

NO
Skateboarding
Rollerskating
or
Rollerblading

Middletown

8.0 Transportation & Mobility

8.0 TRANSPORTATION & MOBILITY MASTER PLAN RECOMMENDATION 8.1

8.1: Maintain and update, as needed, *The Monmouth County Scenic Roadway Plan (2001)* and the *Monmouth County Road Plan (2012)* as adopted by reference as components of the Transportation & Mobility Element of the *Monmouth County Master Plan*.

Purpose

To establish and sustain the *Monmouth County Scenic Roadway Plan* and the *Monmouth County Road Plan* as the standards by which planning will be conducted, as it pertains to Monmouth County's road network.

Monmouth County Departments & Organizations Involvement

Division of Planning	Identify opportunities to update or improve upon these plans; evaluate effectiveness of <i>The Monmouth County Scenic Roadway Plan</i> ; develop new or enhanced scenic byway criteria for "built" locations, especially in downtowns and historic districts; coordinate improvement efforts and/or incorporate them into other projects.
Planning Board (MCPB)	Recognize <i>The Monmouth County Scenic Roadway Plan</i> and the <i>Monmouth County Road Plan</i> as adopted by reference as components of the Transportation & Mobility Element of the <i>Monmouth County Master Plan</i> .
Park System (MCPS)	Provide knowledge of environmental resources as well as park user behaviors that could be tied into <i>The Monmouth County Scenic Roadway Plan</i> .
Department of Public Works and Engineering	Manages county roads and is instrumental in the development and maintenance of these plans; review landscape measures and context sensitive appropriate design for scenic byway locations.
Transportation Council (MCTC)	Assist in identifying potential changes to the plans.

Other Project Stakeholder Involvement

Municipalities	Assist in identifying potential changes and help identify potential stakeholders in their community.
New Jersey Department of Transportation (NJDOT)	Assist in implementing any recommended potential changes.
North Jersey Transportation Planning Authority (NJTPA)	Assist in financing any recommended potential changes.



Main Street Bus Station, Bradley Beach

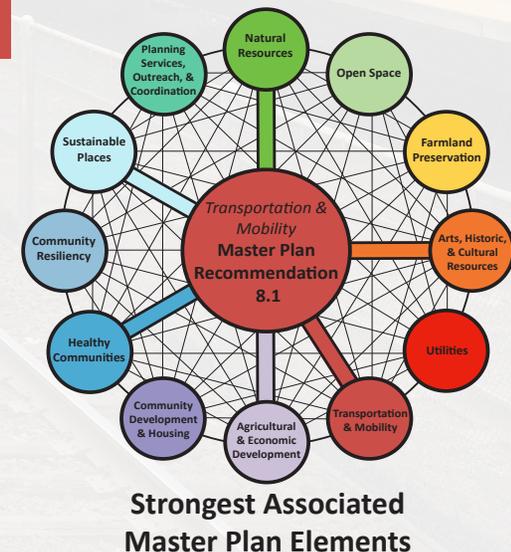
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.1

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
A. Comprehensive Planning	●													
B. Coordination	●	●												
C. Planning Approach			●											
D. Environmental Resources				●										
E. Farmland Preservation					●									
F. Arts, Culture, & Historic						●								
G. Preservation Investments							●							
H. Vibrant & Sustainable Communities								●						
I. Community Preservation									●					
J. Housing										●				
K. Economic Development											●			
L. Agricultural Development												●		
M. Recovery & Resiliency													●	
N. Growth Investments														●

Implementation Strategy

- The Division of Planning will coordinate plan updates with other county departments.



8.0 TRANSPORTATION & MOBILITY

MASTER PLAN RECOMMENDATION 8.2

8.2: Continue to develop and implement regional corridor studies through New Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP) and work with other county departments and agencies in identifying viable SSP and pilot projects with NJ TRANSIT and NJTPA that further the Goals, Principles, and Objectives (GPOs) of the *Monmouth County Master Plan*, the *Monmouth County Comprehensive Economic Development Strategy (CEDS) (2014)*, and the county's capital improvement needs.

Purpose

To best utilize federal resources, sourced through NJTPA, to support new planning initiatives that advance the GPOs of the *Monmouth County Master Plan*.

Monmouth County Departments & Organizations Involvement

Division of Planning	Work with other county departments in identifying potential SSP projects; coordinate the Technical Advisory Committee (TAC); act as lead county agency in project management of SSP programming.
Department of Public Works and Engineering	Assist the Division of Planning in identifying viable SSP projects (all SSP projects require participation from this department) from concept through completion, as the ultimate goal for all SSP projects is "implementation;" serve as a standing member of Monmouth County's TAC.
Division of Economic Development	Assist the Division of Planning in identifying viable SSP projects that support recommendations in the <i>CEDS</i> ; participate on the Monmouth County TAC.
Transportation Council (MCTC)	Assist with project concept development.

Other Project Stakeholder Involvement

Municipalities	Input will be sought as part of all TACs.
New Jersey Department of Transportation (NJDOT)	
NJ TRANSIT	
Meadowlark Transit Management Association (TMA)	
NJTPA	



Main Street Bus Station, Bradley Beach

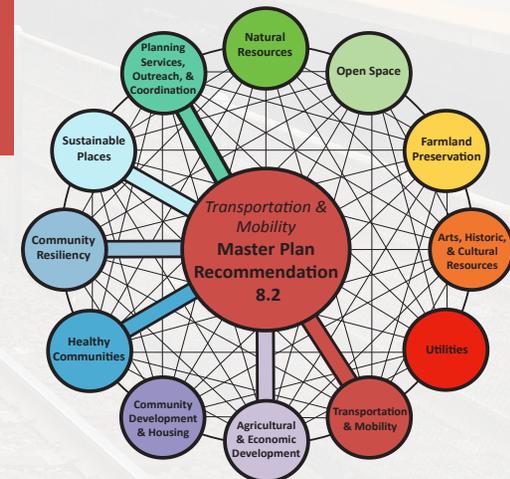
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.2

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
A. Comprehensive Planning														
B. Coordination		●												
C. Planning Approach		●	●											
D. Environmental Resources	●	●												
E. Farmland Preservation	●													
F. Arts, Culture, & Historic														
G. Preservation Investments														
H. Vibrant & Sustainable Communities														
I. Community Preservation														
J. Housing														
K. Economic Development														
L. Agricultural Development														
M. Recovery & Resiliency														
N. Growth Investments														

Implementation Strategy

- Coordinate with the Department of Public Works and Engineering, and any other appropriate department prior to applying for SSP funding.
- Submit applications and conduct all administration related to the SSP program.



Strongest Associated Master Plan Elements

8.0 TRANSPORTATION & MOBILITY

MASTER PLAN RECOMMENDATION 8.3

8.3: Finalize, disseminate, and maintain the Monmouth County Transit Map and create a *Monmouth County Multi-Modal Transportation Guide*.

Purpose

To empower travelers in Monmouth County with knowledge necessary to effectively and efficiently use the existing transportation network.

Monmouth County Departments & Organizations Involvement

Division of Planning	Act as project lead on developing these initiatives; gather all relevant transportation data for incorporation into the Monmouth County Transit Map and <i>Monmouth County Multi-Modal Transportation Guide</i> ; create document layout and format for hard copy and web publication.
Department of Public Information and Tourism	Assist with integration into the county's website and provide graphical input.
Division of Economic Development	Assist in identifying regional trip generators.
Transportation Council (MCTC)	Provide input on the project's design and aesthetics; ensure clarity of provided information.

Other Project Stakeholder Involvement

NJ TRANSIT	Provide bus and train information for Monmouth County Transit Map and <i>Monmouth County Multi-Modal Transportation Guide</i> .
SeaStreak	
NY Waterway	Provide ferry data.



Main Street Bus Station, Bradley Beach

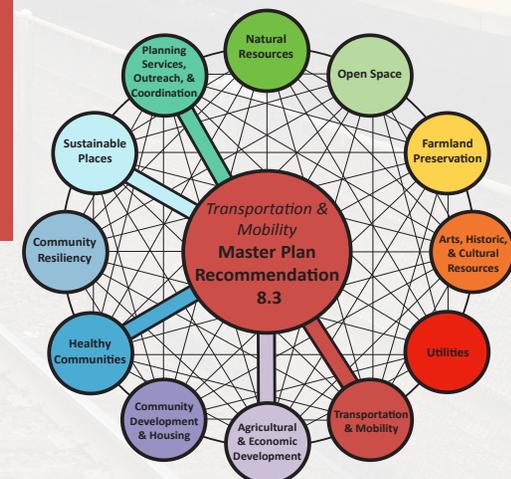
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.3

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
A. Comprehensive Planning														
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J. Housing														
K. Economic Development														
L. Agricultural Development														
M. Recovery & Resiliency														
N. Growth Investments														

Implementation Strategy

- Assemble required data and develop the Monmouth County Transit Map and *Monmouth County Multi-Modal Transportation Guide* in geographic information system (GIS) form.
- Work with the Department of Public Information and Tourism in approval and publication on the Monmouth County website.



Strongest Associated Master Plan Elements

8.0 TRANSPORTATION & MOBILITY

MASTER PLAN RECOMMENDATION 8.4

8.4: Work on implementing recommendations found in the *Monmouth County Bus Rapid Transit Opportunities Study (2015)* to improve bus service along critical corridors in Monmouth County, and eventually expand upon these efforts toward the development of a complete Bus Rapid Transit (BRT) approach.

Purpose

Continue the efforts initiated in the *Monmouth County Bus Rapid Transit Opportunities Study* which include moving the county towards incorporating BRT concepts into the transportation network, improving bus service along critical corridors in the county, and expanding upon these efforts towards the development of a complete BRT approach.

Monmouth County Departments & Organizations Involvement

Division of Planning	Project leader in identifying BRT implementation opportunities.
Department of Public Information and Tourism	Assist with the dissemination of BRT related information to the public.
Department of Public Works and Engineering	Assist in the consideration of any new facilities to be designed and constructed for the development as part of the BRT network.

Other Project Stakeholder Involvement

NJ TRANSIT	BRT improvements would be made to the existing NJ TRANSIT bus network in the county; buy-in and participation is necessary in all aspects relating to the implementation.
North Jersey Transportation Planning Authority (NJTPA)	NJTPA may be able to help secure funding for future BRT improvements and/or further studies.



Main Street Bus Station, Bradley Beach

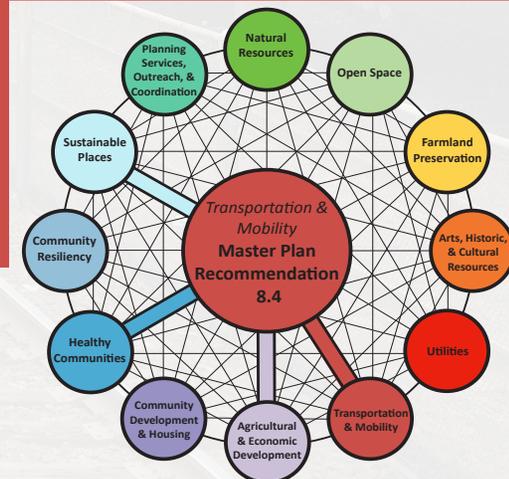
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.4

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
Comprehensive Planning														
Coordination														
Planning Approach														
Environmental Resources														
Farmland Preservation														
Arts, Culture, & Historic														
Preservation Investments														
Vibrant & Sustainable Communities														
Community Preservation														
Housing														
Economic Development														
Agricultural Development														
Recovery & Resiliency														
Growth Investments														

Implementation Strategy

- Implement the *Monmouth County Bus Rapid Transit Opportunities Study*.
- Prioritize recommendations based on cost and implementation feasibility.
- Research potential funding sources for use in implementing recommendations.



Strongest Associated Master Plan Elements

8.0 TRANSPORTATION & MOBILITY

MASTER PLAN RECOMMENDATION 8.5

8.5: Proceed with efforts to develop a Travel Demand Model (TDM) to assist the county and the New Jersey Transportation Planning Authority (NJTPA) in coordinating regional and subregional transportation planning studies and projects.

Purpose

Create a TDM that will become a part of all county-related transportation planning processes, allowing for informed visualization and the prioritization of projects.

The TDM will:

- Provide data on changes in traffic patterns as a result of capital projects;
- Model impacts of proposed development and redevelopment projects on the existing transportation network;
- Confirm findings established in developer traffic studies;
- Help evaluate impacts of proposed land use modifications;
- Identify and help prioritize capital improvement projects;
- Provide useful ongoing input into *Monmouth County Master Plan*;
- Allow for different modes of travel as well as considerations for seasonal travel demand.

Monmouth County Departments & Organizations Involvement

Division of Planning	Project lead for administration and execution of Subregional Studies Program (SSP) grant; coordinate efforts between all the stakeholders involved in the program.
Department of Public Works and Engineering	Primary project partner; provide technical assistance; gather information and data; conduct necessary traffic counts to gather data needed for project development.

Other Project Stakeholder Involvement

North Jersey Transportation Planning Authority (NJTPA)	Primary project partner; administers the SSP grant; provide expertise on TDM technology; ensure consistency with NJTPA Regional TDM.
NJ TRANSIT	Provide ridership data and other assistance as needed.
Ocean County	Project partner; provide assistance and expertise from their experience on TDM development; Monmouth County TDM will be consistent with Ocean County TDM to form a regional model that can be referenced up into NJTPA model.



Main Street Bus Station, Bradley Beach

Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.5

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
A. Comprehensive Planning	●													
B. Coordination		●												
C. Planning Approach			●											
D. Environmental Resources				●	●	●	●							
E. Farmland Preservation					●	●	●							
F. Arts, Culture, & Historic					●	●	●							
G. Preservation Investments					●	●	●							
H. Vibrant & Sustainable Communities								●	●	●	●	●	●	●
I. Community Preservation								●	●	●	●	●	●	●
J. Housing								●	●	●	●	●	●	●
K. Economic Development								●	●	●	●	●	●	●
L. Agricultural Development								●	●	●	●	●	●	●
M. Recovery & Resiliency								●	●	●	●	●	●	●
N. Growth Investments								●	●	●	●	●	●	●

Implementation Strategy

- Develop a Request for Proposal (RFP) and select consultant through SSP process.
- Form Technical Advisory Committee (TAC) to guide process from inception.
- TAC will be comprised of appropriate stakeholders (e.g. NJ TRANSIT, NJDOT, and Meadowlink TMA).
- Consultant will assist on data collection, model development, model calibration, and training.



Strongest Associated Master Plan Elements

8.0 TRANSPORTATION & MOBILITY MASTER PLAN RECOMMENDATION 8.6

8.6: Review and amend the Monmouth County Transportation Council's (MCTC) purpose and mission to align its programming with the Goals, Principles, and Objectives (GPOs) of the *Monmouth County Master Plan*.

Purpose

To maximize the MCTC's potential as a valuable component of Monmouth County's transportation planning process. The MCTC's stated purpose is to act as an advisory board to the Monmouth County Planning Board (MCPB) and its mission will be carried out with the *Monmouth County Master Plan* serving as its work program.

Monmouth County Departments & Organizations Involvement

Division of Planning	Project lead; acts as staff advisor to the MCTC (e.g. preparing agendas, generating minutes, and arranging for presentations and guest speakers).
Department of Public Works and Engineering	Send representative to attend all MCTC meetings; provides engineering updates.
MCTC	Regularly review both the <i>Master Plan</i> and the council's current influence on the county to ensure they are aligned.

Other Project Stakeholder Involvement

Municipalities	MCTC members maintain a list of liaisons in each of the county's 53 municipalities. These liaisons relay relevant transportation related issues to the MCPB through the MCTC.
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Main Street Bus Station, Bradley Beach

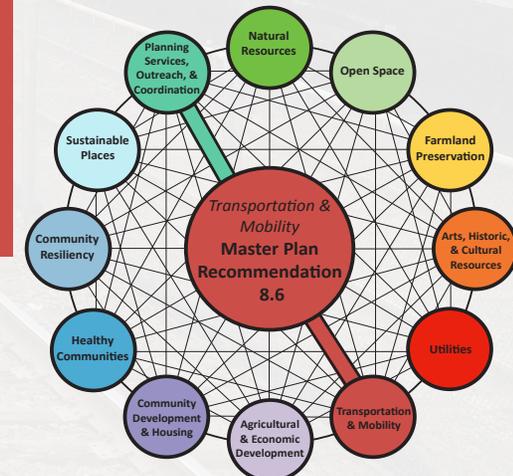
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.6

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
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Coordination		●												
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Agricultural Development														
Recovery & Resiliency														
Growth Investments														
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Implementation Strategy

- Maintain and address MCTC's role as advisor to the MCPB.
- When necessary, incorporate new members who have a passion for transportation and community service and indoctrinate them with the principles set forth in the MCTC bylaws.
- Review and amend the MCTC bylaws as needed.



Strongest Association to Master Plan Elements

8.0 TRANSPORTATION & MOBILITY MASTER PLAN RECOMMENDATION 8.7

8.7: Provide an online “one stop transportation resource shop” for all transit information in the county including a geographic information system (GIS)-based, online mapping resource for the existing Monmouth County Bicycle Map, transit infrastructure and routes, and recreational resources.

Purpose

To provide a tool by which Monmouth County travelers will be empowered to make the best and most informed choices possible regarding trip times and transportation mode of choice.

Monmouth County Departments & Organizations Involvement

Division of Planning	Project lead; integrate all transportation routes and schedules; research similar efforts done elsewhere to gather best practices; GIS Section will serve as primary project partner in designing maps and webpage.
Park System (MCPS)	Provide information on multi-use trails, paths, and park connectors throughout Monmouth County.
Department of Public Works and Engineering	Share information on existing conditions when applicable.
Division of Economic Development	Determine which county resources should be featured on the online platform.
Transportation Council (MCTC)	Assist with project aesthetics and clarity of information; once resource is created, encourage its use through municipal liaisons and public outreach.

Other Project Stakeholder Involvement

NJ TRANSIT	Provide up-to-date route and schedule information on all NJ TRANSIT facilities in the county.
Academy Bus	Provide up-to-date route and schedule information on all Academy facilities in the county.
Seastreak	Provide up-to-date route and schedule information on all Seastreak facilities in the county.
NY Waterway	Provide up-to-date route and schedule information on all NY Waterway facilities in the county.



Main Street Bus Station, Bradley Beach

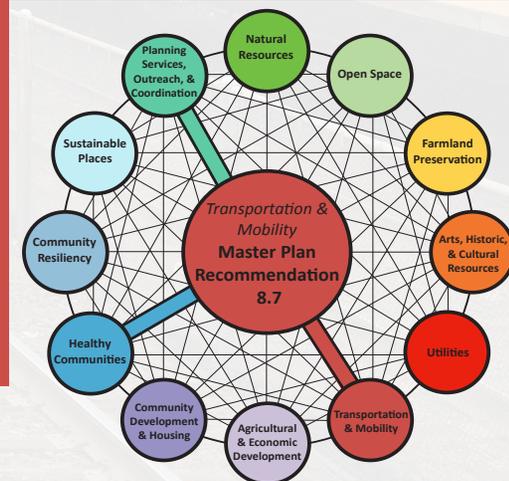
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.7

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
Comprehensive Planning														
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Community Preservation														
Housing														
Economic Development														
Agricultural Development														
Recovery & Resiliency														
Growth Investments														

Implementation Strategy

- The Division of Planning Transportation Section will coordinate with the GIS Section to determine the best design options for this platform.
- The Division of Planning Transportation Section will coordinate with the MCPS and the Division of Economic Development on which resources to feature.
- The Division of Planning Transportation Section will coordinate with relevant stakeholders (e.g. NJ TRANSIT, and Academy) to gather up-to-date schedule and route information for incorporation into tool developed with the GIS Section.



Strongest Associated Master Plan Elements

8.0 TRANSPORTATION & MOBILITY

MASTER PLAN RECOMMENDATION 8.8

8.8: Coordinate planning activities with the Monmouth County Department of Public Works and Engineering to help identify and prioritize transportation-related projects and assist with developing and implementing the county's capital improvement program.

Purpose

To coordinate projects in similar areas or with similar goals as well as to ensure transportation related projects within Monmouth County are completed accurately and in a timely manner.

Monmouth County Departments & Organizations Involvement

Division of Planning	Assist the Department of Public Works and Engineering in identifying and prioritizing transportation related projects; GIS Section provides support to the Department of Public Works and Engineering in map creation.
Department of Public Works and Engineering	Lead agency in all capital improvement and county facility improvement projects.



Main Street Bus Station, Bradley Beach

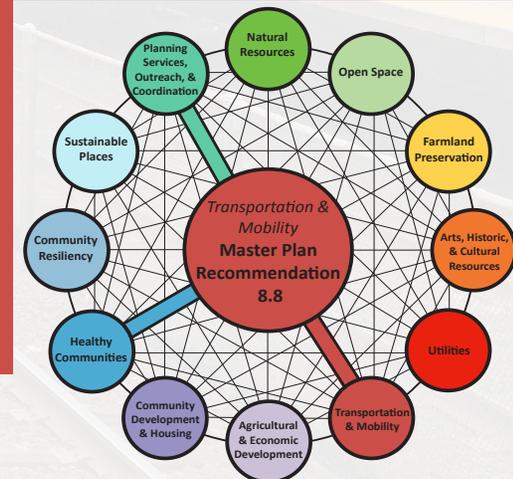
Source: Steve daCosta

Master Plan Goals, Principles, & Objectives (GPOs) Relating to 8.8

PRINCIPLES	GOAL 1			GOAL 2				GOAL 3						
	1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	3.7
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J. Housing														
K. Economic Development														
L. Agricultural Development														
M. Recovery & Resiliency														
N. Growth Investments														

Implementation Strategy

- Provide professional and technical assistance to the Department of Public Works and Engineering, upon request.
- Prepare and research information for the Department of Public Works and Engineering, upon request.
- Consider future goals of the Department of Public Works and Engineering to be included in the *Monmouth County Master Plan*.
- Prioritize and attempt to coordinate related projects.



Strongest Associated Master Plan Elements

8.0 Transportation & Mobility

8.1 Introduction

A transportation network can be defined as a framework of routes between locations. In Monmouth County this framework exists in two iterations: existing permanent facilities and scheduled services. The permanent facilities in place include roadways, railways, waterways, multi-use trails, and pedestrian facilities of varying sizes, scopes, and levels of service. The scheduled services are comprised of bus, rail, and ferry lines. Serving 630,000 residents over a land area of 472 square miles, Monmouth County's transportation network is crucially important to the well-being of users and functionality of the region.

8.2 Existing Conditions

8.2.1 Guiding Documents, Reports, and Studies

Monmouth County Road Plan: The *Monmouth County Road Plan* informs the public of the location, design, and right-of-way widths of the county road system. It is a long range plan that provides the framework for coordinating our regional road system with the growth and development of the county. The county road system is a network of existing and potential county roads that act as a continuous regional thoroughfare for carrying traffic to and from major traffic generators such as shopping centers, hospitals, employment centers, and transportation centers in a quick, safe, and efficient manner. The most recent [Monmouth County Road Plan](#) was adopted on October 15, 2012.

Monmouth County Scenic Roadway Plan: [The Monmouth County Scenic Roadway Plan](#) was adopted in 2001 with the purpose of retaining scenic qualities and features possessed by many county roads. *The Monmouth County Scenic Roadway Plan* has three main goals:

- To identify those county roads, or sections of county roads, that possess such a high degree of visual quality that driving, biking, or walking along those roads is a pleasurable experience;

- To establish a set of alternative design guidelines for scenic county roads for use by Monmouth County in its development review process and capital improvement program;
- To present other means of preserving scenic roads that may be implemented by the county, by municipalities, and by other agencies and organizations.

An update to the scenic roadway plan could be expanded to include criteria for enhancing additional county roads and segments to meet the scenic criteria to be implemented by either the county through its Shade Tree, Engineering and Public Works efforts or by municipalities through their municipal planning and zoning.

Monmouth County Bus Rapid Transit Opportunities Study: The [Monmouth County Bus Rapid Transit Opportunities Study \(2015\)](#) addresses the feasibility of implementing strategies and features consistent with Bus Rapid Transit (BRT) systems in order to improve bus service in Monmouth County. The study was developed by Monmouth County in partnership with Together North Jersey (TNJ) and the North Jersey Transportation Planning Authority (NJTPA). While further development of this concept may lead eventually to the development of a full-fledged BRT route (or multiple routes) within the county, the main intent is to develop approaches to improve existing service within the county.

The *Monmouth County Bus Rapid Transit Opportunities Study* provides an overview of the applicable BRT features and strategies that could potentially be implemented as means of enhancing existing bus transit service. While a full-fledged BRT system may not be immediately realistic or feasible in Monmouth County, many of the features and strategies commonly associated with BRT systems could enhance the existing transit system. Additionally, the study examines existing and potential future transit nodes to identify those suitable for further



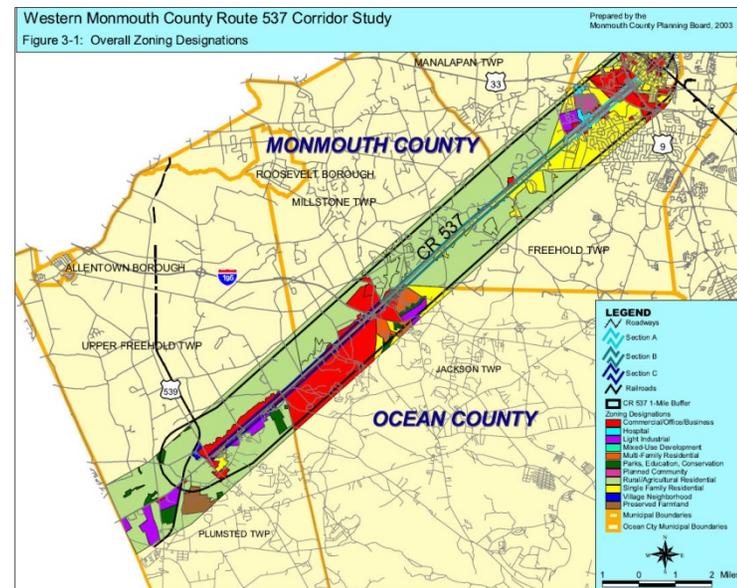
development. The process of developing these nodes in the future would include cost-benefit calculations and estimates of projected ridership increases. If potential features and strategies show positive economic and ridership value, then they could be implemented using a phased approach combining BRT features at transit node locations with BRT features and strategies on bus transit operations. Together, as improvements progress, the overall bus system could start to resemble a modern BRT system.

Western Monmouth County Route 537 Corridor Study: Completed in January 2004, the goal of the [Western Monmouth County Route 537 Corridor Study](#) was to establish an action plan that will help address the changing balance between land use development and transportation needs within the County Route (CR) 537 corridor. This was accomplished through several objectives which are defined as follows:

- Coordination with officials and community stakeholders from local municipalities located within the CR 537 corridor to identify transportation concerns and issues and to establish a clear vision of anticipated land use development needs and treatments envisioned by these communities.
- Development of an inventory of county and municipal transportation facilities and resources within the CR 537 corridor and assessment of the performance of these facilities using transportation industry standards.
- Projection of future travel demands based upon projected land use build-out conditions and/or growth factor projections in the corridor using industry-standard analytical processes.
- Projection of travel demands to the existing transportation facilities within the CR 537 corridor and determination of the demands that future land use development will place upon access and mobility.
- Identification of a range of possible growth management strategies and/or appropriate scale transportation solutions to address the projected level of travel demand during the time horizons

considered, and selection of those most appropriate for further consideration.

- Review of recommended strategies with community officials, stakeholders, and Technical Advisory Committee (TAC) representatives, and selection of appropriate alternatives.
- Development of concept drawings and mapping defining recommended strategies and/or roadway improvements for the CR 537 corridor.
- Identification of funding sources and mechanisms to be used to implement the recommended improvements.



Monmouth County Bicycle Map: Developed in 2003 and updated in 2010, the [Monmouth County Bicycle Map](#) serves to inform Monmouth County residents of existing conditions on county roads from a bicyclist’s perspective. The Monmouth County Bicycle Map identifies road conditions, trail locations, bicycle facilities, and important destinations for all bicycle riders. It also contains information regarding



safety tips, NJ bicycle laws, information on bicycling for both health and transportation, and location for bicycle shops and clubs. The Monmouth County Bicycle Map was developed in close association with bicycle shops and ridership organizations.

Monmouth County Coastal Evacuation Routes Study: The [Monmouth County Coastal Evacuation Routes Study \(2009\)](#) was conducted to evaluate how the current coastal evacuation routes system could be improved and possibly expanded to help move people away from flood zones. This work involved the following:

- Identifying a set of routes and roadways whose purpose is to bring people from a hazardous (flood) zone to a safe area
- Examining physical and operational problem areas and spots that could be targeted for improvements
- Proposing near term, intermediate, and long range solutions

Regional Plan for Sustainable Development (RPSD):

In 2011, the U.S. Department of Housing and Urban Development (HUD) awarded TNJ a Sustainable Communities Regional Planning Grant. The funding was dedicated to develop a RPSD for the NJTPA 13-county region including Monmouth County, implement Local Demonstration Projects (LDP), and provide technical assistance and education opportunities. The RPSD is both “issue-based” and “place-based” seeking to harmonize existing plans while fostering an integrated regional vision for transportation infrastructure, utilities, green infrastructure, housing, employment, education, and other investments. After three years of development, TNJ produced [The Plan. 2015](#), discussed more in Section 8.4.2 Partnership Efforts.

The LDPs are a substantial component of the RPSD planning process. A LDP conducted in Monmouth County is the [Connecting Community Corridors Study](#) for Asbury Park, Neptune Township, and Bradley Beach. This project aims to provide implementable short-term projects to achieve a greater sustainability for the neighboring municipalities by investing in existing corridor infrastructure. The majority of this study’s focus is along Memorial Drive (CR 40A) and Main Street (State Route 71) where amenities such as housing, jobs, educational, cultural, and recreational opportunities currently exist. The project Vision Themes include Arts and Cultural Branding and Themes; Transit-Orientated Infill and Adaptive Reuse; Enhanced Shuttle Services; Traffic Calming and Pedestrian/Bike Improvements; Business Improvement and Main Street Program, and Urban Agriculture and Sustainable Infrastructure. Other

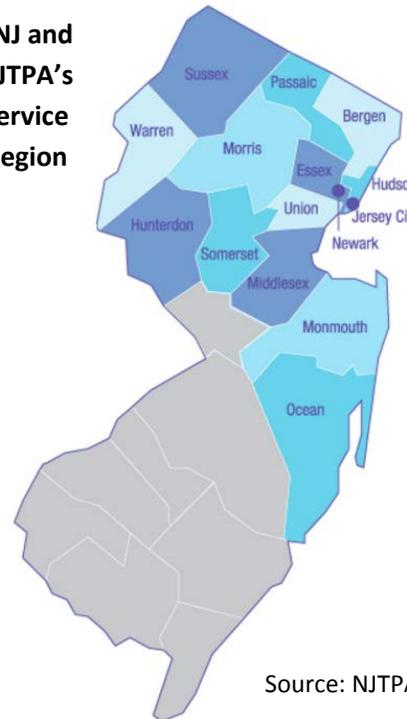
concepts include creating a Gateway to Springwood, Cookman, and Ocean Grove and Reconnecting Bradley Beach and Bradley Park in Neptune Township.

Regional Transportation Plan (RTP) for Northern

New Jersey-Plan 2040: [Plan 2040 \(2013\)](#) is the latest update to NJTPA’s RTP which is updated every four years. It is intended as an investment guide for future transportation development through the year 2040. *Plan 2040* as well as all succeeding updates to NJTPA’s RTP will be utilized by Monmouth County to ensure that all future transportation investments are not only in the best interest of the county but in that of the entire northern NJ transportation network.

Gateway Project: Due to advanced age and flooding caused by Superstorm Sandy, the existing Hudson Rail Tunnels connecting Northern New Jersey to

TNJ and NJTPA’s Service Region



Source: NJTPA



New York City are in dire need of rehabilitation. Both tunnels need to be shut down for an estimated year to repair the reinforced steel, concrete, and electrical infrastructure corroded by salt water. However, 200,000 daily commuters rely on these tunnels for access to employment in NYC and the closure of even one tunnel will reduce rail traffic by 75% during peak hours resulting in significant delays in rail commuting times. Tens of thousands of transit riders would be forced to find alternate means of transportation to their places of employment which would place further strain on bus transit and the already overburdened highways.

The Gateway Project plans to build two new rail tunnels which when opened will be used to accommodate rail traffic while the older tunnels are repaired. Later, the new tunnels would add to the maximum capacity of rail transportation traveling to and from NYC under the Hudson River. The project also calls for the replacement of Portal Bridge, a rail bridge spanning Hackensack River that is in desperate need of repairs, an expansion to New York Penn Station to accommodate the increase in rail traffic, and new rail lines connecting existing Northern New Jersey Train Stations to the new Gateway Rail Tunnels. Funding for this project will be provided for by the Federal Government which will pay half, and the States of New York and New Jersey which will split the remaining half. The environmental impact study and designs are currently underway. Construction is projected to begin in 2019.

8.2.2 Transportation Network

Monmouth County Roadway Network

Garden State Parkway (GSP): Spanning the entire state from north to south, the GSP is at its widest (12 lanes) in Monmouth County. Running 26 miles from Aberdeen to Wall, the GSP has helped to define the growth of Monmouth County since its construction in 1954. In Monmouth County, there are nine exits off the GSP and tolls are

collected at one barrier and six ramps, as detailed in Figure 8.1: Garden State Parkway in Monmouth County.

For additional information, visit the [New Jersey Turnpike Authority](#).



U.S. (Federal) and State Roads: U.S. Routes and NJ State Highway Routes comprise a critical portion of Monmouth County's road network. Figure 8.2: U.S. and State Roads in Monmouth County detail both U.S. Routes and some NJ State Highways in Monmouth County. For more information, see [Monmouth County's 2015 Straight Line Diagrams](#) as issued by the New Jersey Department of Transportation (NJDOT).

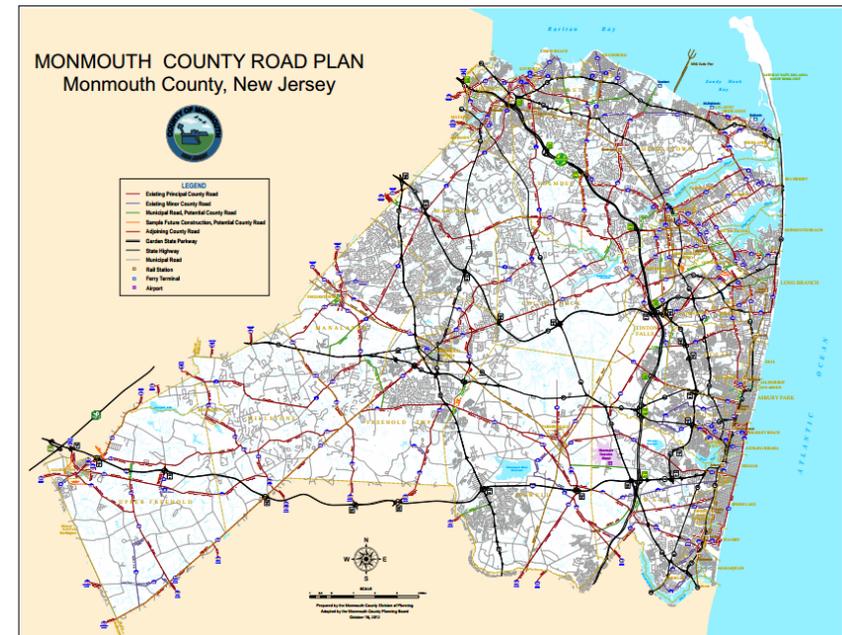
County Roads: The county road system is a network of existing and potential county roads that act as a continuous regional thoroughfare for carrying traffic to and from major traffic generators such as shopping centers, hospitals, employment centers, and transportation centers in a quick and efficient manner. In most cases the system provides a link between municipal collector roads and state and/or federal roads. The existing county road system is comprised of Principal County Roads and Minor County Roads. Principal County Roads are existing county roads that serve a regional function. Minor County Roads are those which do not serve a regional function. The county road system is also comprised of Potential County Roads which include Municipal Roads (existing municipal roads that now serve a regional function and may be considered in the future as county roads) and New Construction (new roads that will serve a regional function).



Figure 8.2: U.S. and State Roads in Monmouth County

Route	Length in Monmouth County	Description
U.S. 9	14 Miles	Northern end: CR 520 in Marlboro Southern end: I-195 in Howell
Interstate 195	26 Miles	Eastern end: Garden State Parkway in Wall Western end: CR 524 in Allentown
NJ 18	23 Miles	Northern end: CR 520 in Marlboro Southern end: NJ 138 in Wall
NJ 33	21 Miles	Eastern end: NJ 71 in Neptune Western end: CR 527A in Millstone
NJ 34	22.5 Miles	Northern end: NJ 79 in Matawan Southern end: NJ 35 in Wall
NJ 35	29 Miles	Northern end: CR 516 in Keyport Southern end: Ashley Avenue in Brielle
NJ 36	24.4 Miles (Entire route is in Monmouth County)	Northern end: Garden State Parkway/NJ 35 in Keyport Southern end: Garden State Parkway in Eatontown
NJ 71	16.78 Miles (Entire route is in Monmouth County)	Northern end: NJ 35/CR 537 in Eatontown Southern end: NJ 35 in Brielle
NJ 79	12.13 Miles (Entire route is in Monmouth County)	Northern end: NJ 34 in Matawan Southern end: U.S. Route 9 in Freehold Township

For more information on the county road system, see the *Monmouth County Road Plan (2012)* [Text](#) or [Map](#).



Monmouth County Transit Network

North Jersey Coast Line (NJCL): The NJCL is operated by NJ TRANSIT, and has been in existence in Monmouth County since the late 1800s. The entire line runs from New York Penn Station at its northern terminus to Bay Head at its southern terminus. There are 14 stops on the NJCL in Monmouth County, from Aberdeen-Matawan in the north to Manasquan in the south. These 14 stops see a total of approximately 10,000 boardings on the average weekday, with Aberdeen-Matawan being the busiest (2,500 daily boardings). Commuter trips to NY Penn Station vary in length of time from 60 minutes from Aberdeen-Matawan to 120 minutes from Manasquan.



The NJCL is electrified as far south as Long Branch, with trips to points south requiring a switchover to a diesel train at the Long Branch Station. However, in 2015 NJ TRANSIT secured funding for dual-mode locomotives that make a one-seat ride possible throughout the length of the entire NJCL. [Figure 8.3: NJCL Excerpt of the NJ Transit Rail System](#) displays the train stops found in Monmouth County as of spring 2016.

NJ TRANSIT Rail Car



Source: Monmouth County Division of Planning Image Library

Figure 8.3: NJCL Excerpt of the NJ TRANSIT Rail System



Source: NJ TRANSIT



NJ TRANSIT Bus Network: NJ TRANSIT operates an extensive bus transit network in Monmouth County, displayed in Figure 8.4: NJ Transit Bus Service in Monmouth County. It is comprised of 20 routes that provide both commuter and intra-county service; 13 of these routes can be characterized as long distance routes that connect Monmouth County to regional destinations. The majority of the commuter routes use the Garden State Parkway and U.S. Route 9 as the major north-south corridors through Monmouth County. The eight local service routes typically serve municipalities that are removed from the GSP and U.S. Route 9, and connect the county using east-west roadways.

The Route 139 service to New York City is the most heavily used, with almost 9,000 riders daily. Buses bound for Newark and Hudson County, including the 63, 64, and 67 Routes, each approach 1,500 daily boardings. The local (intra-county) routes each have fewer than 1,000 daily boardings, with many of the routes averaging far fewer riders.

Bradley Beach Bus Station on Main Street



Source: Steve daCosta

Figure 8.4: NJ TRANSIT Bus Service in Monmouth County

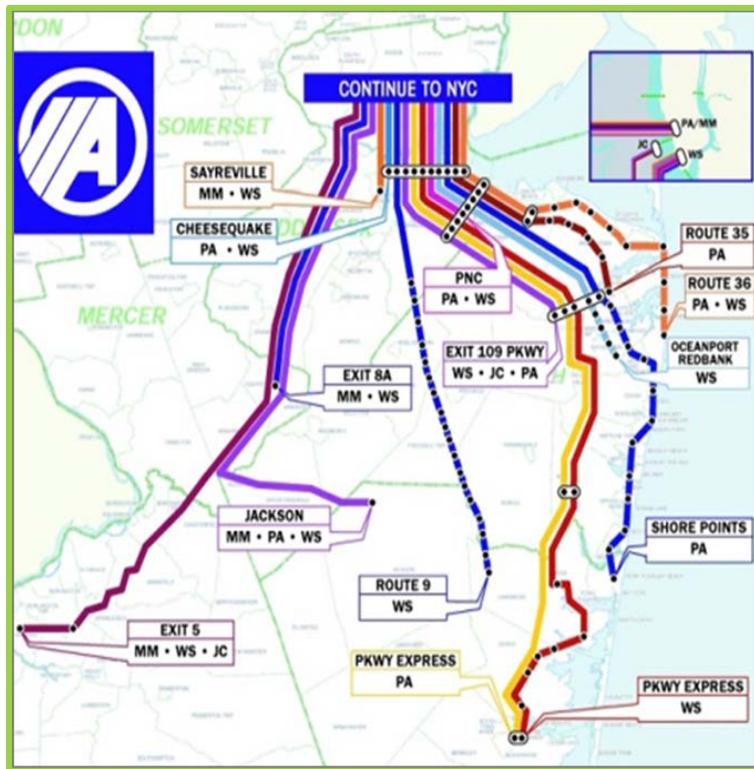
Category	Route	Description
Routes to/from Hudson County and Newark	63	Lakewood - Jersey City - Weehawken
	64	
	67	Toms River - Lakewood - Newark
Routes to/from New York City	133	Old Bridge - Aberdeen - New York
	131	Sayreville - New York
	135	Freehold - Matawan - New York
	137	Toms River - Lakewood - New York
	130	Lakewood - Old Bridge - New York
	132	
	136	
	139	
Routes to/from Philadelphia	317	Asbury Park - Fort Dix – Philadelphia
Local Bus Service – Monmouth/Middlesex Intercounty	817	Perth Amboy - North Monmouth Higher Education Center - Campbell's Junction
Local Bus Service – Monmouth County	830	Asbury Park - Point Pleasant Beach
	831	Red Bank - Monmouth Mall - Long Branch
	832	Brookdale Community College - Red Bank - Monmouth Mall - Asbury Park
	834	Red Bank - Highlands
	836	Asbury Park - Freehold Raceway Mall - CentraState
	837	Long Branch - Asbury Park - Seaview Square
	838	Freehold Raceway Mall - Brookdale Community College - Red Bank - Sea Bright

For additional information: [NJ TRANSIT Bus Schedules](#)



Academy Bus: Throughout Monmouth County, Academy Bus operates additional private carrier commuter bus service as shown in [Figure 8.5: Academy Bus Service in Monmouth County](#) as of 2015. This private operator operates long distance commuter buses between Monmouth County and NYC. The service is offered daily from numerous towns within Monmouth County including Asbury Park, Oceanport, and Atlantic Highlands. The bus service schedules, along with the land use of the county and demographic data, suggest that most patrons of private bus service are making long-distance trips to and from NYC.

Figure 8.5: Academy Bus Service in Monmouth County



Source: [Academy Bus](#)

Demand-Responsive Services Monmouth County Division of Transportation, Special Citizen Area Transportation (SCAT): Monmouth County Division of Transportation provides a variety of demand responsive transportation services including the Shared Ride, medical, dialysis, and veterans. Service is provided through a combination of contractors and Monmouth County Division of Transportation staff drivers and vehicles.

Active Transportation Network

Monmouth County Bicycle Map: See Section 8.2.1 Guiding Documents, Reports, and Studies.

Trails of the Monmouth County Park System (MCPS): Monmouth County features over 130 miles of trails within the MCPS. These trails offer both a recreational outlet and a viable transportation alternative for all users. Most trails in the MCPS are open to walkers, runners, bicyclists, and equestrians and allow for recreational activity while creating a major county thoroughfare. Trails provide a safe connection between residential areas, parks, and commercial locations that are not accessible by fast moving motor vehicles. The [Henry Hudson Trail](#) connects municipalities along the Bayshore area from Keyport to Atlantic Highlands as well as a portion of central Monmouth from Freehold Borough to Marlboro. The Henry Hudson Trail is part of the National Rails-to-Trails Network that transforms unused rail corridors into vibrant community recreational trails. The [Union Transportation Trail](#) connects Upper Freehold to neighboring Ocean County. Because of the presence of various transportation uses, it is important to obey rules of protocol for yielding right-of-way when pedestrians, cyclists, and equestrians meet on the trail: cyclists yield to all other trail users and pedestrians yield to horses. The MCPS also offers an online interactive [ArcGIS Trail Map](#) and [MCPS Trails Elevation Profile](#).



Other Transportation Facilities and Services

Monmouth County Executive Airport: Founded in 1938, Monmouth County Executive Airport is a privately owned, public use airport located in Wall. Visit the [Federal Aviation Administration](#) for more information.

Ferry Services: Ferry services are provided by two companies on Monmouth County's Bayshore. [NY Waterway](#) departs from Belford for points in Manhattan and Jersey City. [Seastreak](#) departs from two locations (Highlands and Atlantic Highlands) for points in Manhattan.

Livery and Ridesourcing Services: Monmouth County is served by numerous private taxi services. Additionally, Monmouth County is served by the ridesourcing services [Uber](#) and [Lyft](#). These emerging companies utilize smartphones, global positioning systems (GPS), and social networks to provide rides in a timely manner.

Freight: In 2007 NJTPA published a [Monmouth County Freight Profile](#) outlining the county's freight infrastructure and traffic. Monmouth County's freight rail infrastructure, spanning north from Howell to Red Bank and east from Englishtown to Freehold Borough, was responsible for 0.5% of freight tonnage shipped to, from, or through Monmouth County in 2007. While the remaining 99.5% of freight tonnage transported to, from, or through Monmouth County in 2007 was done by trucks making use of Monmouth County's road network. The low amount of freight being transported by rail is due to low amount of industrial land use along the rail line. 68.5% of all truck freight tonnage was found to be traveling to or from Monmouth County while the remaining 31.5% was passing through. Routes 18, 34, and 195 experienced the highest volumes of truck volume with routes 9, 33, 35, and 537 not far behind. Monmouth County clearly has a heavy freight presence and in the future will seek to attract industrial businesses to locate along the existing freight rail line in the hopes of decreasing truck volume which damages roads. Another complication of rail freight in the county is a broken connection in the rail line between Freehold Borough

and Farmingdale where rail has been removed and left abandoned. In the future it may be beneficial to restore this missing freight connection.

[Figure 8.6: Monmouth County Transportation and Mobility Map, 2016](#), is an illustration of the entire transportation network currently available in Monmouth County. North and south travel are well managed by the road network, bus routes, and rail line notably along the eastern portion of the county where development is denser. What the county lacks is adequate east and west bound public transportation. Looking to the future, Monmouth County seeks to invest in additional transportation options to further increase the mobility of Monmouth County residents and visitors throughout the county.

8.3 Emerging Issues and Long Range Challenges

8.3.1 Innovative Transportation Practices and Technology

Demand Management Strategies: Demand management helps to ensure that the existing transportation network is operating at or near peak efficiency. As Monmouth County enters an era of redevelopment, the county will aim to maximize the capabilities of the current infrastructure using a variety of state of the art techniques.

Congestion Pricing: Congestion pricing is the process of requiring vehicles to pay a toll to enter an area. Enforcement of tolls or fees is determined on a case by case basis and can take place at all times, only during peak travel hours, or during any other portion of a day thought to strategically relieve congestion. Requiring a fee to enter is intended to reduce demand in an area while supplying revenue from those driving a vehicle into the area after the pricing is put in place. The Federal Highway Administration has found that congestion pricing tends to result in a 2% to 10% reduction in vehicle miles traveled and a 2% to 6% reduction in harmful emissions within a congestion priced area. The results vary as they are dependent on the extremity of the fee; the larger the fee the greater the incentive to refrain from driving into the area.



Figure 8.6: Monmouth County Transportation and Mobility Map, 2016

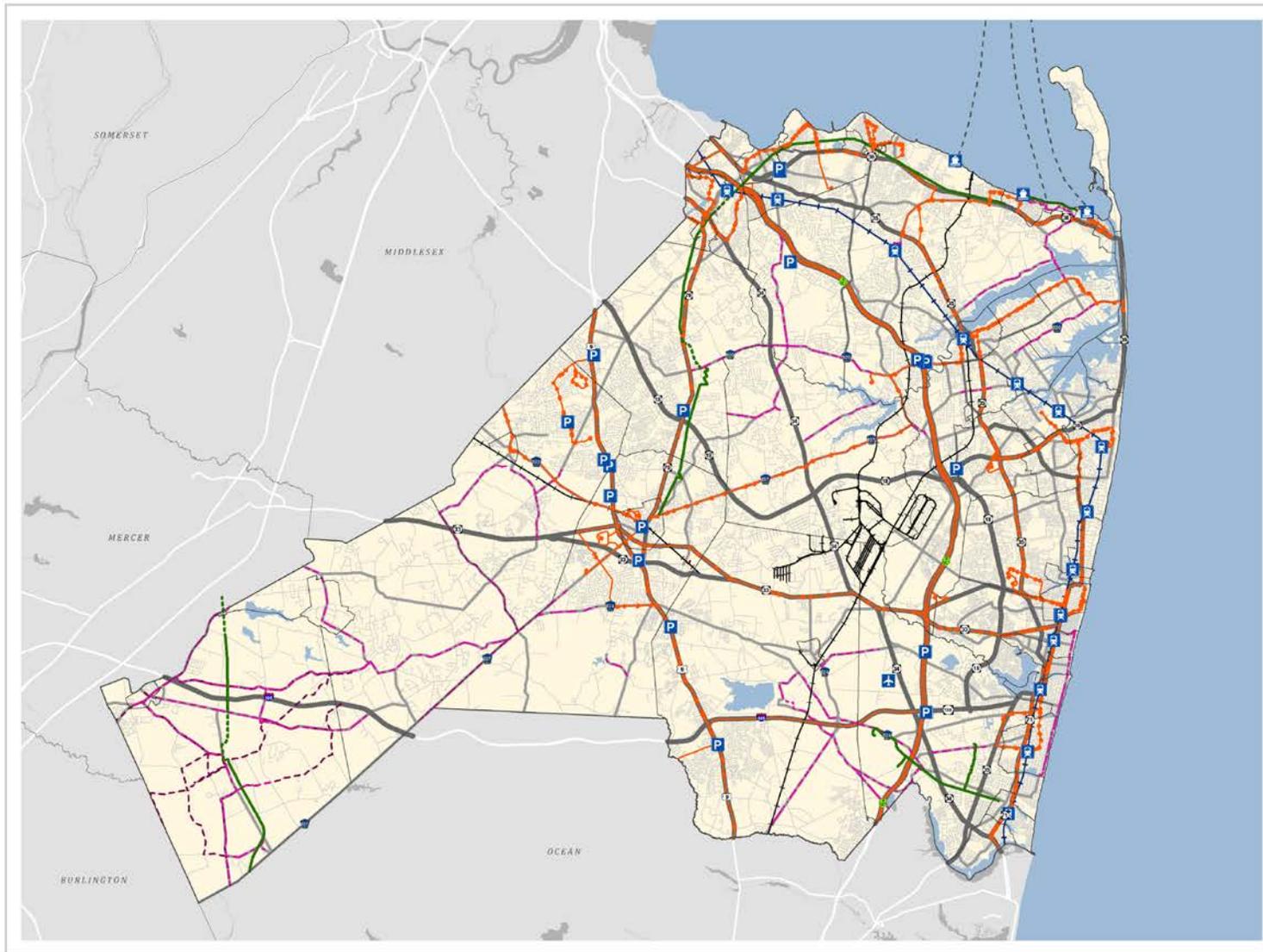


FIGURE 8.6
Monmouth County
Transportation
and Mobility Map
Monmouth County
Master Plan
 September 2016

- Airport
- Train Station
- Park and Ride
- Ferry Terminal
- Bus Stop
- Bus Route
- North Jersey Coast Line
- Non-Passenger Rail Line
- Abandoned Rail Line
- Scenic Roadway
- Upper Freehold Historic Farmland Byway
- State Road
- County Road
- Ferry Route
- Regional Multi-Use Trail
- Proposed Regional Multi-Use Trail Extension

This map was developed using Monmouth County Digital Data from the Monmouth County Division of Planning GIS Section, New Jersey Office of GIS, North Jersey Transportation Planning Authority, New Jersey Transit, and Federal Railroad Administration.



This map was created using GIS digital data supplied by county and external resources. Data accuracy is limited by the accuracy and scale of the original source. The digital data herein is for consultative and deliberative purposes only. Site specific conditions should be verified.

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Parking Management: An abundance of parking is an invitation to drivers to feel free to use their vehicles. Conversely, a shortage of parking encourages users to walk, bike, use public transit, or carpool. Areas can be zoned specifically to determine how many parking spaces will be made available to users, and these parking regulations can be tailored to the needs of the area in question.

In addition to managing the number of spaces, parking fees also encourage the use of alternative modes of transportation. A fee structure can be used in lieu of or in conjunction with parking management, and provides the added benefit of a reliable revenue stream for the local government. A newer strategy for parking pricing is performance-managed parking. Performance-managed parking employs smart phones and other technologies to supply updated information on parking space availability and pricing.

Automatic License Plate Readers: Image processing technology uses cameras to read license plates. License Plate Readers (LPRs) often utilize infrared cameras for clarity at darker times of the day and are capable of reading license plates of vehicles moving at high speeds. Currently LPRs are mostly used by law enforcement to aid in the apprehension of criminals and stolen vehicles, however; they can be utilized to aid with information gathering, toll processing, restricting vehicle access, and parking management. Every vehicle license plate is unique and identifies the vehicle and driver which allows for a unique account to be attached to each license plate. Currently Florida, Massachusetts, and Pennsylvania have adapted their highways to use this technology to administer tolls. Eliminating bottle necks caused by toll booths and automatically charging passing drivers allows for a constant flow of traffic. In addition, Hoboken, NJ has recently installed a system where visitors can pay for parking by entering their license play number into a municipal meter. In this case, LPRs have taken the place of physical tickets and space numbers that can become lost, damaged, or faded to a point of illegibility. LPRs can also be used for gathering traffic

information or restricting vehicle access to parking garages and other area. For example, London is currently using this technology to enforce its congestion pricing.

Smartphone / Online Technology: Numerous smartphone apps currently exist that grant the user access to up to the minute information on transit availability, traffic conditions, routing options, and parking meter payment. Educated users then are able to choose the most efficient routes and modes, which serves to optimize their usage of the transportation network and reduce congestion for other users as well. Current examples of transportation related smartphone apps relevant to Monmouth County include:



(Google Maps)



Ride Sharing/Car Pooling: Turo Peer-To-Peer Car Rental Application

Peer-To-Peer car sharing/renting is a service that has emerged in recent years. Companies such as Turo allow vehicle owners to register their personal vehicle on a mobile phone application to be rented by Turo users living or visiting the area. Vehicle owners post pictures of their vehicle and set a price and mileage limit of their choosing. The application offers daily, weekly, and monthly rentals. Currently 2,500 cities in the U.S. have vehicles registered and 311 airports currently have Turo vehicles available for rent. The vehicles range from average low-end cars, vans, and trucks to high-end sports cars, jeeps, and SUVs. Vehicles being registered to rent on Turo must have fewer than 100,000 miles on them and have a fair market value less than \$75,000. This ensures that the vehicle has a low chance of breaking down while in use by a renter, and that Turo provided insurance can cover any damages to the vehicle. Turo provides \$1 million in liability insurance to vehicle owners as well as the full cash value of their vehicle in the case of an accident while the vehicle is in the hands of a renter. The vehicle renters also choose their own levels of coverage similar to that of a traditional rental car agency. Turo screens all potential renters as well as vehicles. Turo rejects one in five potential users for reasons such as: numerous speeding tickets, one very severe speeding ticket, one charge of driving under the influence, or one charge of vehicular manslaughter.

Potential renters can select what vehicle they would like to rent in their area and contact the vehicle owner via an application text messaging service. The vehicle owner can then screen the potential renter's driving records in all fifty states as well as reviews posted from previous transactions. This allows the vehicle owner to decide if they feel comfortable renting their vehicle to this specific customer. The vehicle owner also has the option of delivering the vehicle to the renter in which they can charge a delivery fee of up to \$50. Vehicle owners can also make their vehicles available at airports by adding the fee of parking to the rental fee.

Since Turo relies on participant owned vehicles, the costs of running the company are significantly lower than a traditional car rental agency such as Zipcar. Zipcar must pay to: acquire vehicles, stock the vehicles with the appropriate technology, purchase parking spaces for the vehicles, and pay for maintenance of the vehicles. With fewer capital expenditures, Turo is able to offer rental prices that are on average 35% lower than traditional rental car agencies.

Members renting their personal vehicle have the option of simply handing over the keys to a renter or linking their vehicles OnStar to the mobile application. This allows the vehicle owner to lock the vehicles key's inside the vehicle and permit a renter to use their mobile phone to locate, and unlock the vehicle upon their arrival. The usual OnStar services are also active through the application such as crash detection, and the ability to report the vehicle stolen and disable the vehicle. If the vehicle does not have OnStar but the owner would like this service, Turo will install a \$500 dollar black box into the vehicle for the cost at a \$100 to the vehicle owner.

The potential renter pays the vehicle owner the decided upon price of rental through the Turo application itself. Turo takes a portion of this payment to cover the costs of insurance and operating costs. The renter returns the vehicle to either the owner or an agreed upon location when the rental period has ended. The company claims that in 2014 the average active vehicle owner on the Turo application earned \$3,480 renting their vehicle through Turo.

More Information: <https://turo.com/how-turo-works>



Automated Cars: Automated vehicles, or autonomous vehicles, are self-driving vehicles that use lasers to allow the vehicle to process its surroundings multiple times per second. In the future, it is anticipated that this technology will result in fewer accidents and generally safer personal vehicle transportation as outlined by a July 2013 article, [The Revolutionary Development of Self-Driving Vehicles and Implications for the Transportation Engineering Profession](#), in the Institute of Transportation Engineers monthly Journal. This technology is in its infancy and how it will be incorporated into the existing transportation infrastructure is still be determined by lawmakers. In 2013, the National Highway Traffic Safety Administration issued a [Preliminary Statement of Policy Concerning Automated Vehicles](#) which delineates some proposed policy recommendations for the use of automated vehicles:

- Drivers will have to take a separate test and spend a number of hours operating a driverless vehicle to be able to receive a license or special certification on their current driver's license to be able to operate an autonomous vehicle.
- Require businesses to test all vehicles for a certain number of hours or miles without incident before carrying occupants. Businesses must also provide data on how each vehicle performs compared to the average vehicle as well as a plan for how they are going to further reduce safety risks and what fail-safes they intend to implement.
- Require occupant to sit in driver's seat ready to take over at all times, meaning no distractions allowed.
- States are encouraged to require testing in all types of weather conditions and scenarios that the state feels the vehicle may be subject to at any time while in use. This is to make sure the vehicle can handle an average year in this climate or type of environment.
- States are recommended to require that manufacturers report all instances of vehicles getting into crashes as well as when any fail safe such as a driver being prompted to take control, occurs.

- Driverless vehicles should be able to detect and record any malfunctions with technologies or degrading materials and be able to alert the driver as well as record the information so that the cause of the problem can be determined.
- The process of having a driver take over control of the vehicle must be seamless, safe, and easy.
- The installation of driverless technologies cannot interfere with any federal safety systems already in place.

Alternate Fuel Vehicles/Recharge Stations:

Biodiesel is a renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled cooking grease for use in diesel vehicles. It is often mixed with normal diesel fuel and can be used in any diesel engine without any modifications. This type of fuel does emit carbon gas into the atmosphere. However, burning this fuel is considered a neutralizing effect because the plants and oils used to manufacture this fuel absorb carbon from the atmosphere; thus when the fuel is burned it is releasing carbon that was already in the atmosphere back into it.

Ethanol is already widely used in gasoline as a filler to make the gasoline cheaper and a little cleaner. This fuel is made from renewable sources such as corn and other plant materials such as biomass. Similar to biodiesel, ethanol is most often blended in with gasoline rather than used as a full alternative to gasoline. It is however available in high blends such as E85 which is 85% ethanol and 15% gasoline. This fuel is common and is used in "Flex Fuel" vehicles. There is a significant number of these vehicles on the road; they are vehicles that have the option of using regular gasoline or this high octane gasoline. Even though these vehicles are common, the owners and operators of these vehicles often do not know that they have a cleaner fuel option than gasoline. Flex fuel is readily available throughout the country. It is not available in every gas



station, but E10 a blend of 10% ethanol is made available by the majority of fuel providers.

Electricity is used in three types of electric vehicles: 1) hybrid vehicles use gasoline to produce electricity then run solely on electricity; 2) hybrid plug-in vehicles are hybrid vehicles that can be plugged in for added fuel conservation; and 3) plug-in vehicles are vehicles that run solely on electricity. Full electric vehicles have zero harmful emissions, and run on charged batteries. The charging time for these batteries varies between charging stations. An average 120V electrical outlet can take between 10 and 20 hours to charge a vehicle’s battery from empty. A 240V outlet will charge a vehicle battery much quicker however; few homes have 240V outlets that are accessible to vehicles.

More powerful charging stations, such as DC Fast Charger stations, are sparsely available along major thoroughways. The fastest charging option, known as Supercharger, is made available by Tesla and can charge 170 miles of battery life to a vehicle in 30 minutes. This is an example of what future vehicle chargers may accomplish, but for now the only vehicle able to use Supercharge stations is the Tesla Model S. Vehicle batteries are expensive and last between 12 and 15 years in a normal temperate climate. They have shorter life spans ranging from 8 to 12 years in extreme cold and heat climates. The cars themselves are expensive but have far lower fueling costs than traditional gasoline vehicles. Charging stations for electric vehicles are becoming widely available but the majority of vehicle charging is reported to be done at the

vehicle owner’s residence with the use of a 120V outlet.

Hydrogen fuel is a clean burning fuel that is manufactured using domestic products such as coal, solar energy, natural gas, wind, and biomass. Small amounts of carbon are released in the manufacturing of hydrogen fuel, but when consumed the fuel emits only hot air and water vapor. Hydrogen fueled vehicles are two to three times more efficient than traditional gasoline vehicles. Hydrogen is stored on the vehicle as a compressed gas that can be refilled in less than ten minutes, and is used to power fuel cells within the vehicle. With a driving range of around 300 miles, hydrogen vehicles are on par with gasoline powered vehicles.

While these vehicles are being used by some public transportation and commercial entities, they have not been made available to the public because of design issues in smaller vehicles. To be stored, hydrogen fuel requires high pressures and a low temperature. To store enough hydrogen on a vehicle to allow it to travel around 300 miles to meet consumer needs the vehicle would require a fuel tank far larger than the tanks currently used for gasoline. This is because hydrogen fuel gives off less energy per volume than gasoline. Fuel cells are also currently expensive and would not be competitive in today’s market. Currently California is leading the country in hydrogen fueling stations and is determined to add many more. The rest of the country however is far behind on providing such refueling stations, making them very rare.

Natural gas can be compressed (CNG) and used for fuel in either its gaseous or liquefied forms. The U.S. has an abundant supply of natural gas available



Electric Vehicle Parking Station at Monmouth University
Source: Steve daCosta



domestically making it much less expensive than crude oil. While both forms of natural gas are able to fuel vehicles, they each are better for different travel purposes. The gaseous state is more efficient for short range driving, while for longer trips liquefied natural gas is a better choice. Natural gas already has a significant amount of distribution infrastructure in place in the U.S., and burns cleaner than gasoline and diesel. Natural gas fuels are recorded by the U.S. Department of Energy to produce 6 to 11% less carbon emissions. Currently the fuel is being manufactured and used in three different types of vehicles. “Dedicated” vehicles run solely on natural gas as fuel. “Bi-fuel” vehicles have two separate systems allowing it run on either natural gas or gasoline. Finally “Dual-fuel” vehicles run on natural gas but are ignited using diesel fuel. Liquid natural gas is a more expensive option and used more often in heavy duty vehicles because it allows for more concentrated energy per volume. Vehicles powered by natural gas have lower energy output and thus cannot travel as far, but are still a good option for small passenger vehicles. There are a few hundred fueling stations nationwide that offer gaseous natural gas fuel. Presently, there are two CNG refueling stations in Monmouth County that are open to the public. One is located in Freehold Township at the intersection of Route 33 and Halls Mill Road and the other is located in the Middletown Township Public Works yard. More CNG stations are planned including one at Fort Monmouth and one in nearby Lakewood in Ocean County.

Propane fuel is similar to natural gas fuels. Propane is also a readily available resource in the U.S. and is already used in different types of vehicles and machines throughout the world. Similarly to natural gas fuels the vehicles that use propane fuel are either dedicated bi-fuel, or dual-fuel. Propane fuel offers a similar performance to gasoline but performs better than gasoline in cold weather. This is due to its natural gaseous state which burns with a higher octane than fuel but with a lower carbon emission and oil contamination. Also due to this higher octane and lower oil contamination, propane

engines last significantly longer than gasoline engines and need less maintenance. Fueling stations for propane fuel are readily available to the public throughout the country but the number of stations varies by state. NJ has 20 of these filling stations. This fuel is more commonly used in fleets of trucks or buses.

Intelligent Transportation Systems Application for Traffic Signals:

Traffic signals can be outfitted with communication systems, traffic responsive adaptive controls, real-time data collections and analysis, and maintenance management systems to enable them to operate at a greater level of efficiency. Allowing signals to communicate with each other and continually adapt to current traffic conditions can optimize the flow of vehicles through intersections and corridors resulting in faster travel times, lower fuel consumption, and reduced vehicle emissions and congestion. Currently optimal traffic signal timings are generated and applied to traffic signals for their specific intersections busiest time of day resulting in efficient operations during a typical period of peak traffic volumes but not off peak periods. In addition if a traffic collision is to occur in an intersection, an adjustment of signal timing may be needed to help congested vehicle traffic through the intersection. The introduction of intelligent transportation system applications for traffic signals will give traffic signals the ability to adjust signal timing in cases of emergency as well as on-peak and off-peak travel conditions to keep traffic moving efficiently.



Adaptive Traffic Control Systems: Evaluation of an Adaptive Traffic Signal System: Route 291 in Lee's Summit Missouri

The Missouri Department of Transportation (MoDOT) installed its adaptive traffic signal system called InSync in March 2009. Twelve intersections along the MO 291 corridor spanning from I-470 to U.S. 50 in Lee's Summit were outfitted with these innovative traffic signals in an attempt to relieve congestion along the corridor. The original signals were timed to optimize the flow of northbound vehicles which adversely slowed southbound vehicle trips. The addition of the InSync System was intended to lessen travel times in both directions. MoDOT commissioned Midwest Research Institute (MRI) to evaluate traffic conditions along the corridor before and after the installation of the InSync System. In 2010, MRI released an organizational results research report titled [*Evaluation of an Adaptive Traffic Signal System: Route 291 in Lee's Summit, Missouri*](#) which detailed travel time run through the corridor, delay experienced at each intersection and in the corridor over all, vehicular emissions, fuel consumption, number of times stopped, and traffic volume data.

The intention of collecting traffic volume data was to ensure changes in data before and after the installation of the InSync System were not due to fluctuations in corridor use. In addition, the traffic volume data collected was compared with traffic volume data collected by the InSync System to evaluate the accuracy of the system's data collection. This process was repeated to test turning movement counts at one intersection with Chipman Road. At the end of the evaluation in 2010 MRI reported that the InSync System:

- Reduced travel times through the corridor by up to 39%
- Allowed vehicles traveling southbound during the morning off-peak and afternoon-peak periods to travel the length of the corridor in 140 fewer seconds (about 2.5 minutes)
- Had no statistically significant effect on travel times for northbound vehicles during the AM-peak and AM off-peak periods, most likely because the previous timing plan prioritized northbound travel
- Reduced average number of vehicle stops, vehicular emissions, and fuel consumption for every period that experienced reduced travel times.
- Reduced fuel consumption up to 21.4% per vehicle per trip
- Reduced harmful vehicular emissions (HC, CO, and NOx) up to 50%
- Increased vehicle speeds by up to 15.5 mph

The recorded traffic volume before and after the installation of the InSync system did not show a significant increase or decrease between study periods. The difference between traffic volumes was never recorded to have increased or decreased by greater than 4%. Meaning changes found by the implementation of the InSync system cannot be a result of traffic volume fluctuation. Data collected at the Chipman Road intersection for vehicle turning movements was found to be accurate when compared to manual counts however, traffic volume counts collected by The InSync System along the length of the corridor ranging from 5% to 53% higher than manual counts. These results led MRI to conclude that the adaptive traffic control system was effective in reducing fuel consumption, emissions, stops and delays, and travel time along the MO 291 corridor.



8.3.2 Monmouth County Issues

Transit-Oriented Development: Reconnect America, a national nonprofit whose task is to integrate transportation and community development, defines [Transit-Oriented Development \(TOD\)](#) as a type of community development that includes a mixture of housing, office, retail and/or other amenities integrated into a walkable neighborhood and located within a half-mile of quality public transportation. Many opportunities for TOD exist in Monmouth County, with fourteen rail stations on the North Jersey Coast Line and numerous bus stops along key corridors. A notable example is the effort currently being undertaken in the Borough of Freehold, where [NJTPA](#) is currently undertaking a Transit Village Initiative with the following goals:

- Adoption of TOD Zoning District
- Identify sites for TOD development
- Improvements to pedestrian and bicycle facilities

Complete Streets: In July 2010, Monmouth County became the first county in NJ to enact a countywide Complete Streets Policy with the passage of [Resolution #10-592](#). In the policy, Complete Streets are defined as a means to provide safe access for all users by designing and operating a comprehensive, integrated, and connected multi-modal network of transportation operations. The Monmouth County Complete Streets Policy was adopted with the following goals and objectives: improvements shall also consider connections for Safe Routes to Schools, Safe Routes to Transit, Transit Villages, trail crossings, and areas or population groups with limited transportation options. By adopting a Complete Streets Policy Monmouth County also recognizes the benefits of providing bicycle connections.

Some believe there is a conflict to sharing roads between bicycles and motor vehicles; however both are capable of maintaining only a single direction of motion at a time where as pedestrians direction of motion can change at any time. Therefore, it is safer to have these two vehicles sharing a roadway despite the differences in their speeds. The conflict

between bicycles and motor vehicles is only perceived to be present because many roads were not purposely designed to accommodate both forms of transportation. The passage of [Resolution #2015-0352](#) encourages the development of off road/shared-use paths and sets guidelines for bicycle lanes on roadways. Bicycle lanes provide a safe, separated space for bicycle traffic to avoid interfering with vehicle traffic and giving both vehicles the ability to travel at their own speed.



Dedicated bike lanes in Avon make for easy means of travel

Source: Mary Ellen Scott

Safe Mobility for Aging, Veteran, and Disabled Populations: As a large portion of our county ages and special needs populations continue to rise, it is imperative to provide them with means of accessibility and mobility. Additionally, the more than 33,000 veterans living in Monmouth County are often struggling financially, on fixed incomes, or are homeless. These populations often face mobility challenges such as



medical service accessibility and decentralized transportation services lacking consistency. Currently SCAT and Paratransit provide transportation services to the majority of the county's disabled and senior populations. Moving forward, community mobility programs are being encouraged to enhance and sustain transportation services that could provide additional transport to job centers, mass transit connections, social interactions, and healthcare visits. Ideally newly developed senior, veteran, and special needs housing would be developed in walkable close proximity to health care and other services.

Expanding Types of Transit Options: Expanding transit options provides benefits to all aspects of Monmouth County's economy and society. Aging populations and low-income residents often do not have the means for a personal vehicle. Thus a range of transportation choices including barrier-free pedestrian and bicycle facilities with transit service accessibility are being encouraged and expanded throughout the county.

Regional Bikeway Network: Because of its regional perspective, the county has the ability to facilitate development of a regional bikeway network based primarily on local planning initiatives. Many municipalities have planned for and have implemented bikeways and shared roadways at the local level. By compiling municipal plans and identifying the location of programmed facilities, the county can assist towns with identifying appropriate locations for bikeway expansion and links that would accommodate intra-municipal bikeway travel. This information can then be added to [Figure 8.6: Monmouth County Transportation and Mobility Map](#), as part of the county's comprehensive transportation network.

Federal, State, and Local Funding Constraints: The 2007 Great Recession greatly affected funding for transit and forced transit agencies to lower expenditures (e.g. cutting services, layoffs, and downsizing) and/or raise fares. Additionally during economic downturns ridership often increases because public transit is less expensive than

personal automobile expenses (i.e. insurance and gas). While ridership continues to increase, transit agencies once reliant on federal, state, or local funding are forced to enact other measures. Aiding Monmouth County's partners in supplying transit funding is imperative. Currently Monmouth County is assisting NJ TRANSIT fund late night and weekend bus service on specific routes with the use of a JARC grant.

Promoting Environmentally Sustainable Transport: Downtown areas and Transit Villages provide residents a means of walkability to eat, shop, and work. However, most of suburban and rural Monmouth County does not provide this luxury. This results in greater usage of personal vehicles. It is imperative to note the environmental degradation of personal automobile use (e.g. vehicle emissions). Other means of transportation including sustainable and eco-friendly modes of transportation such as biking, green vehicles, and car sharing technologies, need to be encouraged and made more accessible in order to decrease personal automobile dependence.

8.3.3 Long Range Challenges: As populations fluctuate and the ideals and preferences of the society change, new inventive transportation solutions will be needed. The foreseeable future holds a number of challenges that effect Monmouth County's ability to plan for its changing transportation needs. These include:

- Many of our road and bridge improvements are dependent upon the NJ Transportation Trust Fund, which has no foreseeable mechanism for the sustainable replenishment of transportation funding.
- Our ability to develop new and innovative projects will be limited due to declining state revenue sources, particularly affecting those projects and programs that require long-term financial support for successful outcomes.
- New York Penn Station and the Port Authority Bus Terminal of NY and NJ are currently operating at or above capacity; increasing any NJ TRANSIT bus or rail commuter service to either of these locations



is virtually impossible until these facilities are upgraded and their current capacity expanded.

- There appears to be a widespread cultural transition occurring, one that is moving towards walkability and transit accessibility and away from sole dependence on personal vehicles for mobility.
- As funding becomes scarcer, the competition for funds from NJTPA and other revenue sources will become more pronounced.
- The replacement of aging infrastructure is becoming a higher priority even as funds decrease. Replacing aging infrastructure without significantly disrupting the transportation network is an additional challenge.
- Although north-south travel in NJ is readily accommodated, east-west movement needs to be enhanced. Travelling east from western areas, like Philadelphia and Trenton, to Monmouth County can be fairly inefficient and provides limited transit options. Connectivity needs to be encouraged between these destinations and additional transportation methods to alleviate traffic concerns on 1-195 should be analyzed.
- While capital projects and infrastructure investments are planned to accommodate future increases in population, these initiatives also need to incorporate natural disaster mitigation measures. Being a water abundant area, it is necessary that our roads, bridges, and transportation infrastructure be developed and rehabilitated with this in mind. Traffic lights need to have generators for power failures. All Monmouth County Office of Emergency Management (OEM) evacuation routes need to be maintained and enhanced to provide safety to our residents during emergencies.

8.4 Transportation & Mobility Stakeholder Actions and Efforts

8.4.1 Monmouth County Efforts

Monmouth County Transportation Council (MCTC): The primary purpose of the MCTC is to serve as an advisory body to the Monmouth County Planning Board (MCPB). To fulfill this mandate, the council performs the following functions:

- Advises the MCPB on all aspects of transportation planning related to the county and region
- Forms subcommittees as needed to advise the MCPB of specific transportation issues
- Provides a forum for the public, municipalities, local and regional organizations and other interested individuals to discuss transportation issues affecting the county
- Assists the MCPB in identifying problems and issues and to educate the general public on regional transportation issues
- Serves as a resource to the MCPB in implementing transportation projects.
- Carries out other tasks as deemed necessary by the MCPB and the council
- Coordinates with neighboring counties on issues of concern to the council

Subregional Transportation Planning Program (STP): The STP exists as part of the North Jersey Transportation Planning Authority's (NJTPA) Unified Planning Work Program (UPWP), which outlines the transportation planning activities of NJTPA and its member subregions. The STP is an annual grant that funds the day to day tasks performed by the Transportation Section of the Monmouth County Division of Planning. Participation in the STP is mandatory for all subregions that wish to be eligible for federal transportation funds; the amount funded to each subregion is based on population. For FY2015 Monmouth County was allocated \$191,487.50 under the STP. Transportation Section staff is responsible for developing budgets, quarterly and year-end reporting, invoicing, and any other administrative work related to the STP.

Subregional Studies Program (SSP): Also part of the UPWP, the SSP is a two year grant designed to fund a specific study that is consistent with NJTPA's Regional Transportation Plan (RTP) and Together North Jersey's (TNJ) Regional Plan for Sustainable Development (RPSD). An SSP-funded



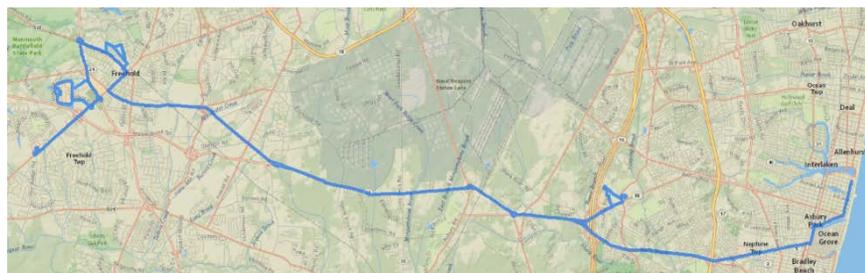
study may be conducted in house using exclusively Division of Planning staff, can be used to hire a consultant to conduct the study, or a combination thereof. The SSP is a competitive program with an application process that includes the submission of thumbnail sketches, proposals, and proposal presentations to an SSP Selection Committee.

Previous studies conducted by Monmouth County using SSP funds include:

- [Monmouth County Transportation Audit and Sustainable Transportation Plan \(June 2011\)](#)
- [Monmouth County Coastal Evacuation Routes Study \(June 2009\)](#)
- [Monmouth County State Route 79 Corridor Study \(July 2007\)](#)

Jobs Access Reverse Commute (JARC) Program: This grant program is administered by the Federal Transit Administration (FTA) with the intent of “addressing the unique transportation challenges faced by welfare recipients and low-income persons seeking to obtain and maintain employment.”

Since 2000, Monmouth County has partnered with NJ TRANSIT to use JARC to fund extended evening and weekend service on the [Route 836 Bus](#). The Route 836 Bus operates between CentraState Medical Center in Freehold Township via Freehold Borough, Howell, Tinton Falls, Neptune Township, and Asbury Park terminating at the James J. Howard Transportation Center.



Route 836 / JARC Service

The JARC funding provides for:

1. Continued operation of enhanced NJ TRANSIT Route 836 Local Bus service to:
 - Enable access to employment opportunities requiring second shift and off-peak hours
 - Provide expanded service to shopping, medical, recreational, and skills training / education destinations
2. An improved route alignment to:
 - Serve several additional major employers including two major county medical centers presently without conventional transit access
 - Connect with frequent NJ TRANSIT and private carrier regional and local bus route service on the U.S. Route 9 business corridor, thereby increasing access to employment in the corridor
 - Serve new and emerging commercial and residential areas of the county, including senior and assisted living centers

Extended service hours permit transit dependent residents to accept competitive employment where they would otherwise not be able to access jobs. The service enhancements also provide access to shopping, medical, recreational, and social service destinations for these populations.

Major employment opportunities along the route include:

- Freehold Raceway Mall and “Big Box” stores
- Monmouth County Correctional Institute
- Monmouth County and State Superior Courts
- Monmouth County Government
- Freehold Borough retail, service, and restaurants
- Asbury Park retail, service, and restaurants
- CentraState Medical Center
- Jersey Shore University Medical Center



- Neptune Walmart, Home Depot, and other “Big Box” stores
- Jersey Shore Premium Outlets
- Smaller commercial and industrial firms along the bus route

The number of annual passenger trips on the [Route 836 Bus](#) is close to 80,000. It has been an extremely successful service and is among the highest performing JARC funded services in New Jersey.

8.4.2 Partnership Efforts

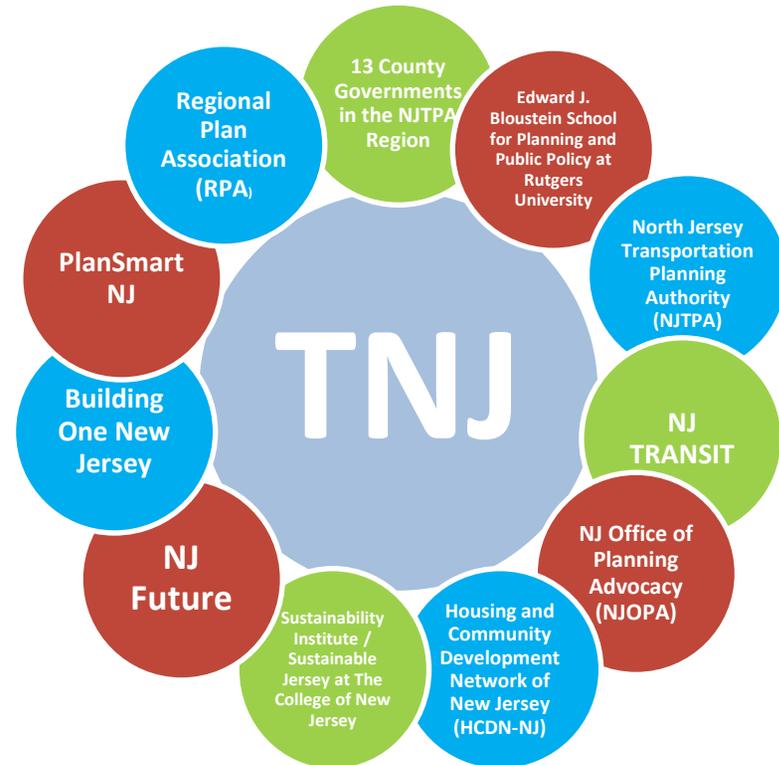
[New Jersey Department of Transportation \(NJDOT\)](#): This department is the authorized body that oversees transportation asset management at the state level. NJDOT achieves this goal primarily through the development and implementation of programs such as the [Statewide Transportation Improvement Program](#) and the [Transportation Capital Program](#). Under the umbrella of these comprehensive programs, NJDOT funds county-level and local-level planning efforts such as Safe Routes to School and the Recreational Trails Program.

[Together North Jersey \(TNJ\)](#): TNJ is a collaboration of stakeholders in the NJ planning community created with the goal of creating a comprehensive and balanced plan that invests in the region’s existing communities to make housing, jobs, education, cultural, and recreational opportunities more accessible while reducing automobile dependency. TNJ is funded by a \$5 million Sustainable Communities Regional Planning Grant awarded by the U.S. Department of Housing and Urban Development (HUD).

TNJ has used funds from this grant to:

- Develop a Regional Plan for Sustainable Development (RPSD), or [The Plan. 2015](#), for the 13-county planning region
- Manage the Local Demonstration Project (LDP) Program
- Provide technical assistance and offer education and training opportunities that build the capacity of jurisdictions, organizations and the public to advance sustainability projects and initiatives

TNJ is comprised of the following members:



[NJ TRANSIT](#): NJ TRANSIT operates the North Jersey Coast Line and a comprehensive network of bus lines in Monmouth County (see 8.2 Existing Conditions). In addition, NJ TRANSIT administers the Jobs Access Reverse Commute (JARC) grant program. JARC allows for the Route 836 Bus, which runs between the Asbury Park Transportation Center in Asbury Park and CentraState Medical Center in Freehold, to run extended service hours in the evenings and on weekends. This invaluable service provides a low-cost transit option for those county residents working later or weekend shifts. Since its inception in 2000, this particular JARC service has provided over one million trips (over 80,000 trips annually).



NJ TRANSIT is also studying parking management at Park and Ride lots along U.S. Route 9. From findings of this study, NJ TRANSIT and its consultants will update the existing review of Park and Ride policies, including major Park and Ride lots along the U.S. Route 9 corridor in Marlboro, Manalapan, Freehold Township, Freehold Borough, and Howell. Parking space counts will be updated to reflect current 2015 numbers. This study will provide an overview of parking technologies that may be used on individual lots or throughout the corridor. These technologies may include, but are not limited to, sensor technology, variable message signs, and communications apps to provide real-time parking availability information.



Park and Ride lot along Route 9

Source: James Bonanno

North Jersey Transportation Planning Authority (NJTPA): NJTPA is the federally authorized metropolitan planning organization covering the 13 county northern NJ region, including Monmouth County. NJTPA

oversees over \$2 billion in transportation projects, sponsors and conducts studies, assists county planning agencies, and monitors compliance with national air quality goals. The Subregional Transportation Planning (STP) Program and Subregional Studies Program (SSP) grants currently utilized by Monmouth County are administered by NJTPA, discussed previously in Section 8.4.1 Monmouth County Efforts.



MoCo Arts Corridor: The [Coastal Monmouth Plan \(2010\)](#) calls for a unified marketing theme to strengthen the year-round shore economy making coastal Monmouth a destination of choice through cooperative promotional efforts. NJ TRANSIT is a strategic partner in this Monmouth Arts effort and has provided in-kind marketing assistance to increase awareness of the arts and cultural offerings along the corridor as well as encourage the use of mass transit to and from host communities. The ACE (Arts, Cultural, Entertainment) Hubs (refer to 6.0 Arts, Historic, and Cultural Resources) of Keyport, Red Bank, Long Branch, Asbury Park, Belmar, and Manasquan are anchor communities located proximate to NJ TRANSIT’s North Jersey Coastline and already attract a large amount of seasonal business activity. The MoCo (Monmouth County) Partnership, a subcommittee of Monmouth Arts, is charged with expanding the [MoCo Arts Corridor](#) as the signature brand for Monmouth County. Monmouth Arts along with support from the Monmouth County government, NJ TRANSIT, artists, local businesses, educational institutions, and numerous tourism and cultural organizations have developed and are implementing a comprehensive marketing plan for the arts corridor.

Brookdale Community College (BCC): As of 2014, BCC had a total enrollment of 14,144 students spread out over its six locations; its main campus in Lincroft, the full campus in Freehold Township, and among



four learning centers in Neptune Township, Hazlet, Long Branch, and Wall (which is home to the NJ Coastal Community College). As the college adapts to the needs of a changing student body, one that is more diverse, increasingly part-time, and transit dependent; transportation accessibility is becoming an issue of increasing prominence.

In 2015, BCC established a Transportation Committee comprised of NJ TRANSIT, Monmouth County Division of Planning, Brookdale Community College administration, faculty, students, and other local stakeholders tasked with helping identify solutions to the college's transportation challenges.

Strategies considered include:

- Adjusting NJ TRANSIT bus routes to include Brookdale facilities when possible.
- Utilizing Meadowlink's shuttle and ride-sharing services to fill in those gaps where transit service does not exist.
- Launch an outreach campaign that showcases existing services, technology, and innovative, new services available to the Brookdale community.

Based on findings from the Rutgers University's Bloustein School of Planning and Public Policy's *Bayshore Transit Study (2015)*, BCC and Monmouth County requested NJ TRANSIT reevaluate its current level of bus service in and around Brookdale locations to determine if existing service could be further enhanced. After careful consideration, NJ TRANSIT announced service changes including consolidation of the Routes 833/835 into the new Route 838 which will operate as an hourly, single seat ride between Freehold Raceway Mall and Sea Bright. This route provides hourly stops at the Lincroft Campus during the week between the hours of 7:45 AM and 7:00PM. The new Route 838 also operates on Saturdays, between 7:50 AM to 5:50 AM at an 85 minute frequency between Sea Bright and the Lincroft Campus. Route 832 running from Asbury Park to Red Bank has been extended to include

Brookdale's Lincroft Campus on an hourly frequency on weekdays between 7:30 AM and 10:00 PM as well as on Saturdays between 7:30 AM and 6:00 PM. The Route 817 bus was also modified to provide direct service for the first time to the Hazlet Learning Center. Trips to and from the center occur in either direction and arrive on campus four times at approximately 8:00 AM, 11:00 AM, 2:00 PM, and 5:00 PM and provides connections to bus Route 834 at Campbell's Junction (Middletown) and Middlesex County.

Although NJ TRANSIT's enhanced bus service is a welcomed improvement, other challenges facing BCC remain including the need for additional extended transit service to the Lincroft Campus to accommodate evening and weekend classes and providing transit options between the various campuses and learning centers so transit dependent students may complete their degree at one of the two main campuses. The Division of Planning will continue to provide technical and professional assistance to BCC's Transportation Committee.

Meadowlink Transportation Management Association (TMA):

Meadowlink is the TMA for Monmouth County and operates locally under the name [EZride](#). Working as a nonprofit, Meadowlink is tasked with working with employers and governments to help with last mile service, shuttle programs, vanpools, ride-sharing, and otherwise filling in the gaps in the transportation network. Meadowlink's stated mission is to:

"Implement innovative transportation programs and services that enhance the quality of life, regional mobility, and economic opportunity for both people and businesses, while reducing traffic congestion and improving air quality." (EZride website, 2016)



8.5 Additional Resources and Funding Opportunities

Federal

- [Smart Growth America: National Complete Street Coalition](#)
- [State and Community Highway Safety Grant Program](#)
 - [Section 402: State and Community Highway Safety Grant Program](#)
- [U.S. Department of Transportation \(DOT\)](#)
 - [Federal Highway Administration \(FHA\)](#)
 - [Congestion Mitigation and Air Quality Improvement Program \(CMAQ\)](#)
 - [Core Highway Topics Resources](#)
 - [Office of Infrastructure](#)
 - [Office of Innovative Program Delivery](#)
 - [Office of Operations: 21st Century Operations Using 21st Century Technologies](#)
 - [Office of Safety](#)
 - [National Highway Institute](#)
 - [New Jersey Division](#)
 - [Planning, Environment, and Realty](#)
 - [Recreational Trails Program](#)
 - [Surface Transportation Block Grant Program \(STBG\)](#)
 - [Transportation Alternatives Program \(TAP\) Guidance](#)
(funded by FHA and administered by NJDOT and NJTPA)
 - [Federal Railroad Administration](#)
 - [Federal Transit Administration \(FTA\)](#)
 - [Grant Programs](#)
 - [Funding and Finance Resources](#)
 - [Maritime Administration](#)
 - [National Highway Traffic Safety Administration](#)
 - [Transit-Orientated Development Technical Assistance Initiative](#)
 - [Transportation Infrastructure Finance and Investment Act \(TIFIA\) Program](#)
- [The Transportation Research Board \(TRB\)](#)
 - [The Transit Cooperative Research Program \(TCRP\)](#)

- [The second Strategic Highway Research Program \(SHRP 2\)](#)

State

- [New Jersey Department of Environmental Protection \(NJDEP\)](#)
 - [Recreational Trails Program Grants](#)
 - [NJ's Electric Vehicle Workplace Charging Grant](#)
- [New Jersey Department of Transportation \(NJDOT\)](#)
 - [Clean Up NJ!](#)
 - [Adopt-A-Highway](#)
 - [Context Sensitive Design](#)
 - [Local Aid and Economic Development](#)
 - [New Jersey FIT: Future in Transportation](#)
 - [New Jersey's Long Range Transportation Plan \(2008\)](#)
 - [NJcommuter.com](#)
 - [Research Useful Links](#)
 - [Safe Routes to School](#) (administered by NJDOT and NJTPA, funded by FHA)
 - [FHA's Guidance for the Safe Routes to School Program](#)
 - [New Jersey Safe Routes to School \(SRTS\) Resource Center](#)
 - [New Jersey Safe Routes to School Program Strategic Plan Update \(2012\)](#)
 - [Find Your Safe Routes to School Regional Coordinator](#)
 - [Scenic Byways in New Jersey](#)
 - [Transit Village Initiative](#)
 - [Transportation Organizations](#)
 - [New Jersey Bicycle and Pedestrian Resource Center \(BPRC\)](#)
(supported by NJDOT through funds from the FHA)
- [North Jersey Transportation Planning Authority \(NJTPA\)](#)
 - [Transportation Improvement Program \(TIP\)](#)
 - [Subregional Support Program](#)

County and Local

- [EZ Ride \(Meadowlink Commuter Service\)](#)
 - [Monmouth County Shuttles](#)
 - [Green Communities Grant](#)



- [Demand Responsive Services / SCAT](#)
Nonprofits, Research Centers, and Other Stakeholders
- [AASHTO](#)
- [Alan M. Voorhees Transportation Center](#)
 - [National Transit Institute](#)
 - [New Jersey Travel Independence Program](#)
- [GASCAP \(Greenhouse Gas Assessment Spreadsheet for Capital Projects\)](#)
- [Transportation Security, Resiliency, and Emergency Evacuation](#)
- [American Public Transportation Association](#)
- [Bicycle Hub of Marlboro](#)
 - [Monmouth Heritage Trail/ The Henry Hudson Trail](#)
- [Reconnecting America](#)
 - [Center for Transit-Orientated Development](#)
 - [Transportation for America](#)
- [Congress for the New Urbanism](#)
- [Healthiest Practice Open Streets](#)
- [New Jersey Turnpike Authority](#)
- [NJTOD \(partnership between Rutgers University and NJ TRANSIT\)](#)
- [Sierra Club Livable Communities](#)
- [Sustainable Jersey](#)
- [The Port Authority of New York & New Jersey](#)

8.6 Master Plan Recommendations and Stakeholder Strategies

Master Plan Recommendations

Recommendation 8.1: Maintain and update, as needed, *The Monmouth County Scenic Roadway Plan (2001)* and the *Monmouth County Road Plan (2012)* as adopted by reference as components of the Transportation & Mobility Element of the *Monmouth County Master Plan*. The *Monmouth County Roadway Plan* supports efforts that increase sustainable infrastructure capacity to accommodate population change, replace aging systems, and encourage investments that provide for safe, sound, resilient, and reliable utility service.

Implementation of *The Monmouth County Scenic Roadway Plan* helps communities maintain their existing character by reducing the visual impact development has on the surrounding area. Together these plans will help prioritize investment, support planning activities, and foster a better understanding of the issues that impact different areas of the county.

Recommendation 8.2: Continue to develop and implement regional corridor studies through New Jersey Transportation Planning Authority's (NJTPA) Subregional Studies Program (SSP) and work with other county departments and agencies in identifying viable SSP and pilot projects with NJ TRANSIT and NJTPA that further the Goals, Principles, and Objectives (GPOs) of the *Monmouth County Master Plan*, the *Monmouth County Comprehensive Economic Development Strategy (CEDs) (2014)*, and the county's capital improvement needs. The county can best utilize federal resources, sourced through NJTPA, to support new planning initiatives and advance the GPOs of the *Master Plan* by continuing to develop and implement new regional corridor studies that promote transportation infrastructure improvements and multi-modal transportation. The incorporation of evolving technologies, public outreach, and stakeholder feedback are heavily encouraged and sometimes required within the SSP framework and form the bedrock of studies engineered under this effort. The SSP also requires collaboration from stakeholders across various professional disciplines which can be achieved by providing Division of Planning support and technical assistance to other county departments and agencies that promote the GPOs of the *Monmouth County Master Plan* and the *Monmouth County Strategic Plan*.

Recommendation 8.3: Finalize, disseminate, and maintain the *Monmouth County Transit Map* and create a *Monmouth County Multi-Modal Transportation Guide*. The existing Monmouth County Transit Map coupled with the creation of a *Monmouth County Multi-Modal Transportation Guide* will facilitate the increased use of multi-modal transportation alternatives throughout the county leading to healthier



lifestyles and improved access to county businesses, employment locations, cultural landmarks, and tourist destinations.

Recommendation 8.4: Work on implementing recommendations found in the *Monmouth County Bus Rapid Transit Opportunities Study (2015)* to improve bus service along critical corridors in Monmouth County, and eventually expand upon these efforts toward the development of a complete Bus Rapid Transit (BRT) approach. The primary objective of *Monmouth County Bus Rapid Transit Opportunities Study* is to facilitate a greater ease and efficiency of travel for users of the transportation network, the benefits of which would be wide ranging in creating more vibrant and sustainable communities. Continuing the efforts initiated in the *Monmouth County Bus Rapid Transit Opportunities Study* include moving the county towards incorporating BRT concepts into the transportation network, improving bus service along critical corridors in Monmouth County and the eventual expansion upon these efforts towards the development of a complete BRT approach along major Monmouth County corridors.

Recommendation 8.5: Proceed with efforts to develop a Travel Demand Model (TDM) to assist the county and the New Jersey Transportation Planning Authority (NJTPA) in coordinating regional and subregional transportation planning studies and projects. The creation of a TDM will provide another tool for use by the county to analyze behavior and to assist in the prioritization of projects. A Monmouth County specific TDM will become part of all county-related transportation planning processes thanks to its capability to: predict changes in traffic patterns as a result of capital projects, model impacts of proposed development and redevelopment projects, confirm findings established in developer traffic studies, and evaluate impacts by proposed land use modifications.

Recommendation 8.6: Review and amend the Monmouth County Transportation Council's (MCTC) purpose and mission to align its programming with the Goals, Principles, and Objectives (GPOs) of the

Monmouth County Master Plan. The MCTC acts as a conduit between the community and the Monmouth County Planning Board (MCPB). It is a resource that can be better leveraged in aligning the needs of community stakeholders with county planning efforts. The MCTC's stated purpose of acting as an advisory board to the MCPB will be reemphasized, and its mission will be carried out with the *Monmouth County Master Plan* serving as its work program.

Recommendation 8.7: Provide an online "one stop transportation resource shop" for all transit information in the county including a geographic information system (GIS)-based, online mapping resource for the existing Monmouth County Bicycle Map, transit infrastructure and routes, and recreational resources. An online transportation resource hub will serve the crucial role of informing county residents, visitors, and travelers of their multi-modal, countywide transportation options thus empowering them to make the best and most informed choices possible regarding trip times and mode choice.

Recommendation 8.8: Coordinate planning activities with the Monmouth County Department of Public Works and Engineering to help identify and prioritize transportation-related projects and assist with developing and implementing the county's capital improvement program. Contribute professional and technical assistance to Public Works and Engineering by providing assistance to the evaluation of capital improvement priorities and/or incorporating Public Works and Engineering's programming into the *Monmouth County Master Plan*.

Stakeholder Strategies

General

- Strengthen Monmouth County's role within North Jersey Transportation Planning Authority (NJTPA) in an effort to increase its support for county capital improvement projects, transportation enhancement studies and potential pilot projects, and broaden Monmouth County's ability to work collaboratively with other counties with similar transportation interests and needs.



- Continue partnering with NJ TRANSIT on identifying ways to improve the efficiency, comfort, safety, and effectiveness of bus and rail service throughout Monmouth County including the pursuit of a one seat ride along the entire length of the North Jersey Coast Line.
- Evaluate and advance alternative proposals that provide additional transit capacity for Monmouth County rail and bus riders to and from destinations in North Jersey and NYC as a replacement to the Access to the Region's Core project.
- Continue to develop multi-modality into the county's transportation network and plans by providing for amenities that accommodate alternative transportation modes in new development plans whenever possible.
- Infuse emerging technologies such as mobile webpages, applications, ridesharing programs, and global positioning software (GPS), as newly integrated components of the existing transportation system; helping to enhance the user's experience.
- Implement the county's Complete Streets Policy with respect for adjacent land uses and context sensitivity.

Agricultural & Economic Development

- Foster public/private partnerships in order to generate transit funding opportunities to support new projects in a tightening fiscal environment.
- Assist in the identification of new transit routes that may provide better levels of service and/or ridership between population centers and employment centers or high demand destinations.
- Improve linkages between transportation modes to encourage economic development spurred by a more seamless movement of people, goods, and services throughout the region.
- Reduce east/west traffic congestion caused by intersections with major north/south roadways and highway corridors; thus improving the connectivity and mobility between western Monmouth agricultural producers and residents with consumers and tourism-dependent businesses in eastern Monmouth.

- Support towns in their attempts to connect downtowns, historic sites/districts, and cultural attractions by improving amenities and wayfinding strategies for cyclists and pedestrian.
- Improve road efficiency through innovative smart technologies that enhance the safe and efficient movement of goods and services throughout the County.
- Review roadway design standards in rural areas to determine their appropriateness with agricultural operations such as farm equipment, freight, and trucks.

Community Development & Housing

- Prioritize Community Development Block Grant (CDBG) projects that support the implementation of Smart Growth America's Complete Streets Policy initiatives.
- Encourage the accommodation of low car ownership communities and facilities such as group homes, assisted living, affordable housing, and college housing in Transit-Oriented Developments (TODs).
- Focus on encouraging mixed-use TOD that not only allows residents to age in place but also provides people in various life-stages with convenient access to work, recreation, culture, and commercial services.
- Identify accessible human service facilities as many people dependent on these services do not have access to private automobile ownership.

Community Resiliency

- Continue to implement the recommendations identified in the *Monmouth County Coastal Evacuation Routes Study (2009)* and the [Multi-Jurisdictional Natural Hazard Mitigation Plan](#) for Monmouth County (2015) regarding resilient roadway and transit enhancements.
- Evacuation routes are the primary link between getting people out of harm's way during the threat of a severe storm or emergency



event and getting first responders, emergency personnel, goods, and services where needed after an event has occurred.

- Coordinate county improvements along emergency evacuation routes with other local and state agencies.
- Give priority to the maintenance and upkeep of drainage facilities, signs, and roadways along coastal evacuation routes.
- Consider enhanced storm resilient designs that better absorbs storm surge and controls stormwater runoff for roadways, pedestrian, and transit facilities located in Special Flood Hazard Areas (SFHAs) and other vulnerable areas.
- Work with local and state government as well as regional transportation agencies in identifying areas in our transportation network susceptible to the effects of future sea level rise.
- Provide a means for real-time emergency information through electronic messaging, social media, and crowdsourcing applications.
- Reduce of east/west roadway traffic caused by north/south intersections to provide for efficient mobility of people, goods, and supplies during and after emergency events.
- Plan for and accommodate various modes of transportation (car, train, bus, ferry, bicycle, pedestrian, etc.) as this allows for reliable backup and redundancy in the transportation network in the case of a system disruption.

Sustainable Places

- Encourage low-impact development in the design of parking lots and right-of-ways (ROWs).
- Encourage the use of native, adaptive, drought-resistance landscaping and onsite groundwater recharge that lessen the need for detention, retention, and irrigation mitigating the negative effects on the hydrological cycle caused by impervious surface coverage.
- Build support for and raise awareness of the alternative commute programs and strategies, such as New Jersey Smart Workplaces (NJSW), a program of New Jersey's Transportation Management Associations (TMAs), which recognizes employers that promote

alternative commute programs at their work sites, reducing traffic congestions and improving the air quality throughout the region (aligned to Sustainable Jersey action item).

- Identify opportunities to support a “Green Fleet” of equipment and vehicles that are cleaner, lower impact, and use more efficient fuel sources (biodiesel, natural gas, propane, and electric), when appropriate that won't negatively impact fleet operations and requirements (aligns to Sustainable Jersey Actions).
- Research possible funding opportunities through public and private partnerships to sustain the Shore Shuttle and similar arrival/destination operations, connecting rail and bus to the tourist attractions, including the boardwalks, downtown districts, and cultural/arts venues and events.
- Support incentives, such as tax breaks, for facilities that support alternative fuel vehicles.
- In addition to bicycling and walking, identify transportation options that reduce congestion, such as off-peak commuting for transit and automobiles, telecommuting, and car sharing in order to lower the number of vehicle miles traveled.
- Support development and businesses that incentivize residents and/or employees to live close to where they work.

Healthy Communities

- Reduce pedestrian and cyclist conflicts with motorized roadway traffic thus improving the safe movement of all those who travel through a community by applying the U.S. Department of Transportation Federal Highway Administration's 4E approach to traffic safety:
 - Engineering: improve signage, textured and lit crosswalks, line-of-sight, pavement markings, bump outs, and other traffic calming measures in heavy pedestrian based neighborhoods and downtowns.
 - Enforcement: speed enforcement, visible patrols, and public safety enforcement of pedestrian activities.



- Education: increase community outreach, sponsor safety awareness events, educate residents, commuters and recreational users, and provide English as a Second Language (ESL) outreach.
- Empowerment: engage citizens in the safety process, develop neighborhood signage; work with local officials and police to enforce laws and reduce safety violations.
- Encourage and assist towns in the creation of their own bicycle/pedestrian plans that:
 - Establish a Bicycle and Pedestrian Advisory Committee to assist in improving bicycle and pedestrian representation throughout the municipal planning process.
 - Provide amenities that promote active mobility options such as cycling and walking as alternatives to motorized means of travel (e.g. bike paths, routes, trails, vehicle storage, parking, signage, etc.).
 - Accommodate bike lanes, bikeways, trails, and walkways with connections and links between neighboring communities to encourage the development of a regional bikeway network at the local level.
 - Seek ways to integrate exclusively recreation trails with connections to built environment destinations such as downtowns, community activity centers, transit hubs/facilities to create a comprehensive pedestrian/bicycle circulation network throughout a community.
 - Reduce the number of vehicle miles traveled resulting in improved air quality.
 - Encourage a healthier lifestyle for residents of all ages by facilitating safe travel by cycling and walking throughout the community.
 - Provide the necessary amenities to sustain a bicycle/pedestrian friendly community such as including bicycle parking as a requirement in the municipal zoning ordinance and providing those amenities in public parks, buildings, and facilities.

Natural Resources

- Transportation improvements resulting in the reduction in the number of vehicle miles traveled reduce particulate matter and chemical emissions that contribute to air pollution.
- Stormwater runoff from roadways affects the water quality of adjacent streams in the form of chemical and thermal pollution. Engineered solutions that rely on natural drainage solutions for water conveyance and discharge such as bioswales, rain gardens, and bio filtration landscaped basins can be used to help mitigate some of the nonpoint source impact on streams and water bodies.
- Utilize tree planting along streets to decrease sunlight exposure, therefore lowering the surface temperature of roadways.

Open Space

- Ensure that the county retains the necessary road ROW as identified in the *Monmouth County Road Plan* for all open space acquisitions projects taking place along a county roadway.
- Explore the potential of using utility and other public ROW to connect parks and accommodate new recreation trails.
- Public information materials such as brochures and online web content that provide directions to Monmouth County Park System (MCPS) facilities by car should also include mass transit accessibility directions.
- Support efforts by the MCPS to expand the County's regional trail network and help improve connections to local, state, and federal parks, trails, and bicycle systems.

Farmland Preservation

- Ensure that the county retains the necessary road ROW as identified in the *Monmouth County Road Plan* for all farmland acquisitions projects taking place along a county roadway.



Arts, Historic, & Cultural Resources

- Work with NJ TRANSIT and ferry service providers on improving wayfinding from transit stations, ferry terminals, and bus stops to local cultural attractions.
- Assist towns in creating “themed” cultural routes and tours through their community.
- Continue working with NJ TRANSIT and the MoCo Arts Partnership on the North Jersey Coast Line Public Arts Project.
- Integrate context sensitive design approaches for roadway, transit, bicycle, and pedestrian facilities that compliment, enhance, and preserve existing neighborhood character.
- Infuse public art into transportation improvement projects and use public art to create gateways into neighborhoods and communities.
- Support the establishment of a multi-modal MoCo Scenic Byway that showcases the arts, history, and cultural attractions along the MoCo Arts Corridor.
- Promote west/east movement connectivity movements through art initiatives such as a MoCo Arts Corridor linkage with Artworks Trenton.

Utilities

- For alternative fuel vehicles:
 - Municipalities should work with the private sector in providing alternative fueling stations for large-scale commercial development proposals such as shopping centers, office buildings, big box retail, hotels, and national chain restaurants.
 - Accommodate changes to municipal ordinances that allow recharge/refueling stations for alternative fuel vehicles as a conditional use.
 - Encouraging municipalities to include priority parking locations for alternative fuel vehicles in their municipal codes as a no cost public incentive for these types of vehicles.
 - Encourage the county to incorporate alternative fuel stations into facility plans, such as those for electric plug-in vehicles.

- Work with NJ TRANSIT on providing these types of facilities at their stations.
- Utilize parking lot space for solar panels installations.
- During roadway improvement projects, replace conventional drainage grates with ones that are bicycle safe.
- Utilize utility ROWs to reduce traffic on main roads.

Planning Service, Outreach, & Coordination

- Work with NJTPA and a local municipality on establishing a pilot Street Smart NJ Pedestrian Safety campaign. This public/private venture is in partnership with the Federal Highway Administration, New Jersey Department of Transportation, the New Jersey Division of Highway Safety, and local law enforcement to educate drivers, pedestrians, and cyclists on travel safety laws.
- Public outreach on pedestrian/cyclist safety should be done in the prevalent languages and within the cultural context of the community seeking to reduce dangerous traffic conflicts.

