. SJTPO achieves this by weaving our goals throughout the entire planning process. Each of *Transportation Matters'* goals (e.g. safety), has corresponding objectives (e.g. reduce fatalities). These objectives lead to related performance measures (number of fatalities). These performance measures require specific data and analysis techniques (crash data). Targets are established based on the measures; this leads to the development of strategies to meet the objectives (education and road improvements). The six elements are not produced in a vacuum; rather, each MPO considers the requirements and recommendations of federal and state agencies, and the needs of our planning partners.

⁴⁹ AASHTO SCOPM MAP-21 Notice of Proposed Rule-Making Checklist (CMAQ).

scopm.transportation.org/Documents/SCOPM%20TF%20CMAQ%20Checklist.pdf, January 26, 2016.

⁵⁰ AASHTO. "MAP-21 Analysis. Performance Management Provisions." July 27, 2012.

<http://map21.transportation.org/Documents/SCOPM%20Performance%20Management%20Analysis%20and%20Summary%20v2.pdf>.

Figure 32 - MAP-21 Six Elements of Performance-Based Planning



Source: FHWA.

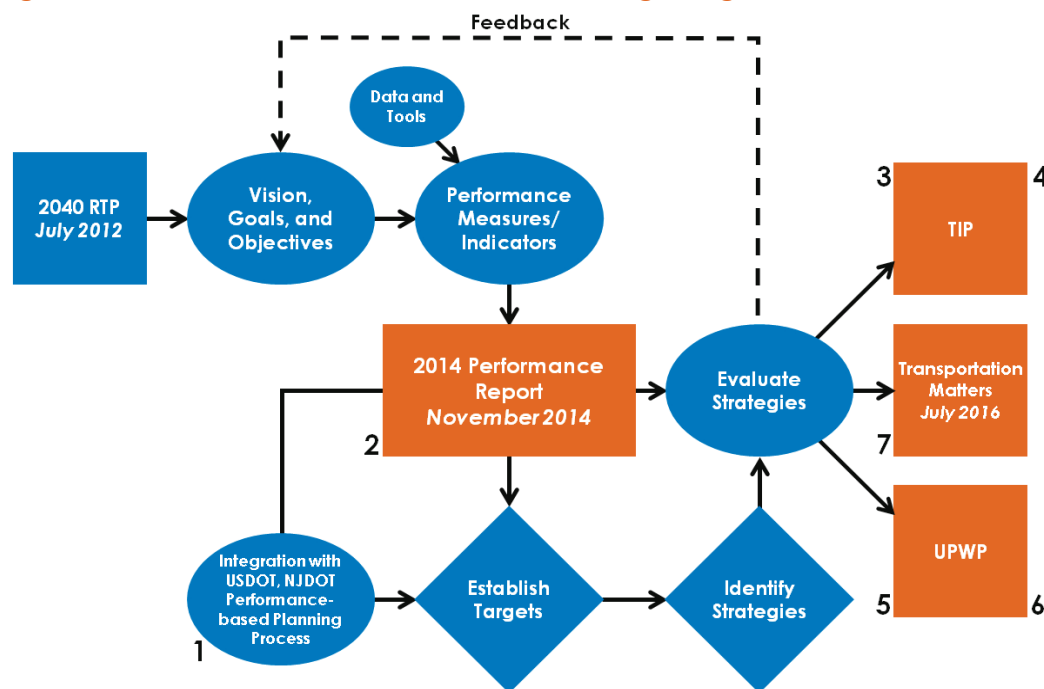
An Overview of the SJTPO Performance-Based Planning Process

Performance-Based Integration into the Planning Process

It is also vital that the performance-based approach is integrated into the entire planning process. Figure 33, on the following page, is an overview of the SJTPO planning process. SJTPO utilizes a performance report during the **planning cycle**. This report integrates the performance-based planning features called for by the USDOT. The **performance measures** used in the report are developed in cooperation with our partners. The performance measures also are derived from our goals with consideration for the resources available to us. The information from the performance report is used to evaluate strategies that in turn influence the content of our planning process. The same performance measures are later employed to **evaluate** planning product performance.



Figure 33 - SJTPO Performance-Based Planning Integration



The Performance-Based Planning Process

1. Federal and State requirements shape our process and performance measures.
2. Mid-planning cycle performance report (system-wide) presents opportunities for fine-tuning strategies.
3. Performance measures will be used to prioritize potential projects, and project bundles in TIP.
4. Performance measures will be used to evaluate completed projects and project bundles, (e.g., conduct before and after studies).
5. Performance measures will be used to prioritize potential programs, and program bundles, and work assignments for inclusion into the Unified Planning Work Program (UPWP).
6. Performance measures will be used to evaluate completed programs, program bundles, and work assignments from the Unified Planning Work Program (UPWP).
7. Cycle-end performance report (system-wide) will be used to fine-tune the next plan cycle. Eventually, this will be included in the regional transportation plan, *Transportation Matters*, influencing the transportation planning strategy for the next four-year planning cycle. In addition, performance measures are used to plan for the plan's twenty four-year time frame. Strategies can be applied to different scenarios and evaluated using performance measures.

About Performance Measures

The performance measures in use at the SJTPO are evolving. SJTPO's performance measures are based on those already prescribed, or are likely to be prescribed, by the USDOT. The SJTPO performance measure inventory will incorporate all previous MAP-21 performance measures, as well as any future performance measures promulgated by the FAST Act.

The performance measures serve as a dynamic link between *Transportation Matters* goals and plan implementation by formalizing the evaluation and monitoring process. This process is designed to ensure that implementation of the Plan advances us toward the achievement of our region's transportation goals. There are different origins, uses, and types of performance measures.

Data Sources

We rely on a combination of data sources including the NJDOT, our planning partners, and other data providers (Vehicle Probe Project data).

Outcome vs. Output

Outcome types of measures are preferred and are prescribed in MAP-21 and the FAST Act. Examples of outcome performance measures are the actual number of fatalities or injuries from crashes for a specific time period. Since safety is the goal, the network's resulting safety level is what is truly important, not the activity that we engaged in to impact the safety performance.

Output performance measures are a measure of work done that is meant to affect the outcome. Efforts to achieve safety are examples of output performance measures; this would include (number of road safety audits performed, miles of rumble strips installed, etc.). However, output performance measures can be useful for internal reporting.

Human-centric Performance Measures

Not only is outcome important, so too is the transportation system's impact on people. Thinking on the human scale is vital when developing and analyzing performance indicators. Human-centric performance measures reflect the impact on people. An example is the delay time that network users experience over a specific time period. It is important to consider the impacts that really matter to the network users. Reliability is a human-centric performance measure that matters to users. Reliability is even more important to network users than delay. Reliability compares the actual travel time to the expected travel time. Network users can plan around a slow moving route; but the surprise bottlenecks are costly.

Use and Interpret Performance Measures with Caution

Performance measures should be used with caution. The performance of transportation systems is impacted by many factors. For example, a decrease in traffic volume is affected by economic activity and by driver mode choice. Therefore, a decrease may not be solely the result of transportation management efforts. In a similar vein, crash fatality rates have been in

The performance measures serve as a dynamic link between *Transportation Matters* goals and plan implementation by formalizing the evaluation and monitoring process.



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decline - but how much of the decline is attributable to safer vehicle technology, and how much is attributable to improved roadway design?

Also, note that various community members may have conflicting goals. Therefore, performance measure results may be viewed from different perspectives. A decrease in traffic volume through a business district will be seen as a positive in terms of congestion and improved air quality, but negative in terms of economic growth. Within the SJTPO region, Atlantic and Cape May Counties would prefer to see VMT increase, as this means more people are visiting the Shore. Some performance measures also do not have enough historic data to establish a trend. In these cases, SJTPO will use the data available to establish a benchmark for future comparison.

Evaluation's role in the Planning Process

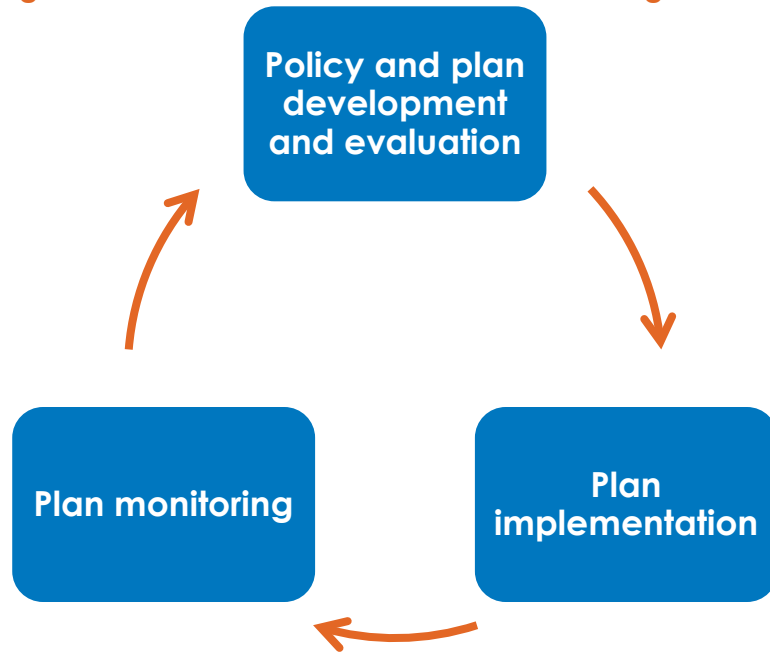
The planning process has long incorporated evaluation and monitoring of system performance. The evaluation of desired outcomes and periodic monitoring are meant to ensure that transportation project developments are consistent with the plan vision.

During the planning process, evaluations are made at various scales. The performance of the entire network or that of a very specific location can be the subject of an evaluation. An example of a network-wide evaluation is the delay that road users experience over a specific time. An example of a more refined scale would be measuring the before and after performance, (as described earlier), of a road segment that had a signal timing project.

Evaluations are employed at various points during the planning process. This includes the project selection process; performance measures can be employed to evaluate the possible impacts of proposed projects. Evaluation should also be completed after programs and projects are implemented. In this way, programs and projects can be monitored for their effectiveness and inform program and project selection for future TIPs and regional transportation plans.

In summary, continuous evaluation is vital to the planning process. The system should be continuously monitored so that decision makers are provided constant feedback (See Figure 34, on the following page). This will allow strategies to be altered as needed to achieve the desired goals.

Figure 34 - Continuous Performance Monitoring



An update on the actual performance measures originally laid out in the 2040 Regional Transportation Plan Performance Report, (released in July 2015), has also been completed. Where updated data was available, performance indicators were updated. In addition, for some indicators, additional measures were added. Both the original 2040 Regional Transportation Plan Performance Report, as well as the 2016 Update is located in Appendix G.

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