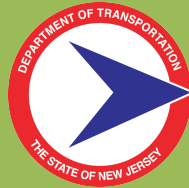




BICYCLE SAFETY ACTION PLAN



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NEW JERSEY BICYCLE SAFETY ACTION PLAN

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EXECUTIVE SUMMARY

BACKGROUND

In 2005, the New Jersey Department of Transportation issued its first Pedestrian Safety Action Plan (PSAP). In March 2014 the Department updated the 2005 plan. Both the original plan and the update were responses to New Jersey being identified by the Federal Highway Administration (FHWA) as one of a group of states with above average pedestrian fatality rates, i.e., a Pedestrian Focus State. In 2014, the Federal Highway Administration (FHWA) Office of Safety updated their safety focus areas. As part of that effort, the pedestrian focus area was expanded to include bicycle fatalities and renamed the pedestrian/bicycle focus area. One outcome of this is that New Jersey has been designated as a Pedestrian/Bicycle Focus State under the new focus category.

This [Bicycle Safety Action Plan \(BSAP\)](#) is intended to:

- document the current status of bicycle safety in New Jersey identifying the agencies involved and efforts that are being undertaken, and gauge the extent to which they are complementary and coordinated;
- identify state of the practice programs, resources and activities effective in improving bicycle safety; and
- propose recommendations for a vision, goals, actions and performance measures and implementing agencies to address and improve bicycle safety in New Jersey and shed its focus state status.

VISION

The vision adopted for the New Jersey [BSAP](#) is:

New Jersey is working toward a future with zero bicyclist deaths and serious injuries through safety initiatives that prioritize the needs of vulnerable populations and promote mutual respect among all roadway users.

The Plan supports this Vision by means of a data-driven analysis of bicycle crashes and crash trends including frequency, severity location, demographics and behavioral factor, providing an understanding of the problem: who is being hit, by whom, where and under what circumstances, providing a basis for the recommended goals and actions.





Action Plan

In order to realize the vision of this Action Plan, three core goals, a series of recommended actions and performance measures were developed. The goals are based on input from the steering committee and stakeholders, an assessment of Plan4Safety crash data pertaining to bicycle-motor vehicle crashes and a review of the state of the practice resources. They are similar to the core goals adopted in the Pedestrian Action Plan (PSAP). They are:

GOAL 1: Establish a **governance and management structure** to facilitate improved data collection, to coordinate implementation of bicycle safety initiatives statewide, and to measure the success of this plan.

GOAL 2: Foster **behavioral change** among users of public rights-of-way to promote mutual respect, courtesy and acceptance.

GOAL 3: Improve and expand **transportation infrastructure and the built environment for bicyclists** in accordance with best practice standards and guidelines.

For each core goal, a series of recommended actions are proposed that relate back to data, trends and analysis discussed elsewhere in the plan. Fulfillment of each goal is related to the implementation of those action items. These actions are the central focus of plan implementation.

A series of performance measures for each of the plan's core goals are identified. There is not a performance measure proposed for each recommended action; rather there is a limited set of suggested performance measures for each goal. The purpose of limiting the

number of performance measures is to simplify and streamline the evaluation process, to enable the agencies involved to focus their energy and resources on implementing the recommended actions and achieving the goals in pursuit of the vision. Recommended performance measures are tracked in terms of activities undertaken (efforts) or achievements (results). It is further recommended that the evaluation process be managed by the NJDOT with input from the NJ BPAC and with the assistance of VTC.

In conjunction with the development of the plan, a separate document containing a toolbox of information was prepared to encourage local governments, to take actions that are consistent with the Plan's vision and recommended goals and actions.





GOAL 1 ACTIONS GOVERNANCE & DATA MANAGEMENT STRUCTURES

- Utilize the New Jersey Bicycle and Pedestrian Advisory Committee (NJ BPAC) to monitor and track progress of bicycle and pedestrian related plans and initiatives proposed in this plan and progress towards achieving the Plan's Vision.
- Continue to partner with the health community to educate the public on the benefits of and safe practices for bicycling and walking.
- Collaborate with NJDHTS and metropolitan planning organizations (MPOs) to develop bicycle-pedestrian safety performance measures as part of new FHWA rules to implement MAP-21 and FAST Act requirements and update the Strategic Highway Safety Plan (SHSP).
- Collaborate with municipalities and school boards on implementing transportation and land use (school siting) decisions that support bicycling and walking.
- Conduct a comprehensive review and evaluation of the NJ Statutes as they pertain to bicycling and bicycle safety such as a safe passing distance law, a "dooring" law and operating requirements for E-bikes.
- Continue to update and improve the quality of crash analysis tools such as Plan4Safety and non-motor vehicle related crash data collection. Identify high risk locations; and develop bicycle and pedestrian trip purpose, e.g. bike-to-transit counts and bicycle and pedestrian exposure data for New Jersey.
- Establish an interactive tool such as a smartphone app where pedestrians and bicyclists can report bicycle-friendly roads / routes and problem locations along roadways (near misses) to help identify high risk locations.

GOAL 2 ACTIONS FOSTER BEHAVIORAL CHANGE

- Promote education on sharing the road with bicyclists throughout the driver education, training, and licensing processes.
- Expand pedestrian safety campaigns, such as Street Smart, to include more on bicycle safety and implement them in more communities; pair safety campaigns with enforcement efforts. Make use of social media to promote "Put the Brakes on Fatalities Day" and "Vision Zero" movements.
- Create a pilot program, including a bilingual video, to encourage use of bike lights, reflectors, bells, and helmets focused on disadvantaged, high risk populations, including those who use the bicycle as a primary form of transportation.
- Collaborate with law enforcement agencies to undertake relevant research and to develop training to ensure enforcement of both motorists and bicyclist behaviors.
- Continue to promote and encourage schools to support and implement SRTS programs, including bicycle/pedestrian education programs, encouragement programs and policies, and School Travel Plans.
- Continue to improve police reporting for fatal and serious injury bicycle (and pedestrian) crashes.
- Promote high visibility targeted enforcement in areas where pedestrian and bicyclist crashes are overrepresented.
- Encourage Complete Streets policies, plans, educational/training efforts. Move beyond policy to implementation.
- Develop a campaign to replace the word "accident" with "crash" in all of NJDOT's published and disseminated materials, including variable message signs, and encourage the press to participate.





GOAL 3 ACTIONS IMPROVE & EXPAND BICYCLING & PEDESTRIAN INFRASTRUCTURE

- Establish infrastructure investment priorities, specifically targeting high-frequency crash locations (systematic approach) as well as a system-based (systemic) approach; also considering concentrations of vulnerable populations using best available crash and demographic data.
- Align the highway access permit application checklist and methodology with NJDOT Complete Street polices and principles.
- Revise capital programming policies and procedures to address both vulnerable users and communities with greatest need based on data driven methodologies.
- Identify and encourage implementation of best practices as well as emerging and innovative bicycle and pedestrian design approaches, facilities and treatments.
- Continue to fully staff the Office of Bicycle and Pedestrian Programs OBPP at NJDOT and promote/prioritize the Local Bicycle and Pedestrian Planning Assistance Program.
- Require context sensitive bicycle, pedestrian, and Americans with Disabilities (ADA) improvements for all projects consistent with federal guidance and NJDOT's Complete Streets policy.
- Continue to conduct safe pedestrian and bicycle planning and design/Complete Streets workshops, webinars, and conferences for state agencies and local governments.
- Increase/create funding incentives for municipalities/counties and school districts that have adopted and implemented supportive policies and plans for example Complete Streets Policies and Implementation Plans and School Travel Plans.

- Evaluate the Residential Site Improvement Standards (RSIS) in terms of their relationship / consistency with Complete Streets Design and their impact on bicycle and pedestrian safety.





CONCLUSIONS AND NEXT STEPS

Some may argue that the current level of fatalities and serious injuries due to bicycle-motor vehicle crashes in New Jersey is relatively minor, especially in comparison with the incidence and rate of pedestrian fatalities and serious injuries. Nonetheless, these crashes can and must be addressed: first and foremost for their direct benefit in terms of reducing death and suffering; but also because addressing and achieving the goals of this plan will foster greater use of the bicycle, and, mirroring the experience of others, increase bicycle ridership thereby leading to increased safety (in numbers).

It should be kept in mind that an unknown but possibly substantial number of bicycle crashes do not involve a motor vehicle but are due to bicycle/bicycle crashes, bicycle/pedestrian crashes or a single bicyclist crash resulting from loss of control due to roadway impediments, motorists passing too closely, or bicyclist inattentiveness, etc. The incidence and results (fatalities and injuries)

of these non-motor vehicle-involved bicycle crashes should also be lessened by the implementation of actions and countermeasures recommended in this plan.

The achievement of this outcome is dependent on assertive and sustained effort pro-actively taken by those interested in or responsible for an improved, safer bicycling environment in New Jersey. It should be led and facilitated by efforts and programs of those state agencies with principal involvement in bicycling safety programs and projects, primarily NJDOT and DHTS, supported by their federal and regional partner agencies. But, to have a meaningful impact on the incidence of bicycle fatalities and serious injuries, others involved need to become leaders within their own organizations and their own communities.



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CHAPTER 1 INTRODUCTION

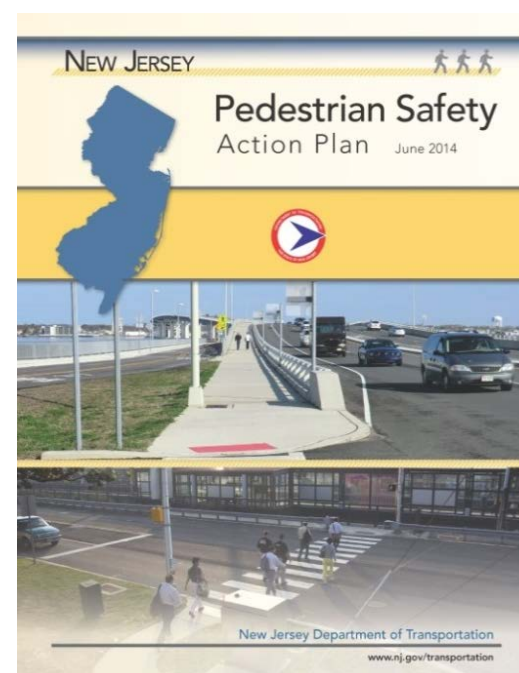
BACKGROUND

In 2005, the New Jersey Department of Transportation issued its first *Pedestrian Safety Action Plan* (PSAP). In March 2014 the Department updated the 2005 plan. Both the original plan and the update were responses to New Jersey being identified by the Federal Highway Administration (FHWA) as one of a group of states with above average pedestrian fatality rates, i.e., a **Pedestrian Focus State**. The purpose of the 2014 update was to:

- identify actions undertaken and successes achieved since the 2005 plan as well as needs that remained to be addressed
- review the issues associated with and factors affecting pedestrian safety
- identify and assess the programs that addressed pedestrian safety issues
- examine the factors related leading to pedestrian crashes
- propose a mission that set out a target reduction in pedestrian fatalities and serious injuries
- establish goals, and actions to reduce pedestrian fatalities and injuries and performance measures to gauge the success of those actions

An anticipated ancillary result would be that New Jersey would no longer be a “Pedestrian Focus State” status, a long-term goal that has yet to be attained.

Since 2014, the FHWA Office of Safety has updated the methods used to determine/identify each of their safety focus areas. As part of that effort, the pedestrian focus area was expanded to include bicycle fatalities and renamed the **pedestrian/bicycle** focus area. This focus category now includes cases in which at least one person involved in a fatal motor vehicle crash was coded as either a “pedestrian”, a “bicyclist”, an “other cyclist”, or a “person on personal conveyance”, e.g., a wheelchair. New Jersey has been designated as a focus area under the newly renamed focus category: the **pedestrian/bicycle focus area**. (See text box: *New Jersey Now a Pedestrian / Bicycle Focus State*).



New Jersey Pedestrian Safety Action Plan, June 2014

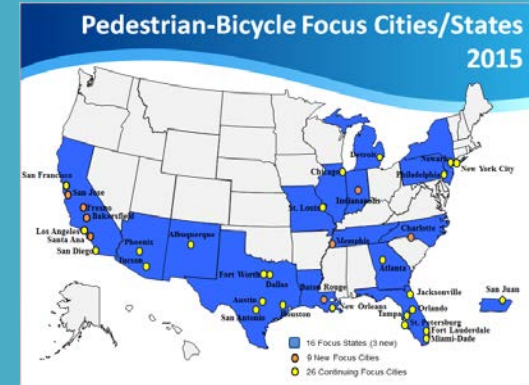




NEW JERSEY NOW A PEDESTRIAN / BICYCLE FOCUS STATE

The Focused Approach to Safety is a program, developed by the Federal Highway Administration (FHWA), and “rolled out” in 2004-05. Its purpose was (and is) to reduce highway fatalities and serious injuries by focusing on the crash types responsible for the highest percentage of highway fatalities and serious injuries, and concentrating efforts on high priority (focus) states where the problems were most acute. One of the original focus categories was pedestrian crashes. In July 2014, the FHWA Office of Safety updated the methods used to make annual calculations of the status of each of the safety focus areas. The decision was made to expand the pedestrian focus category to include bicyclists and other related road users, such as those in wheelchairs.

Being identified as a focus state is determined by whether or not a state has at least one focus city. A **pedestrian/bicycle** focus city is defined as one in which the average annual number of bike/pedestrian roadway crash fatalities from 2011 to 2013 was greater than the average for the 50 largest cities OR the average annual number of bike/pedestrian-motor vehicle fatalities (per 100,000 population) is greater than the average annual number of fatalities (per 100,000 population) for the 50 largest cities. Since Newark’s average annual number of bike/pedestrian-roadway fatalities (per 100,000 population) from 2011 to 2013 is 3.48, and the average annual number of fatalities (per 100,000 population) for the 50 largest cities for the same period is 2.99. Newark is considered a focus city for the **pedestrian/bicycle** focus area and New Jersey is, therefore, designated a **pedestrian/bicycle** focus state.



Source: Eligible Focus States, <http://safety.fhwa.dot.gov/fas/>

PURPOSE

The Bicycle Safety Action Plan (BSAP) is intended to:

- document the current status of bicycle safety in New Jersey identifying the agencies involved and efforts that are being undertaken, and gauge the extent to which they are complementary and coordinated;
- identify state of the practice programs, resources and activities that are considered to be effective in improving bicycle safety;

- propose recommendations for a vision, goals, actions and performance measures and implementing agencies to address and improve bicycle safety in New Jersey.

In order to accomplish this purpose and to shed New Jersey’s focus state status, bicycle safety concerns are being addressed in a manner similar to the way pedestrian safety concerns were addressed by the PSAP. It should be mentioned that major federally-supported initiatives and practices in New Jersey, including Safe Routes to School (SRTS) and Complete Streets policies, and practices have flourished in recent years. Their continued success may be enhanced by the success of efforts to improve bicycle safety.





VISION

The vision adopted for the New Jersey Bicycle Safety Action Plan is:

New Jersey is working toward a future with zero bicyclist deaths and serious injuries through safety initiatives that prioritize the needs of vulnerable populations and promote mutual respect among all roadway users.

PLAN METHODOLOGY

This study followed a methodology generally similar to that used for the Pedestrian Safety Action Plan. It included information gathering, outreach, crash data analysis, evaluation and the development of recommendations for a Vision, Goals, Actions and Performance Measures.

The draft plan was reviewed by the NJDOT and the Steering Committee which consisted of the New Jersey Bicycle Pedestrian Advisory Council's (NJ BPAC) Safety and Education & Outreach Committees. It was subsequently posted on the web for stakeholder and public review and comment. The Draft document was then revised to address comments and finalized. The Plan also included the development of a "Toolbox", a series of information briefs on bicycle safety issues designed mainly for the use of local and regional governments.

INFORMATION GATHERING

The planning process commenced with the gathering of relevant Information, including:

- Literature on the state-of-the-practice regarding bicycle safety planning
- Research studies pertaining bicycle safety
- Crash statistics, nationally and in New Jersey for the latest six years available (2008-2013)
- Information on bicycle safety related activities in New Jersey by a wide variety of agencies
- Research on the efforts of other states or jurisdictions who have confronted bicycle safety through the development of specific bicycle safety planning efforts

OUTREACH/STEERING COMMITTEE

Primary outreach efforts involved convening a Steering Committee comprised of experts and stakeholders representing a wide range of organizations involved in activities directly related to bicycle use and bicycle safety. In this case, the Steering Committee was comprised of the Safety and Education & Outreach Committees of the Bicycle Pedestrian Advisory Council (NJ BPAC). Outreach also included presentation to the NJ BPAC Executive Council and to general NJ BPAC attendees, as well as a workshop/webinar that was held in conjunction with a companion planning effort, the updating of the New Jersey Bicycle and Pedestrian Master Plan.





Three meetings of the Steering Committee were held, each requiring the participation of committee members in identifying New Jersey's bicycle safety issues and needs, existing bicycle safety programs and stakeholders, and in developing the Plan's vision, goals, actions and performance measures.



Steering Committee Meeting – NJ BPAC
Image: The RBA Group

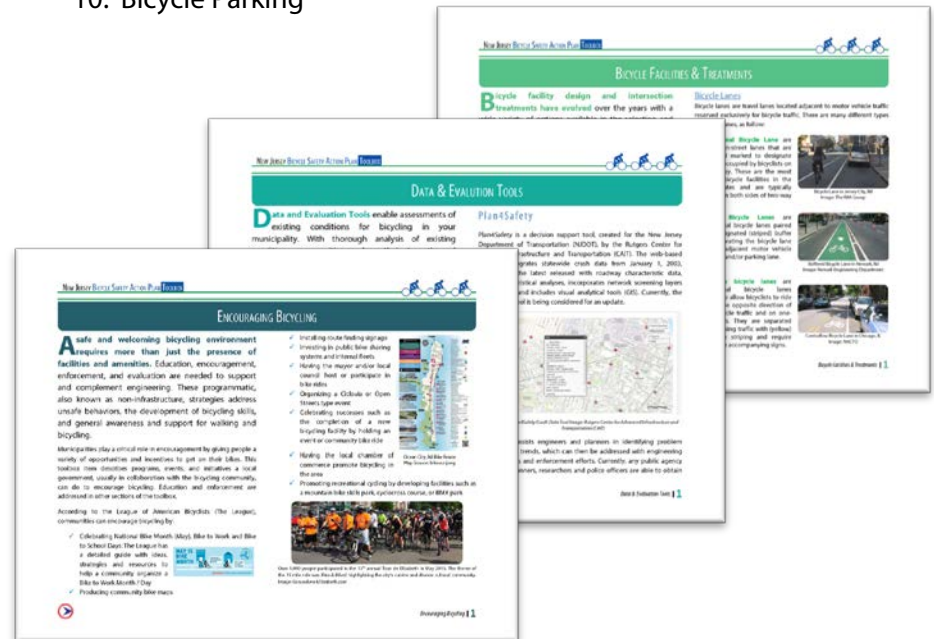


Steering Committee Meeting – NJ BPAC
Image: The RBA Group

BICYCLE SAFETY ACTION PLAN TOOLBOX

In conjunction with the development of the plan, a toolbox of information briefs was prepared to encourage local governments, to take actions that are consistent with the Plan's vision and recommended goals and actions. Toolbox elements included:

1. Municipal Planning & Bicycle Safety
2. Encouraging Bicycling
3. Complete Streets
4. Funding Bicycle Projects
5. Data & Evaluation Tools
6. Bicycle Facilities & Treatments
7. Bicycle Laws & Regulations In New Jersey
8. Bicycle Education
9. Enforcement
10. Bicycle Parking





CHAPTER 2 SETTING THE STAGE: BICYCLING IN NEW JERSEY

INTEREST IN BICYCLING IN NEW JERSEY

Bicycling in New Jersey has been growing in popularity over the years. Communities such as Jersey City, Hoboken, Ocean City and Princeton have initiated successful bike sharing programs and installed bicycle infrastructure such as bicycle lanes, shared use paths and bicycle parking. The State has developed over 950 miles of trails¹. Overall, there has been an interest in bicycling across the board from individuals to local organizations to government agencies at all levels.

In 2015, New Jersey was ranked as the 11th most Bicycle Friendly state by the League of American Bicyclists (League). In addition, the League has designated six Bicycle Friendly Communities (Hoboken, West Windsor, Ocean City, Lambertville, Montclair and Princeton), four Bicycle Friendly Businesses and one Bicycle Friendly University (Princeton University) in the State (Figure 1). The League ranks all 50 States based on five categories – Legislative & Enforcement, Policies & Programs, Infrastructure & Funding, Education & Encouragement, and Evaluation & Planning. Of these five categories, New Jersey received the least points in the Legislative and Enforcement category. As discussed below in the section on Bicycles and the Law in New Jersey, there are a number of proposed additions or revisions to existing laws designed to protect on-road bicyclists and to perhaps encourage others to bicycle more often.

¹ Source: Bicycling and Walking in the United States: 2016 Benchmarking Report <http://www.bikewalkalliance.org/resources/benchmarking>



Figure 1: Bicycle Friendly State Ranking

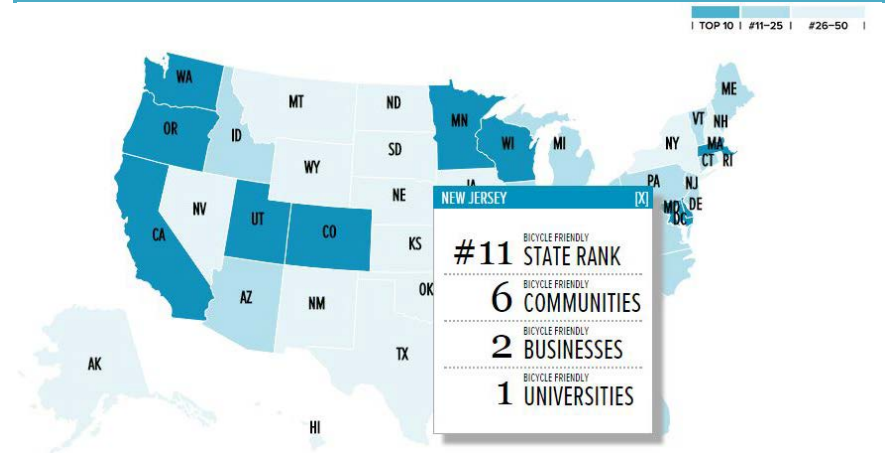


Image: The League of American Bicyclists, www.bikeleague.org

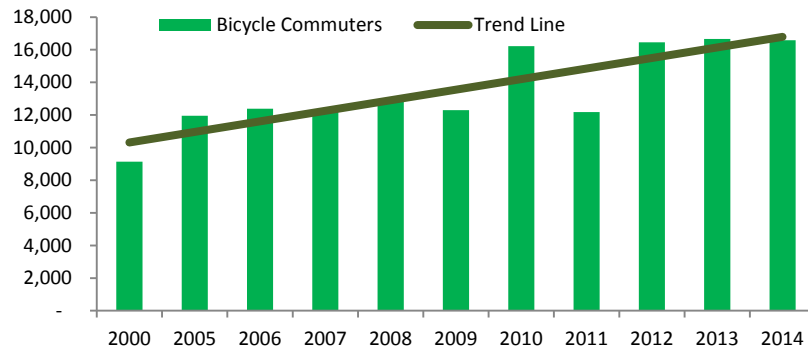
Over 90 local governments have completed planning studies pertaining to improving bicycle and pedestrian access and safety. In addition, encouraged by the adoption and implementation of NJDOT’s award-winning Complete Streets (CS) Policy, 7 New Jersey Counties and 130 New Jersey Municipalities have passed Complete Streets Policies of their own. This is discussed further in *Chapter 3: Recent Bicyclist Safety Initiatives and Programs*.

Bicycle commuting data from the 2000 Census and the 2010-2014 American Community Survey (ACS) shows that there is a significant increase in bicycling commuters in New Jersey. From 2000 - 2014, the number of bicycle commuters in New Jersey has increased by 81% from 9,142 to 16,579. This is a higher percentage increase than the nation as a whole where the number of bicycle commuters increased by 74%. During the same time, New Jersey’s bicycle commuter mode share doubled from 0.2% in 2000 to 0.4% in 2014 (Figure 2). However, this number is probably low given that residents who bicycle to transit



are not counted as bicycle commuters per the ACS² and recreational / utilitarian bicycling trips are completely unaccounted for.

Figure 2: Bicycle Commuters in New Jersey (2008-2013)



Source: Census 2000 and American Community Surveys

As the interest in bicycling continues to grow, New Jersey must increase its efforts to make the bicycling environment safer and more accessible to all bicyclists.

² The ACS does not fully capture bicycling commuters due to the survey methodology. Survey respondents are required to identify which transport mode they used the most within the previous week. Commuters that bicycle to a train station and travel by transit to work would only be identified as a transit commuter. A 2013 VTC Study (*Bicycling to Rail Stations in New Jersey: 2013 Benchmarking Report*) counted bicyclists to and from 30 train stations in New Jersey. The study also concluded that the ACS may not be capturing all bicycle commuters in New Jersey.

BICYCLE CRASHES IN NEW JERSEY

INTRODUCTION

Bicyclist crash data in New Jersey was examined for the six-year period from 2008–2013³. Six years of data are used in order to provide a robust picture of the underlying patterns and trends and create an understanding of the dimensions of the problem: who is being hit, by whom, and under what circumstances. Bicyclist crashes were divided into four categories – fatal crashes, incapacitating crashes, moderate injury/complaint of pain crashes and property damage only crashes⁴. While fatal crashes are critical events and often used as a primary safety metric, severe crashes may have similar contributing factors. Analysis of both fatal and incapacitating crashes may allow a better identification of circumstances that addresses both fatalities and severe injuries in tandem.

³ The six year (2008-2013) reporting period was selected for the Bicycle Safety Action Plan as 2013 data is the most recent complete dataset on bicycle crashes and this would be comparable to the 6 year reporting period (2006-2011) used for the Pedestrian Safety Action Plan.

⁴ Incapacitating crashes are crashes where the bicyclist has a non-fatal injury and cannot walk, drive or normally continue the activities that they could perform before the motor vehicle crash. Moderate injury crashes are where an evident injury, other than fatal and incapacitating occurred and the injury is visible such as a lump on head, abrasion, bleeding or lacerations. Complaint of pain crashes are where the bicyclist claims injury that is not fatal, incapacitating or moderate and is not visible to the investigating officer. Property damage only crashes are crashes where the bicyclist has no injury and only damage to property occurred as a result of the crash.





SIGNIFICANT FINDINGS

Data limitations have an effect on one's ability to draw conclusions and make certain judgments regarding the safety of bicycle travel or the actual impact of specific crash related variables. However, the following is a synopsis of inferences and conclusions that can be drawn:

Overview of Crash Statistics

- While not of the same magnitude as the pedestrian crash problem, a substantial number of bicyclists are injured or killed each year in motor vehicle crashes in New Jersey.
- On average, 2,400 bicyclists were struck by motor vehicles each year from 2008–2013. During the same time, an average 16 bicyclists were killed each year and 62 bicyclists had incapacitating injuries.
- The number of bicyclists involved in, killed or injured in non-motor vehicle crashes is unknown.
- Bicycle crash fatalities by population and as a percent of all crash fatalities seems to be trending downward at the state level.
- There is a need for better and more complete bicyclist crash data.

Where do bicycle crashes occur?

- Bicycle crashes tend to occur more frequently in urban and shore communities.
- Six counties (Bergen, Ocean, Hudson, Monmouth, Middlesex, and Essex) accounted for more than 50% of all crashes. Bergen County had the highest number of crashes.
- Cape May County had the highest average bicyclist crash rate (9 bicycle crashes per 10,000 persons), followed by Atlantic (4.5) and Ocean Counties (4.1).
- Jersey City had the highest number of bicycle crashes (575), followed by Newark (388) and Lakewood (311).

CRASH DATA LIMITATIONS

There are a number of concerns regarding the quality of available data used in this report that limit one's ability to draw conclusions and make certain judgments regarding the safety of bicycle travel. Some of these limitations are as follows:

- Bicycle crashes including those resulting in fatalities or injuries can occur when there is no motor vehicle involved. Data on these types of crashes is unavailable and as a result there is likely an undercount of fatal and injury producing bicycle crashes.
- Incomplete or missing data in the motor vehicle crash records, especially in fatal and incapacitating injuries where the bicyclist involved was unable to provide input. For example:
 - 14% of records were missing the gender of the motor vehicle driver
 - 15% of records were missing the age of the motor vehicle driver
 - 18% of records were missing bicyclist pre-crash action
 - 20% of records were missing age of bicyclists
 - 21% of records were missing information on traffic control
 - 39% of records were missing contributing circumstances
 - 70% of records were missing information on safety equipment use (helmets)
 - 88% of records were missing information on whether or not the crashes were hit-and-runs
- The lack of a reliable source of exposure data is also a major deficiency in contextualizing bicycle crash data.

Conclusions and findings about the relative safety of bicycling or the extent to which safety is influenced by changes in a given variable must be considered in light of these data limitations.





Roadway Characteristics

- A majority of bike crashes and fatal bike crashes in New Jersey takes place at intersections. This is contrary to the experience of the United States as a whole.
- More bike crashes take place on municipal roads; more fatalities occur in crashes on state roadways.
- Most bike crashes occur on roadways with posted speeds of 25 mph or lower; most fatal (bike) crashes occur on roadways with posted speed limits above 40 mph and virtually no bicycle crashes occur on roads with posted speeds of 60 mph or above.
- On balance, it appears that darkness or low roadway lighting conditions is a factor in bike crashes, particularly fatal bike crashes.

When do bicycle crashes occur?

- More bike crashes, regardless of severity, take place during late afternoon and early evening than at other times of the day.
- A peak in bicycle crashes occurs during the summer months (June, July, and August).
- Day of the week seems not to be a factor as crashes were generally evenly distributed throughout the week.

Bicyclist and Motorist Characteristics

- A significant majority of bicyclists involved in all bike crashes (80%) and fatal crashes (85%) in New Jersey are male.
- The annual bicyclist crash rate is highest among the 15-17 age group followed by the 10-14 age group. Bicyclists 15-17 years old also had the highest fatality and injury rates.
- Male drivers were involved in more bicyclist crashes than female drivers and this was the case across all age groups. There was no significant overrepresentation of crashes based on motor vehicle driver age.

Why do bicycle crashes occur?

- Alcohol seems to play a relatively minor factor in bicycle crashes in New Jersey. This is contrary to the experience of the United States as a whole.
- Inattention and failure to yield the right of way were the most common contributing circumstances for both motorists and bicyclists.

What were the bicyclists and motorists doing?

- Most bicyclists (58%) were going straight ahead prior to crashing.
- While almost half of motorists were also going straight ahead, a significant number of motorists (32 %) were making turns.



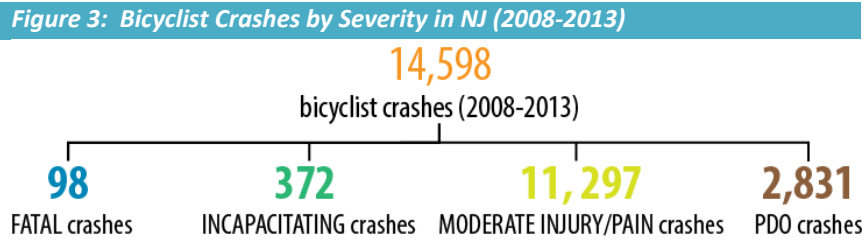
On-road bicyclists, Morristown
Image: The RBA Group



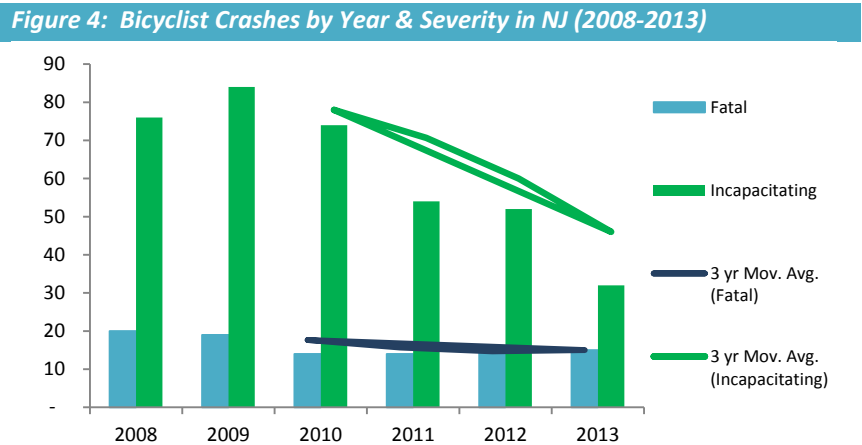


OVERVIEW OF CRASH STATISTICS

From 2008–2013, a total of 14,598 bicyclist crashes were reported in New Jersey. Figure 3 below shows those bicycle crashes by severity.



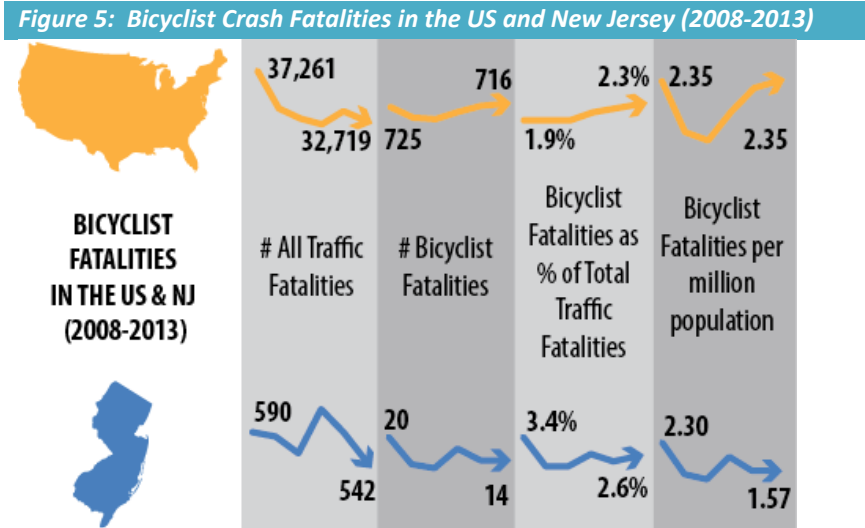
On average, 2,400 bicyclists were struck by motor vehicles each year from 2008–2013. During the same time, on average 16 bicyclists were killed each year and 62 bicyclists sustained incapacitating injuries. Analysis of the three-year moving average indicates a downward trend in bicyclist crashes and incapacitating injury crashes from 2008–2013, while the number of fatal crashes has been fairly consistent (Figure 4).



Source: Plan4Safety Data, 2008–2013

BICYCLIST FATALITIES IN NEW JERSEY

New Jersey exhibits a lower bicyclist fatality rate per capita than the national average (Figure 5). In addition, the bicyclist fatality rate in New Jersey has been declining from 2008–2013. New Jersey's percentage of bicyclist fatalities as a percentage of all traffic fatalities has consistently been higher than the United States. However, there is a downward trend in bicyclist fatalities as a percentage of traffic fatalities in New Jersey and an upward trend in the United States. Within New Jersey, bicyclist fatalities account for 2-3% of all traffic fatalities in a typical year. This is slightly higher than the national percentage, where approximately 2% of roadway fatalities are bicyclists. This statistic is heavily influenced by overall trends in vehicle occupant fatalities. Since New Jersey has among the lowest rates of vehicle occupant fatalities, this tends to inflate the ratio of bicyclists to all fatal crash victims.



Source: Plan4Safety Crash Data (2008–2013), Census 2010, American Community Survey





WHERE DO BICYCLE CRASHES OCCUR?

In New Jersey, bicyclist crashes are the highest in dense urban counties and in shore communities (Figure 6). Fatal crashes tend to occur in all parts of the State. Bicyclist crash data was further analyzed by county and the top ten high crash municipalities, corridors and intersections.

Crashes by County

From 2008–2013, there were more than 1,000 reported bicyclist crashes each in Bergen, Ocean, Hudson, Monmouth, Middlesex, and Essex counties (Figure 7). These six counties account for more than 50% of all bicyclist crashes in New Jersey, more than 35% of fatal crashes, and more than 30% of incapacitating crashes. Cape May, Atlantic, Hudson and Ocean counties have the highest 2013 bicyclist crash rates per 10,000 people.

Figure 8 shows the top ten high crash municipalities, corridors (2 mile) and intersections. As expected, most of the high crash corridors and intersections are in dense urban or shore communities. Figure 8 also highlights the key characteristics of the high crash corridors and intersections.

Figure 6: Bicycle Crash Locations in NJ (2008–2013)

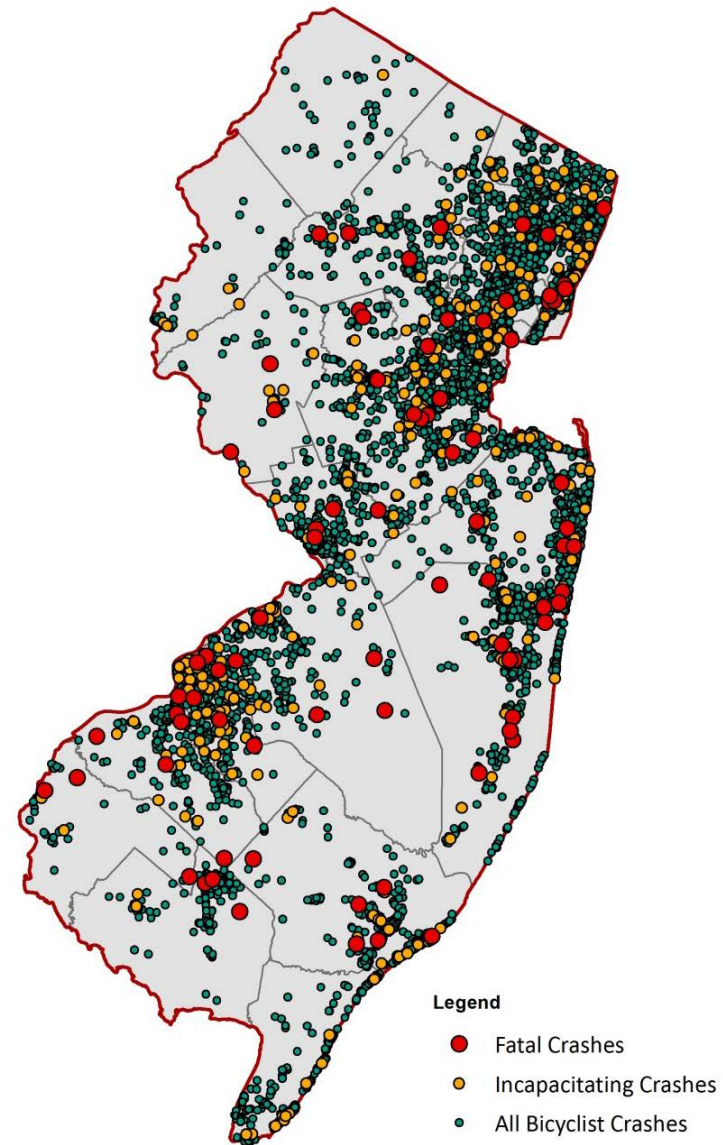


Figure 7: Bicyclist Crash Data for High Crash Counties (2008–2013)

Total Bicyclist Crashes (2008–2013)		Average Annual Bicyclist Crash Rate (per 10,000 population) (2008 - 2013)	
1,560	Bergen	9.0	Cape May
1,397	Ocean	4.5	Atlantic
1,349	Hudson	4.1	Ocean
1,218	Monmouth	3.6	Hudson
1,113	Middlesex	3.2	Monmouth
1,103	Essex	2.8	NEW JERSEY
14,598	NEW JERSEY		

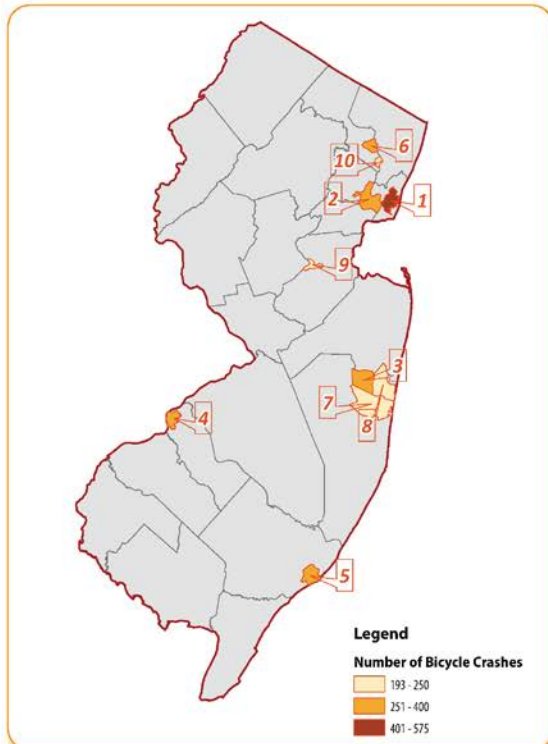
Source: Plan4Safety Crash Data (2008–2013), Census 2010, American Community Survey





Figure 8: Top 10 High Crash Municipalities, Corridors and Intersections in New Jersey (2008–2013)

TOP 10 HIGH CRASH MUNICIPALITIES



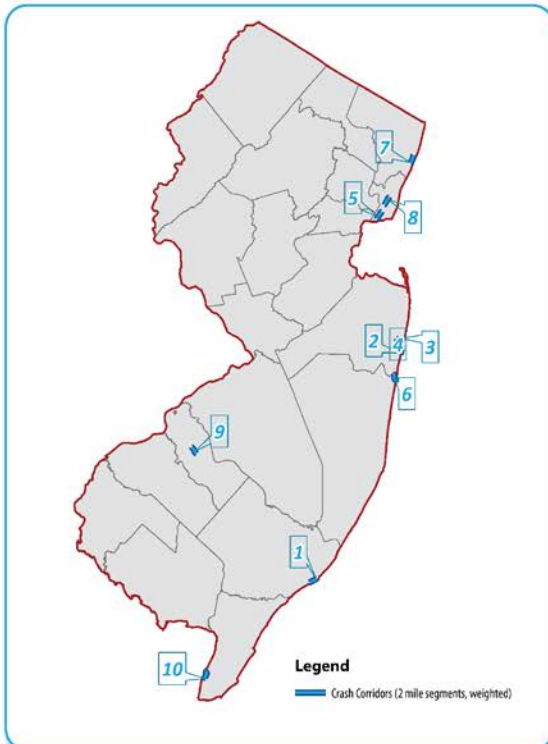
The top 10 HIGH CRASH Municipalities had:



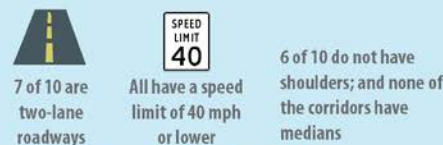
of Bicyclist Crashes in the Top 10 High Crash Municipalities

- | | |
|------------------------|------------------------|
| 1. Jersey City – 575 | 6. Paterson – 269 |
| 2. Newark – 388 | 7. Toms River – 214 |
| 3. Lakewood – 311 | 8. Brick – 207 |
| 4. Camden – 293 | 9. New Brunswick – 196 |
| 5. Atlantic City – 283 | 10. Passaic - 193 |

TOP 10 HIGH CRASH CORRIDORS



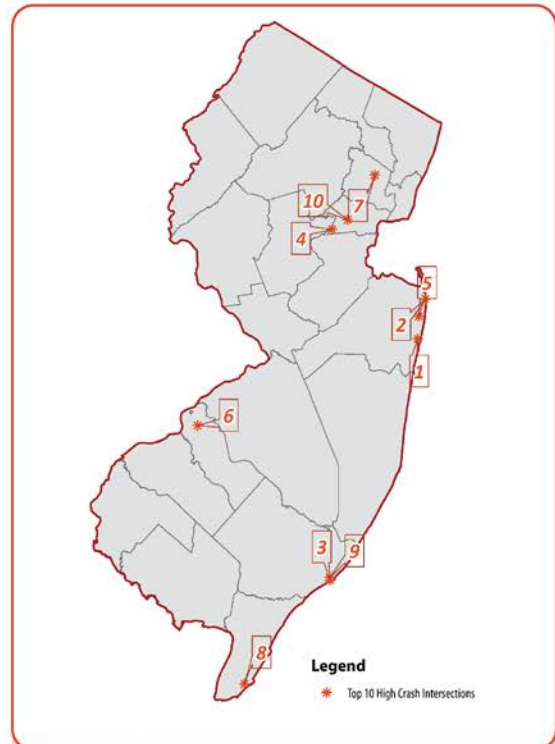
The top 10 HIGH CRASH Corridors were:



Bicyclist Crashes in the Top 10 High Crash Corridors

- | | |
|--|--|
| 1. Atlantic Ave, Atlantic City | 6. Main Ave (NJ 35), Bay Head |
| 2. Ocean Ave, Belmar | 7. Hudson Terrace (Route 505), For Lee |
| 3. Main Street (Rt. 71), Bradley Beach | 8. JFK Blvd (Route 501), Jersey City |
| 4. NJ 35, Neptune | 9. Whitehorse Pike (US 30), Somerdale |
| 5. Broadway, Bayonne | 10. Bayshore Road (Route 603), Lower |

TOP 10 HIGH CRASH INTERSECTIONS



The top 10 HIGH CRASH Intersections were:

All signalized except for Memorial Dr. & 3rd Ave. in Asbury Park which has stop control on 3rd Ave. with an overhead flashing beacon. The North Jersey Coast Line parallels Memorial Dr.

- Asbury Park, Memorial Dr & 3rd Ave
- Sea Bright, Ocean Avenue & Rumson Road
- Atlantic City, Atlantic Ave & Kentucky Ave
- Plainfield, West 5th Street & Park Ave
- Long Branch, Joline Ave & Grand Ave
- Collingswood, Cuthbert Blvd & Haddon Ave
- Montclair, Bloomfield Ave & Grove St
- Wildwood, Rio Grand Ave & West Rio Grande Ave
- Atlantic City, Atlantic City-Brigantine Connector & Absecon Blvd
- Westfield, North Avenue & Central Avenue





ROADWAY CHARACTERISTICS

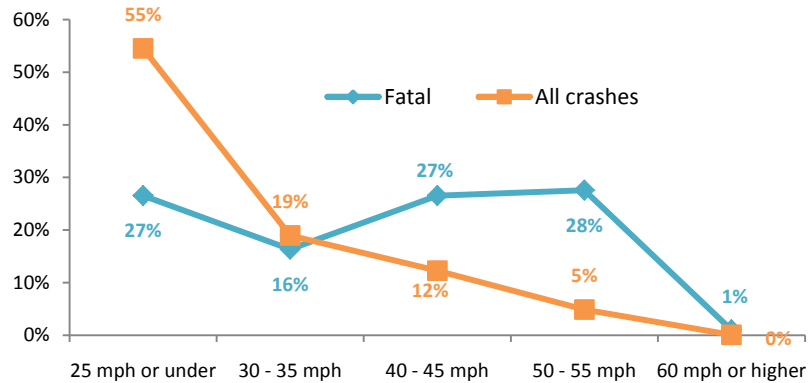
Intersection Proximity

In New Jersey from 2008–2013, 45% of all reported bicyclist crashes occurred away from intersections and 55% occurred at intersections. Fatal, incapacitating, moderate injury/pain and PDO bicyclist crashes followed the same pattern. This differs from the national trends, where almost a third of the bicyclist fatalities occur at intersections, 60% occur away from intersections and the remaining occur at other locations.

Posted Speed

In New Jersey, more than half of all reported bicyclist crashes (55%) occurred on roadways with 25 mph or slower speed limits. Fatal crashes occurred on high and low speed limit roadways. However, the proportion of fatal crashes to all crashes was greatest for the 50-55 mph range and was lowest for the 25 mph or under range (Figure 9).

Figure 9: Fatal & All Bicyclist Crashes by Posted Speed in NJ (2008-2013)

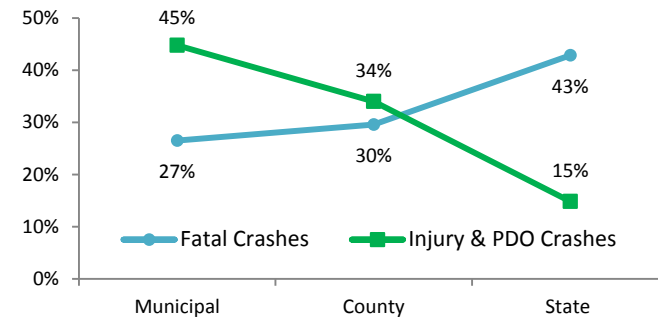


Source: Plan4Safety Crash Data (2008–2013)

Roadway Jurisdiction

Almost half of all reported bicyclist crashes in New Jersey occurred on municipal roadways, another third on county roadways, 15% on state roadways and the remaining 6% on private property (Figure 10). However, for fatalities the pattern is different with 43% of the fatal bicyclist crashes occurring on state roadways, 30% on county roadways and 27% on municipal roadways.

Figure 10: Bicycle Crashes by Roadway Jurisdiction in NJ (2008-2013)



* This chart does not include all jurisdiction categories. The categories that were not included are interstate, government property and unknown.

Source: Plan4Safety Crash Data (2008–2013)



High Crash Intersection: Bloomfield Avenue, Montclair
Image: www.maps.google.com

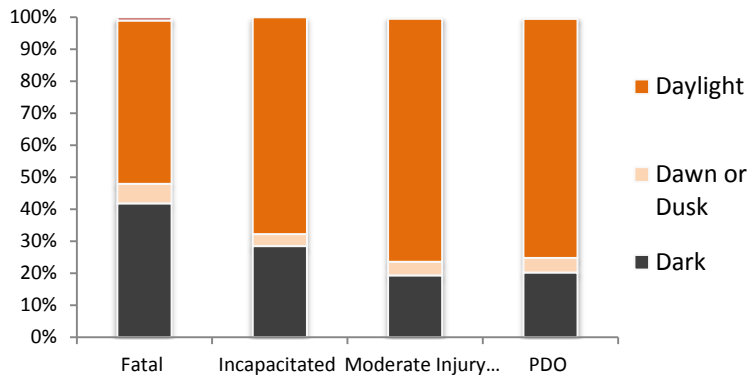




Lighting Conditions

From 2008–2013, almost 75% of all reported bicyclist crashes occurred during daylight in New Jersey (Figure 12). This seems to make intuitive sense, since more bike riding takes place during the day, than in the night. In contrast, almost half of the fatal crashes occurred during daylight, and another 42% occurred during the dark and this is comparable to the national pattern. However, a third of the New Jersey’s fatal bicyclist crashes and almost 20% of all bicyclist crashes occurred in the dark with street lights on (continuous or spot), suggesting that streetlights may not adequately light up the roadway.

Figure 12: Bicyclist Crashes by Lighting Conditions & Severity in NJ (2008-2013)



Source: Plan4Safety Crash Data (2008–2013)

Ambient Conditions

Almost 90% (or 12,944) of the reported bicyclist crashes occurred under clear conditions in New Jersey. Another 1,000 (7%) crashes occurred when it was raining, and 564 (4%) occurred during overcast skies. The same pattern is seen for fatal crashes, incapacitating crashes, moderate injury/pain crashes and property-damage-only crashes.



Number of Lanes

Most bicycle crashes, regardless of severity, appear to occur on two-lane roadways (Figure 11).

Figure 11: Bicyclist Crashes by Number of Lanes in NJ (2008-2013)



Source: Plan4Safety Crash Data (2008–2013)



High Crash Roadway: Hudson Terrace, Fort Lee
Image: www.maps.google.com

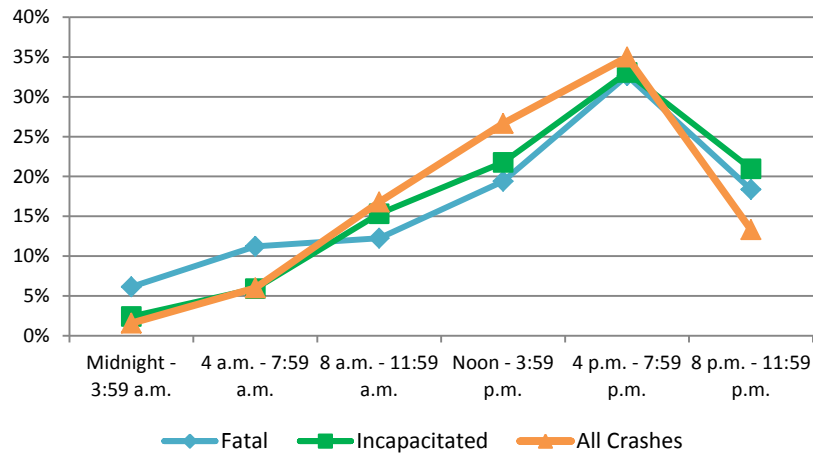


WHEN DO BICYCLE CRASHES OCCUR?

As expected, most reported bicycle crashes (42%) occurred during the summer, with the highest number of crashes occurring in July. This makes intuitive sense, since it is reasonable to assume that people bicycle more during the summer months. About half of the bicyclist crashes occurred in the fall (26%) and spring (22%) months, while only 10% occurred during winter months. In comparison, while bicyclist fatalities are also highest in the summer months (40%), the remaining 60% are more evenly spread out during the winter (21%), fall (16%) and spring (22%) months.

The highest number of crashes takes place during the afternoon and early evening (Figure 13) hours. More than a third of all bicycle crashes occurred between 4 p.m. and 8 p.m. and another 27% occurred between noon and 4 p.m.

Figure 13: Bicyclist Crashes by Severity and Time of Day in NJ (2008-2013)



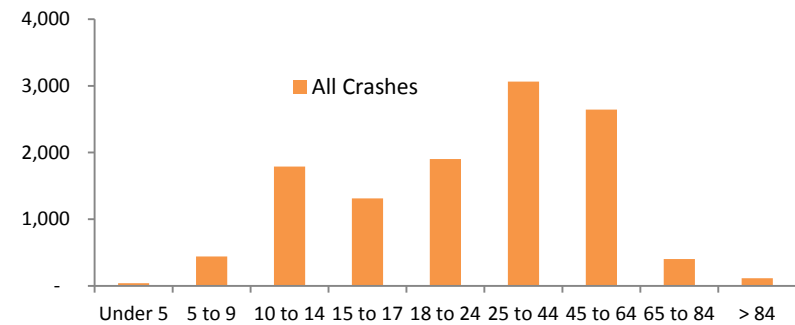
Source: Plan4Safety Crash Data (2008–2013)

BICYCLIST AND MOTORIST CHARACTERISTICS

Age of Victims

Children and teens up to age 17 were involved in 3,555 (25%) crashes.⁵ More than 20% of the crashes involved bicyclists 25-44 years old and another 18% of crashes involved bicyclists in the 45-64 age cohort.

Figure 14: Bicyclist Crashes by Age in NJ (2008-2013)



Source: Plan4Safety Crash Data (2008–2013)

The annual bicyclist crash rate⁶ per 100,000 people is the highest among the 15 to 17 age group (10 crashes per 100,000 people) and the 10 to 14 age group (8.5 crashes per 100,000 people). New Jersey’s overall annual bicyclist crash rate is 4.6 per 100,000 people (Figure 14). Bicyclists 15 to 17 years old also had the highest fatality (0.54 per 100,000 people) and injury rates (85 per 100,000 people).

⁵ Please note that bicyclist age data was missing from almost 20% or 2,886 bicyclist crash records.

⁶ The annual crash rate was calculated by dividing the total crash rate for 2008-2013 by 6 (for the six years of the study period). The total crash rate was calculated by dividing all bicyclist crashes (2008-2013) by sum of the population from 2008-2013 in that age group.





Gender of Victims

The majority of bicyclists (80%) involved in crashes in New Jersey were males⁷ and 15% were females (Figure 17). Nationally in 2013, the majority of bicyclists killed (87%) (Figure 18) were also males. During the same time in New Jersey, 85% of bicyclist crashes with fatalities involved male bicyclists (Figure 19).

Figure 17: Bicyclist Crashes by Gender in NJ (2008-2013)

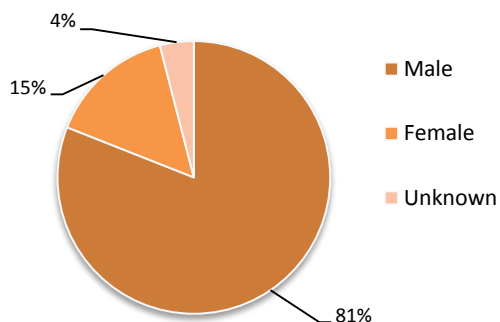
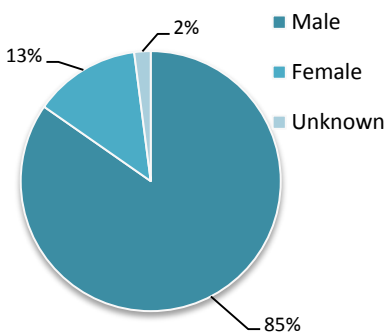
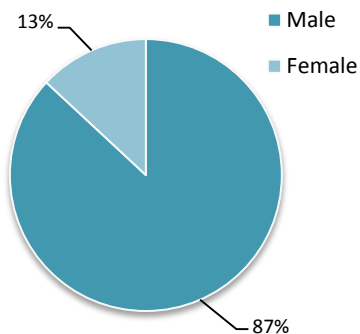


Figure 18: Fatal Bicyclist Crashes by Gender in U.S. (2013) **Figure 19: Fatal Bicyclist Crashes by Gender in NJ (2008-2013)**



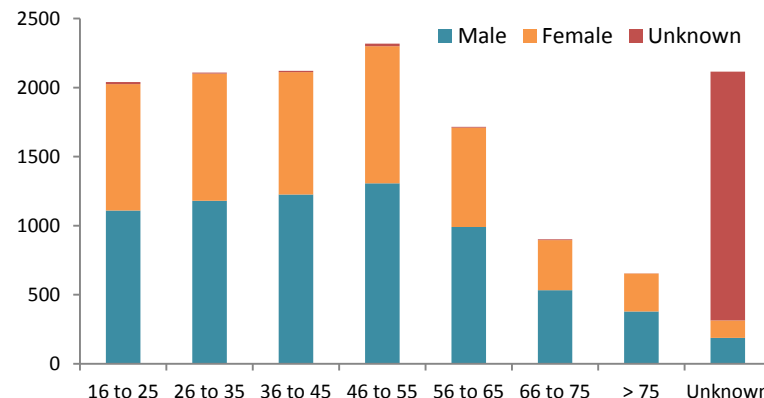
Source: Plan4Safety Crash Data (2008-2013)

⁷ Please note that gender data was missing for almost 4% or 586 bicyclist crash records.

Age and Gender of Motor Vehicle Drivers

Overall, male drivers were involved in 49% of the reported crashes and female drivers were involved in 37%. Gender split was similar across all age groups. There was no significant overrepresentation of crashes based on driver age. The four 10 year age groups from 16-55 were each involved in approximately 15-17% of bicyclist crashes. The number and percentage of older drivers involved in bicyclists crashes trended downward after age 55 (Figure 20).

Figure 20: Bicyclist Crashes by Driver Age and Gender in NJ (2008-2013)



Source: Plan4Safety Crash Data (2008-2013)

Alcohol Involvement

Alcohol seems to be a somewhat minor factor in bicyclist crashes in New Jersey as 96% of the bicyclists tested had no alcohol involvement, and only 4% did. For fatal crashes, a somewhat higher percentage (14%) had alcohol involvement. Of motor vehicle drivers tested, 20% had a BAC of 0.01 g/dL or higher. This differs from national trends where alcohol was a factor – either bicyclist or motor vehicle drivers -- in more than a third of the fatal crashes.



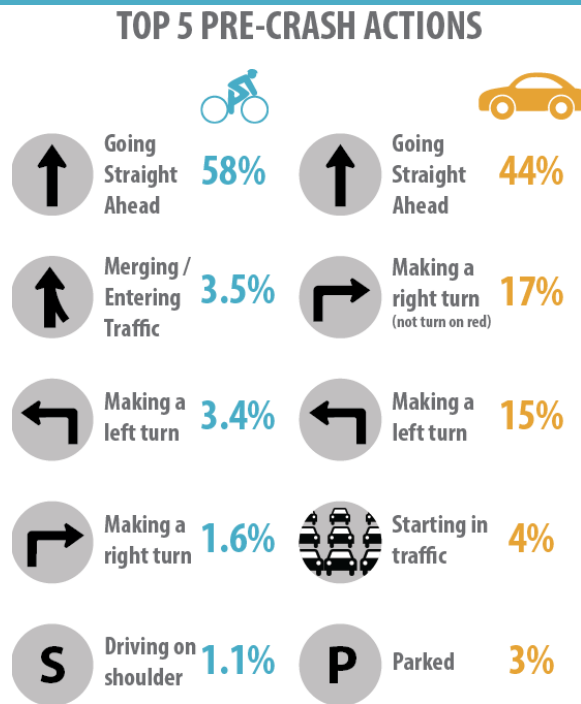


WHY DO BICYCLE CRASHES OCCUR?

Pre-Crash Action

The top 5 pre-crash actions of bicyclists and motorists involved in all reported bicyclist crashes in New Jersey from 2008–2013 are summarized below in Figure 21. A large majority of bicyclists (8,428) were simply going straight ahead prior to the crashes. Around 700 were making left or right turns (not turn on red) and another 500 bicyclists were either merging or entering the traffic lane. Some bicyclists (164) were riding on the shoulder prior to the crashes.

Figure 21: Bicyclist & Motorist Pre-Crash Action in NJ (2008–2013)



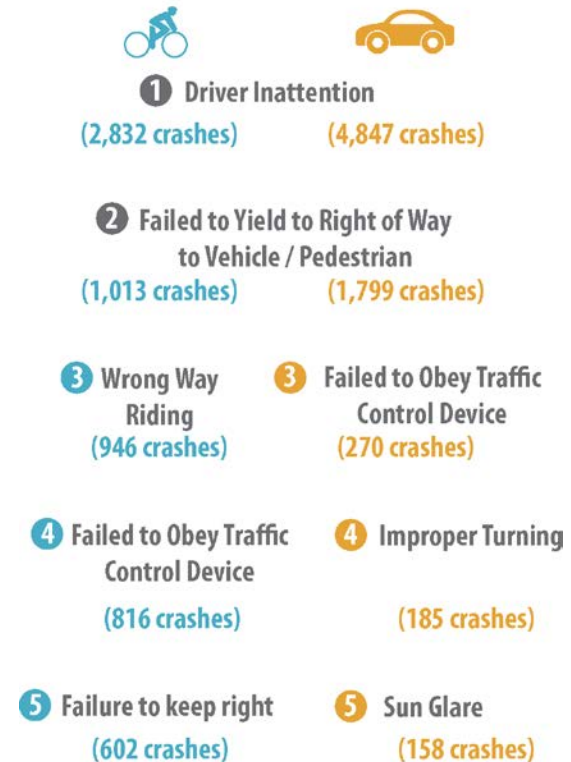
Source: Plan4Safety Crash Data (2008–2013)

Contributing Circumstances

Data on contributing circumstances describes the cause or causes of the crashes wherever possible (Figure 22). Up to two contributing circumstances can be entered on each crash record. Contributing circumstances include motorist and bicyclist actions, roadway conditions, and vehicle factors.

Figure 22: Bicyclist & Motorist Contributing Circumstances in NJ (2008–2013)

TOP 5 CONTRIBUTING CIRCUMSTANCES



Source: Plan4Safety Crash Data (2008–2013)





For bicyclists and motorists, driver inattention was the leading cause for reported crashes followed by failure to yield to right of way to vehicle / pedestrian. Wrong way bicycle riding was involved in almost a thousand crashes (946 or 5.5%) and failure to obey traffic control device cause was deemed to contribute to another 816 crashes or almost 5%. Fatal, injury and property damage crashes follow the same pattern.

HELMET USE

Of the bicyclists involved in all crashes only 9% were wearing helmets. Crashes with incapacitating injuries and moderate injuries or pain follow the same pattern as all crashes. Analysis of helmet use by age of bicyclist indicates that 900 children bicyclists (17 years and younger) involved in crashes do not wear any safety equipment, which is required by law. Only 323 bicyclists 17 years and younger were wearing helmets. By comparison, helmet use is relatively high (514) for bicyclists 45 years and older.



Bicyclist riding without a helmet.
Image: The RBA Group

BICYCLES AND THE LAW IN NEW JERSEY

In New Jersey, bicycles are not considered vehicles though bicyclists have the same rights and responsibilities as drivers of motor vehicles (New Jersey Statutes Annotated – NJSA, Title 39:4-14.1). Having the same rights and responsibilities as a motorist means bicyclists are required to obey the “rules of the road”. This includes keeping to the right and obeying all traffic control devices. What is often overlooked is that bicyclists are in fact vulnerable users. They do not have the protective benefits that motorists do, such as the sheer mass of the vehicle compared to a person on a bicycle, being enclosed and protected in a steel “cocoon” designed to absorb and dissipate the effects of a crash, and other safety devices like air bags and seatbelts.



Motor vehicle blocking bicycle lane, Jersey City.
Image: The RBA Group





WHAT THE NEW JERSEY STATUTES SAY

This section provides an overview of the bicycling laws and regulations in New Jersey. This review provides insight on the efficacy of current laws pertaining to bicycling in New Jersey and highlights areas where additional laws and policies could improve bicycle safety in New Jersey. NJSA Title 39 presents the New Jersey Motor Vehicle and Traffic Regulations. It includes both motor vehicles laws as well as the state bicycling laws. Section 39:4-14.5 provides the definition of a bicycle as “any two wheeled vehicle having a rear drive which is solely human powered and having a seat height of 25 inches or greater when the seat is in the lowest adjustable position”. The following laws and regulations cover operating requirements and required equipment related to operating a bicycle in New Jersey.

- Anyone under 17 years of age that rides a bicycle or is a passenger on a bicycle, or is towed as a passenger by a bicycle must wear a safety helmet. Exemptions from the helmet requirement are persons who operate or ride a bicycle (as a driver or a passenger) on a roadway closed to motor traffic; on a trail, route, course, boardwalk, path or area set aside only for the use of bicycles. These exemptions do not apply if the areas of operation are adjacent to a roadway and not separated from motor vehicle traffic by a barrier that prevents the bicycle from entering the roadway. Bicyclists or passengers operating in an area where helmets are not required who need to cross a road or highway should walk with the bicycle. (Section 39:4-10.1)
- A bicycle must be equipped with a front white light and a rear red light that are easily visible from a distance of at least 500 feet. Additionally, a red reflector may be mounted to the rear

that will reflect an approaching vehicle’s lights from 50 to 300 feet away, (Title 39:4-10)

- A bicycle must have a bell or other audible signal that can be heard from at least 100 feet away. Sirens or whistles are not permitted, (Section 39:4-10.1)
- A bicycle must have brakes to stop safely (Section 39:4-11.1)
- A bicycle must have a seat and a bicyclist is required to use the seat, place the feet on the pedals and the hands on the handlebar at all times, (Section 39:4-12)
- A bicyclist is not permitted to hitch rides with another vehicle, (Section 39:4-14)
- A bicyclist is required to ride as near to the right roadside as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction, (Section 39:4-14.2)

A bicyclist may move left under any of the following conditions:

- To make a left turn from a left-turn lane or pocket;
 - To avoid debris, drains or other hazardous conditions that make it impracticable to ride at the right side of the roadway;
 - To pass a slower moving vehicle;
 - To occupy any available lane when traveling at the same speed as other traffic; or
 - To travel no more than two abreast when traffic is not impeded, but otherwise ride in single file. Every person riding a bicycle is required to ride in the same direction as vehicular traffic.
- Bicycle salespersons and rental agents must display a sign at least 15 inches long and 8 inches wide at the point where the transaction is completed when they sell or rent a bicycle. This





sign should read: "STATE LAW REQUIRES A BICYCLE RIDER UNDER 17 YEARS OF AGE TO WEAR A HELMET." In the case of bicycle rentals, the salesperson/rental agent must provide a helmet, if necessary, for a fee. (Section 39:4-10.3)

In case of violation of the helmet law, the parents of children involved could be fined \$25 for a first offense and a second offense could result in a \$100 penalty. Violation of the other laws as per the NJ Statewide Violations Bureau Schedules could be a fine of up to \$54 and typically depends on local police policy.

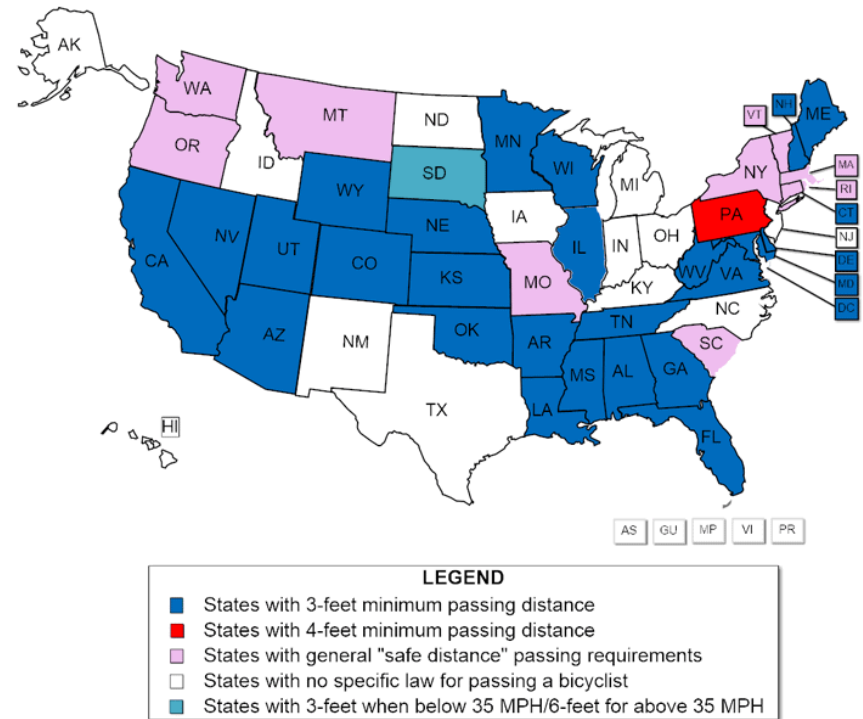
WHAT'S MISSING

While the New Jersey statutes cover aspects of the law that relate to bicycling safety the statutes are silent on a number of issues that are addressed in the statutes of some other states. Passage of statutory language that revises or adds to the statutes as they pertain to bicycle travel has the potential to contribute greatly to the safety of bicycling in the state. These include the following:

Safe Passing Distance Law

Safe passing distance laws provide protection for bicyclists by making it clear to drivers that passing a bicyclist safely means leaving a certain (defined in the law) amount of space between the bicyclist and motorist. In most instances, safe passing laws say that three feet between the bicyclist and motor vehicle is required. However, some states define other specific distances or define what a safe distance is through context – such as the space needed to avoid a bicyclist if he or she fell. N.J.S.A. Section 39:4-85 states that a vehicle shall pass another vehicle at a "safe distance". Technically this does not address a motorist passing a bicyclist and does not specify what a "safe distance"

is. New Jersey is one of only 13 states without a law regarding motorists passing bicyclists.



Map of States with Statutes Regarding Motorists Passing Bicyclists
Image: National Conference of State Legislatures

Vulnerable Road User Laws

Vulnerable Road User laws provide legal protection to people who are not protected as drivers or passengers in motor vehicles are. When evaluating vulnerable road user laws, the League of American Bicyclists looks for states that have: 1) a definition of "vulnerable (road) user" and 2) distinct penalties for the serious injury or death of a vulnerable road user when a motorist hits them while doing actions





defined in the law. By providing distinct penalties, motorists are more likely to be deterred from unsafe behaviors when vulnerable road users are present and are generally less likely to engage in the actions that trigger the application of the law.

Nine states have laws that define a vulnerable user or vulnerable road user and provide particular penalties for specific actions towards those users or when violations of traffic law lead to the serious injury or death of a vulnerable road user – Connecticut, Delaware, Florida, Hawaii, Maine, Oregon, Utah, Vermont, and Washington.



Senate Bill No. 336

Public Act No. 14-31

AN ACT CONCERNING THE PENALTY FOR CAUSING HARM TO A VULNERABLE USER OF A PUBLIC WAY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (Effective October 1, 2014) (a) As used in subsection (b) of this section, (1) "vulnerable user" means: (A) A pedestrian; (B) a highway worker; (C) a person riding or driving an animal; (D) a person riding a bicycle; (E) a person using a skateboard, roller skates or in-line skates; (F) a person operating or riding on an agricultural tractor; (G) a person using a wheelchair or motorized chair; and (H) a blind person and such person's service animal, and (2) "public way" includes any state or other public highway, road, street, avenue, alley, driveway, parkway or place, under the control of the state or any political subdivision of the state, dedicated, appropriated or opened to public travel or other use.

(b) Any person operating a motor vehicle on a public way who fails to exercise reasonable care and causes the serious physical injury or death of a vulnerable user of a public way, provided such vulnerable user has shown reasonable care in such user's use of the public way, shall be fined not more than one thousand dollars.

Approved May 16, 2014

Connecticut: Vulnerable User Law
Image: National Conference of State Legislatures

"Dooring" Laws

A "dooring" law requires drivers or passengers in a parked motor vehicle to open their door with a degree of care for traffic moving past them in the travel space adjacent to the vehicle. This places the responsibility for safely opening vehicle doors on those in the motor vehicle. The New Jersey Driver's Manual addresses dooring by stating that "A motorist should always check for traffic when leaving a vehicle after parking. He/she should also check for bicycles or mopeds, which are sometimes difficult to see, before opening the driver-side door and exiting the vehicle." This advice does not have the force of law. A dooring law would require drivers of parked cars to be aware of oncoming traffic before opening their vehicle doors. If a "dooring" incident occurs, and a cyclist is injured or killed either by the door itself or by avoiding it, the presumption is that the driver or passenger opening the door of the vehicle failed to exercise due care, is responsible for the incident and subject to fine or penalty. Forty states have a dooring law. New Jersey is not one of them.



Photo of bike lane showing the "Door zone"
Image: J. Maus/BikePortland





E-Bikes

The statutes define and provide other laws pertaining to the operating requirements of bicyclists, pedestrians, skate boards, inline skates, mopeds, and electric personal assisted mobility devices known as Segways. They do not specifically define or provide any operating requirements or make any mention of E-bikes or electric bicycles (which can take many forms, from being virtually indistinguishable from bicycles with electric-assist to having continuous electric motor use, and are already in use on New Jersey's roadways). Without being identified or assigned operating requirements in the statutes, E-bikes have no status as legitimate users of New Jersey's roadways.

Sidewalk Riding

New Jersey does not have a state statute prohibiting bicyclist from riding on the sidewalk. However, NJDOT states that "It should be noted, that sidewalks are for pedestrians. Riding on sidewalks can cause conflicts with pedestrians and, like wrong way riding, can lead to crashes since it places bicyclists in situations where others do not expect them. Except for very young cyclists under parental supervision, sidewalks are not for bicycling." Some municipalities in New Jersey have passed ordinances restricting bicycle riding on sidewalks or specifically defined sections of sidewalk. These include Jersey City, New Brunswick, Burlington, Hoboken, Spring Lake, Princeton, and Ocean City. In these towns, the restrictions relating to sidewalk bicycling include imposing a complete ban in certain areas of the municipality (downtowns/central business districts) or establishing seasonal restrictions on sidewalk riding (shore towns). Judicious use of local ordinances that restrict bicycle riding on the sidewalk could contribute to bicycle (and) pedestrian safety.



Bicyclist riding on sidewalk, Glassboro
Image: The RBA Group

Other

The statutes do not define the status or operating requirements of bicyclists riding the shoulder of a roadway. Generally shoulders are considered a de facto accommodation for bicycle travel and it is presumed that bicyclists using the shoulder should ride in the direction of traffic in the adjacent travel lane. However, some believe that bicycle traffic is not allowed to travel on the shoulder of a roadway (since a bicyclist has the same rights and responsibilities as drivers of motor vehicles who are prohibited from using the shoulder as a travel lane).

The statutes also specify that bicyclists can move to the left under certain conditions, but do not specifically allow a bicyclist to move left to reach abutting property on the other side of the roadway, yet cyclists routinely have to do this to access destinations.



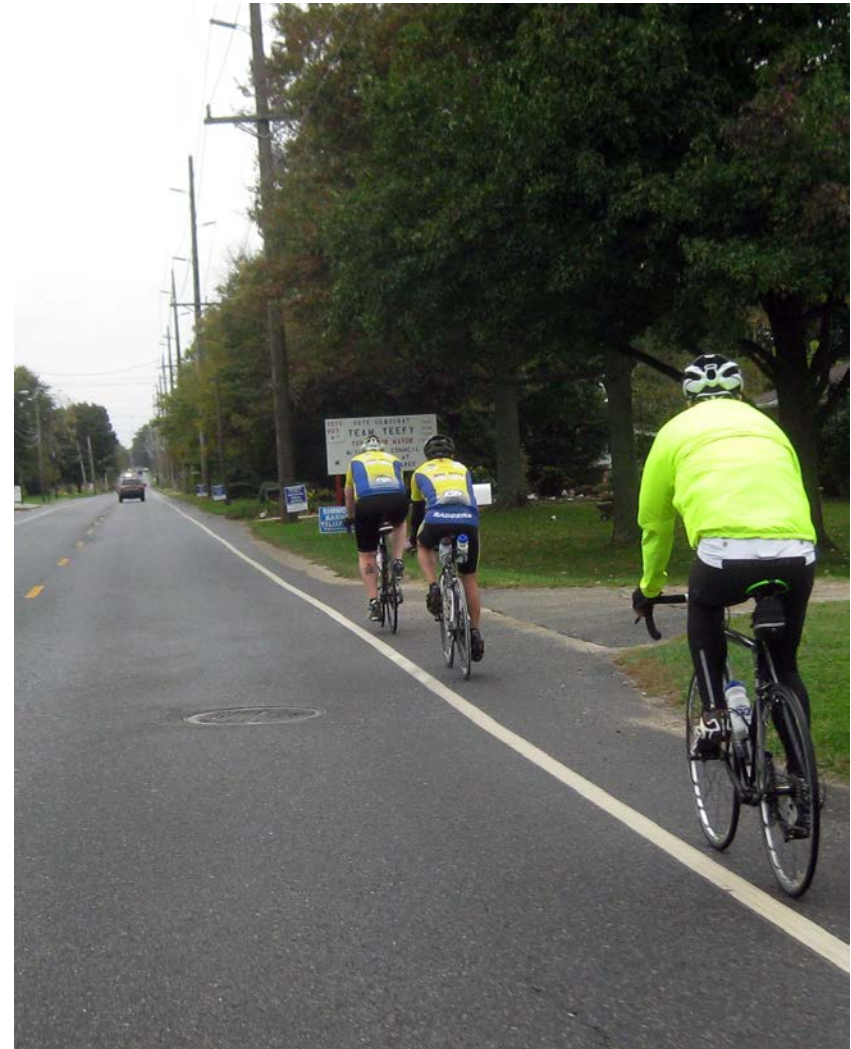


HIGHWAY RESTRICTIONS FOR BICYCLISTS IN NEW JERSEY

In New Jersey very few public roadways are closed to bicyclists. Bicycle traffic is restricted on a handful of controlled access roadways as a result of access regulations promulgated by the agency with jurisdiction over the highway. This generally includes Interstate highways. However some sections of Interstate are open by special permit issued by the New Jersey Department of Transportation (NJDOT).

Figure 23: New Jersey Highways with Restricted Bicyclist Access

Roadway	Restricted Location(s)
Garden State Parkway	Entire length
New Jersey Turnpike	Entire length
Atlantic City Expressway	Entire length
Route 1 Freeway	Trenton, Mercer County
Route 18 Freeway	Wall, Ocean County, Neptune City, Tinton Falls, Colts Neck, Freehold, and Marlboro, Monmouth County, Old Bridge, Middlesex County
Route 29 Freeway	Trenton, Mercer County
Route 208 Freeway	Fair Lawn, Glen Rock, Franklin Lakes, Wycoff and Oakland, Bergen County, Hawthorne Boro, Passaic County
Route 42 Freeway	Washington Township and Deptford, Gloucester County, Runnemede, Gloucester Township and Bellmawr, Camden County
Interstates	Various locations (listed on the permit)



Bicyclists riding in shoulder, Glassboro, NJ
Image: The RBA Group





CHAPTER 3 RECENT BICYCLE SAFETY INITIATIVES AND PROGRAMS

INTRODUCTION

Understanding the status of current bicyclist safety programs and initiatives in New Jersey is a crucial step in developing a relevant Bicycle Safety Action Plan for New Jersey. Over the years, various agencies in NJ have focused on making New Jersey's streets safe and accessible for all users including bicyclists. The New Jersey Department of Transportation (NJDOT) and the New Jersey Division of Highway and Traffic Safety (DHTS) have been the primary state agencies involved in these efforts.

The following is an overview of relevant programs and initiatives that focus on bicyclist safety in New Jersey. They are listed by the agency or entity responsible. While the focus of this plan is improving bicyclist safety in New Jersey, many of the programs and initiatives apply to both bicyclist and pedestrian safety.

NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT)

The NJDOT has made pedestrian and bicycle safety a priority and established several safety programs and policies to improve safety of bicyclists in New Jersey. While the majority of NJDOT's efforts are focused on engineering improvements to the state highway system, the Department also has programs that provide funding and technical expertise to counties and municipalities.

The **Office of Bicycle and Pedestrian Programs (OBPP)** and the **Division of Local Aid and Economic Development (Local Aid)** play a leading role in administering bicycle access and safety programs and projects in New Jersey. The primary bicycling safety initiatives administered by these units are as follows:

Office of Bicycle and Pedestrian Programs (OBPP)

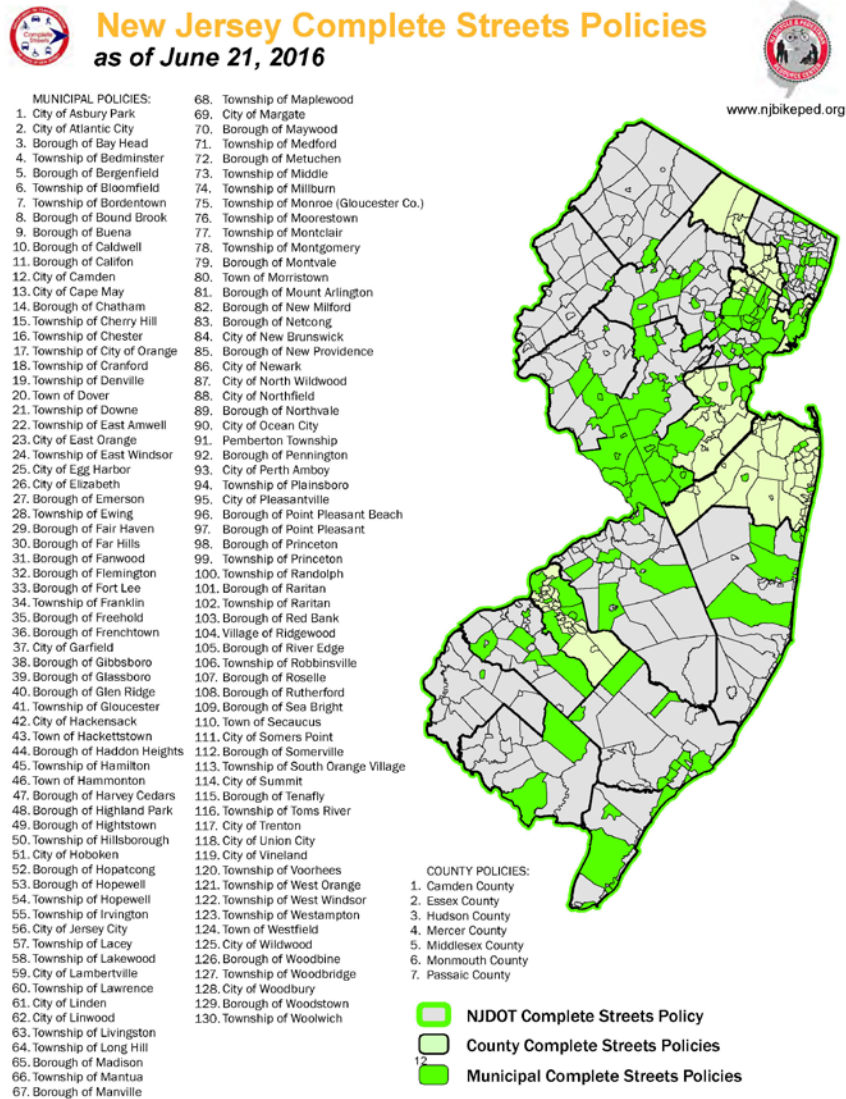
- **Complete Streets**

The New Jersey Department of Transportation finalized a Complete Streets policy (Policy No. 703) in December 2009. The policy requires that all roadway improvement projects include safe accommodations for all users, appropriate to context, including bicyclists, pedestrians, transit riders and the mobility-impaired. The NJDOT Complete Streets Policy applies to all transportation projects processed or administered by the Department, whether they are funded with federal or state money. To ensure that the policy is implemented successfully and integrated into every transportation project, several actions were taken following its adoption. One action was the development of a Complete Streets checklist to assist project managers and designers with ensuring that their concepts and designs adhere to the policy. The checklist applies to all NJDOT projects that go through the Capital Project Delivery Process. Another action was to provide technical guidance and training to counties and municipalities through Complete Streets policy and implementation workshops. Finally, OBPP staff members are designated as Complete Streets Subject Matter Experts, allowing them to review and approve all NJDOT projects to ensure compliance.



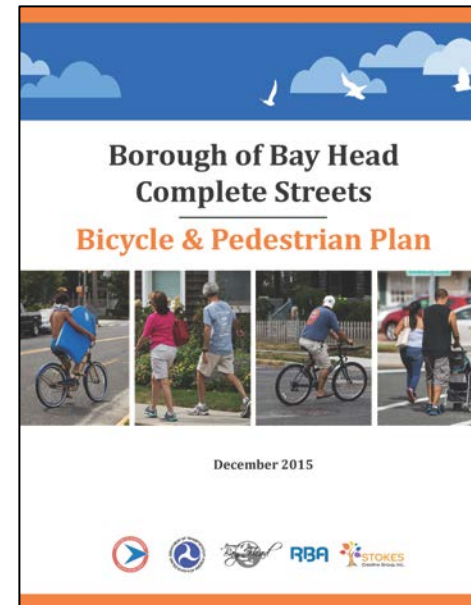


Figure 24: New Jersey Complete Streets Policies



Local Bicycle/ Pedestrian Planning Assistance Program

For almost 20 years, the OBPP has worked with local NJ communities to develop bicycle and pedestrian plans through a Local Bicycle/Pedestrian Planning Assistance Program. Through this program, the NJDOT has provided technical planning assistance to more than 80 municipalities and counties develop plans to help make their communities better and safer places to bike and walk. The program provides these services to local jurisdictions that express a strong desire to improving or enhancing bicycle and pedestrian travel within their communities. An application package with a checklist is available to interested local governments. Disadvantaged communities are prioritized.



Borough of Bay Head – Complete Streets Bicycle and Pedestrian Plan
Image: The RBA Group





- **Safe Routes to School**

Since 2005, Safe Routes to School (SRTS) programs have been encouraging and enabling children of all abilities to safely walk and bicycle to school. The program is overseen by the SRTS coordinator in the OBPP. NJDOT, in partnership with New Jersey's three Metropolitan Planning Organizations (MPOs) - North Jersey Transportation Planning authority (NJTPA), the Delaware Valley Regional Planning Commission (DVRPC), and the South Jersey Transportation Planning Organization (SJTPO) - administers the federally funded New Jersey SRTS program. This program awards grants for infrastructure projects, including the planning, design and construction/installation of traffic calming measures, traffic signals, sidewalks, crosswalks and bicycle facilities.



Safe Routes to School, West Orange
Image: The RBA Group

The Safe Routes to School Design Assistance Program debuted in 2016 and makes available consultant engineering services to assist Local Public Agencies with the development of plans, specifications, and estimates for their grant-funded

SRTS infrastructure projects. This pilot program was developed by NJDOT as part of the FHWA Every Day Counts initiative to shorten timelines, reduce costs and improve the quality of the delivery of NJDOT SRTS projects.

The federal SRTS Program also funds education and encouragement programs like bicycle rodeos, pedestrian safety assemblies, Walk and Bike to School Days, walking school buses, bicycle trains, walkability audits and school travel plans. Since 2011, New Jersey's eight Transportation Management Associations (TMAs) have implemented the SRTS non-infrastructure program in New Jersey, with assistance from the New Jersey SRTS Resource Center at Rutgers' Voorhees Transportation Center (VTC). The TMAs employ local coordinators to provide assistance in developing and implementing programmatic activities for local schools and municipalities that are located within each TMA's service area.

- **Bicycling Resources and Publications**

The OBPP has developed numerous bicycling resources and publications for New Jersey bicyclists and transportation planners. These include the New Jersey Bicycle Map and Resource Guide, the New Jersey Bicycling Manual, the Bike Compatible Roadways and Bikeways Planning & Design Guidelines and the NJ Tour Guides for Bicyclists. Additionally, the OBPP is currently developing key guides and publications such as the New Jersey Complete Streets Design Guide (December 2016), the New Jersey Bicycle and Pedestrian Master Plan Update (November 2016).



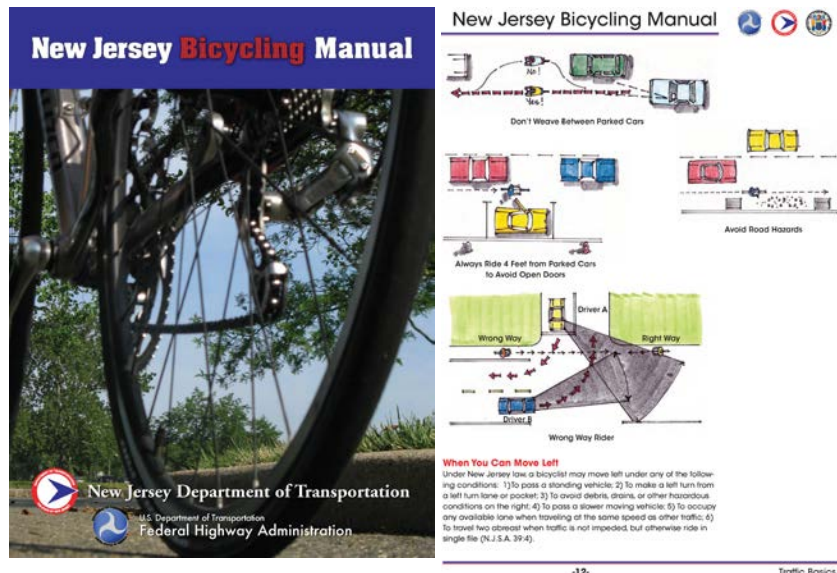


The New Jersey Bicycle Map and Resource Guide is a comprehensive tool for those traveling by bicycle in New Jersey, whether for recreation or transportation. This online publication provides bicyclists with information to help make bicycling a convenient and enjoyable travel option. The map includes state bicycling tour guides, elevation, on-road bicycle facilities and a measure of bicycle suitability as well as cultural, historic, recreational and other points of interest.

The New Jersey Bicycling Manual provides information required by bicyclists to ride on roadways with other traffic. It is intended for those who have a basic understanding of how traffic operates on our roadways, and who have the ability to understand traffic control devices as well as the ability to control their bikes.

The Bike Compatible Roadways and Bikeways Planning and Design Guidelines provide engineers and planners with information on applicable design standards and guidelines appropriate for the design and development of bicycle facilities.

The NJ Tour Guides for Bicyclists are a series of brochures featuring bicycle touring routes, primarily for recreational cyclists. The NJDOT has published more than 25 bicycle tour guides including the 238-mile High Point to Cape May Bike Route, the East Coast Greenway Multi-Use Trail Guide, and a series of 4 tours along the Jersey shore.



Excerpt from New Jersey Bicycling Manual
Image: NJDOT



Excerpts from Jersey City to Hoboken Waterfront Tour Guide
Image: National Conference of State Legislatures





Division of Local Aid and Economic Development

- **Funding Programs - State**

The Division of Local Aid and Economic Development (Local Aid) administers several state-funded Local Assistance Programs that provide grants for the implementation of locally initiated bicycle safety improvements. The NJ Transportation Trust Fund provides the money for these programs. These programs provide funding to municipalities and counties for road, bridge and other transportation projects. They include Municipal Aid, County Aid, Bikeways and the Transit Village programs. Municipal and County Aid are formula-funded while the others are competitive grant programs. Each of these programs can be used to fund bicycle accommodations.

- **Funding Programs - Federal**

Local Aid also assists MPOs with competitive federally-funded programs such as Transportation Enhancements, Safe Routes to School (SRTS), the Transportation Alternative Program (TAP), the Local Safety Program and the High Risk Rural Roads Program. Many of these programs can be used to fund the provision of bicycle facilities, safety and education activities for bicyclists, rails-to trails projects and right-of-way acquisition/construction.

Bureau of Safety Programs

The NJDOT Bureau of Safety Programs coordinates the Strategic Highway Safety Plan and assists with the Pedestrian and Bicycle Safety Management Systems (lists of high crash locations across the state).

NEW JERSEY DIVISION OF HIGHWAY TRAFFIC SAFETY (DHTS)

The New Jersey Division of Highway Traffic Safety (DHTS) is New Jersey's State Highway Safety Office (SHSO) and is responsible for the administration of the federally-funded State and Community Highway Safety Grant Program (Section 402) and coordination of highway safety activities in New Jersey. Section 402 funds are jointly administered by the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA) at the federal level and through SHSOs (such as DHTS) at the state level. Section 402 provides funding for a variety of state and local projects to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes.

DHTS promotes statewide traffic safety programs through education, engineering and enforcement activities. DHTS is required to produce an annual Highway Safety Performance Plan which includes the Highway Safety Plan (HSP) and the Performance Plan. The HSP is submitted to the FHWA and NHTSA for approval of proposed activities and recommended expenditures eligible for federal funding. The HSP is premised on a vision zero philosophy. The HSP addresses the national priority program areas of NHTSA and FHWA. Pedestrian and Bicycle Safety is one of these priority program areas. The majority of the pedestrian and bicycle safety programs focus on development and implementation of education and enforcement programs to enhance pedestrian and bicycle safety.

Key DHTS programs relating to bicycle safety are:

- **Education, Public Awareness and Enforcement**

The DHTS develops many resources related to bicycle safety education, awareness and enforcement such as the Bicycle





Safety Hang Tag, a Safe Bicycle Riding in New Jersey brochure and a Bicycle Helmet Law Fact Sheet. October 10th is national “Put the Brakes on Fatalities” day and every driver, pedestrian, motorcyclist and bicyclist is encouraged to be exceptionally careful that day so that for at least 24 hours, there are no fatalities on New Jersey’s roads. Every year, for a week leading up to October 10th, DHTS raises awareness throughout New Jersey in partnership with the NJ State Association of Chiefs of Police and other law enforcement agencies statewide.

- **Crash Investigation Training**

The DHTS regularly provides basic and advanced crash investigation courses, including specialty classes focusing on bicycle and pedestrian crash investigation. The courses are taught at Kean University by members of the Institute of Police Technology and Management and are available free of cost to all students. The classes are funded through a grant from DHTS.

BICYCLE SAFETY INITIATIVES BY OTHER STATE AGENCIES

New Jersey Department of Environmental Protection (NJDEP)

The NJDEP promotes safe use of multi-use trails by directing bicyclists to ride on the right, to yield to other trail users (pedestrians, horses) and to pass on the left of slower users. The NJDEP website also contains maps of the various parks, forests and recreation areas where bicycling is permitted.

New Jersey Transit

NJ TRANSIT supports and encourages bicyclist access to its terminals, facilities and services through its *Bike Aboard* program and by providing bicycle racks and lockers at NJ TRANSIT stations and

park/rides. *Bike Aboard* permits bicycles on NJ TRANSIT vehicles during off-peak hours, allowing access from all stations with elevated platforms. Half of the NJ TRANSIT bus fleet is “bike friendly,” providing bike racks in the front or in underfloor luggage compartments. NJ TRANSIT has free bicycle parking for about 2,300 bicycles and almost 90% of train stations have bike racks. Enclosed and locked bike lockers administered by TMAs or municipalities provide parking for about 375 bicycles and are available for long-term rental. NJ TRANSIT has also appointed a “Bicycle Advocate” to serve as a liaison between their organization and the biking community. NJ TRANSIT also provides safety resources about traveling on their vehicles, including a NJ TRANSIT Safety Rules Activity Book geared towards children that discusses safe bicycling around transit facilities.

New Jersey Motor Vehicle Commission (MVC)

The NJ Driver Manual discusses responsibilities of motor vehicle drivers and specifically emphasizes that motorists must yield to bicyclists and be careful while passing or following them.



Bicycle Racks on a NJ TRANSIT Bus
Image: The RBA Group





RUTGERS CENTER FOR ADVANCED INFRASTRUCTURE AND TRANSPORTATION (CAIT)

CAIT, formerly a Tier 1 University Transportation Center, is one of five National UTCs. These make up a group of academic research institutions that aim to advance U.S. technology and expertise through the mechanisms of education, research and technology transfer at university-based centers of excellence. CAIT is sanctioned and supported by the Research and Innovative Technology Administration of the U.S. Department of Transportation (USDOT). Rutgers University leads the CAIT and has many partners or sub-grantees, including Columbia University, New Jersey Institute of Technology, Princeton University, and others. CAIT’s strategic goal as stated in the USDOT’s Strategic Plan – Transportation for a New Generation (2014-18), is “State of Good Repair – Ensure the U.S. proactively maintains critical transportation infrastructure in a state of good repair.”

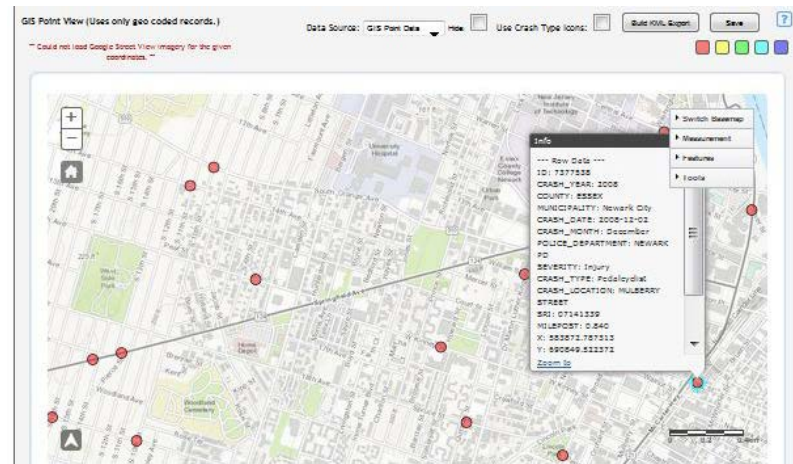
Of the 14 CAIT programs that address 10 different infrastructure areas, the following offerings relate to bicycle safety and infrastructure:

Transportation Safety Resource Center (TSRC)

The TSRC provides technical assistance, training, data analysis and traffic safety programs to state/ local transportation and law enforcement agencies, including DOTs, state police, MPOs, county engineers, municipal administrators, and others. The TSRC assists the NJDOT with crash data analysis and the development of safety programs by other federal, state and local agencies. TRSC provides training workshops and webinars, many of which focus on analyzing and reducing crashes, crash data collection and best practices in the design of bicycle facilities and infrastructure.

One of TSRC’s primary goals is to help reduce the number and severity of crashes in New Jersey and this is supported by their many safety initiatives. These include:

- **Plan4Safety** is a crash analysis tool created for NJDOT and enables analysis of crash data in geospatial and tabular forms. Transportation engineers, MPOs, planners, enforcement officials and decision makers in New Jersey all use the Plan4Safety tool to identify crash hot spots in order to develop projects that will make it safer to drive, walk and bicycle on NJ’s roadways. Plan4Safety incorporates several critical datasets such as statewide crash data, roadway characteristic data, statistical analyses, network screening and models and visual analytical tools (GIS). It helps assess the most cost-effective ways to address safety management and enforcement. Currently, the Plan4Safety tool is being considered for an update.



Example of Plan4Safety Crash Data Tool

Image: Rutgers Center for Advanced Infrastructure and Transportation (CAIT)





- **12 Months of Traffic Safety** materials were developed by the TSRC as part of a public education and outreach campaign to highlight different traffic safety issues each month of the year. The purpose of the campaign is to raise safety awareness and knowledge among the state's drivers. Pedestrian and Bicycle Safety was one of the issues highlighted by the campaign.
- **Road Safety Audits** (RSAs) are assessments on roadway issues such as bicycle and pedestrian safety conducted by a multi-disciplinary team of professionals. According to the FHWA, countermeasures applied after RSAs can reduce crashes by about 60 percent. The TSRC and CAIT's New Jersey Local Technical Assistance Program (NJLTAP) conduct free RSAs for New Jersey's municipalities. Final RSA reports include long-term and short-term countermeasures to reduce crashes in the target area. The Plan4Safety tool is used to perform detailed crash data analysis for the RSA.

New Jersey Local Technical Assistance Program (NJ LTAP)

The Local Technical Assistance Program (LTAP) helps local agencies improve their roads and bridges by supplying them with a variety of training programs, an information clearinghouse, new and existing technology updates, personalized technical assistance, and newsletters. LTAP is composed of a network of centers in each state and New Jersey's LTAP is based at CAIT. NJ LTAP trains more than 7,000 transportation professionals each year. NJ LTAP also works with TSRC to provide RSAs to municipalities and counties. The NJ LTAP operates under a Strategic Plan with four focus areas and "Safety (roadway and worker safety)" is one of them.

ALAN M. VOORHEES TRANSPORTATION CENTER (VTC) AT RUTGERS UNIVERSITY

Located within the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, the VTC is national leader in the research and development of innovative transportation policy. VTC conducts research, education, training, service projects and initiatives on a wide variety of transportation planning and policy issues. Bicycle safety is a key issue and the following VTC programs and initiatives address bicycle safety in New Jersey:

New Jersey Bicycle and Pedestrian Resource Center (BPRC)

The BPRC was established in 2001 within VTC to assist public officials, transportation and health professionals, and the public with creating safer and more accessible walking and bicycling environments in New Jersey. The Center is supported by the NJDOT through funds provided by FHWA. Its core activities include:

- Primary research, applied studies and program evaluation/analysis
- Training and Education
- Information dissemination, outreach, and technical assistance

The core elements of BPRC's program include serving as an information clearinghouse, leading and supporting the New Jersey Bicycle and Pedestrian Advisory Council (NJ BPAC) and providing education and technical expertise to NJDOT, government officials and other stakeholders. One of the goals of the BPRC in their 5-Year Strategic Plan (2011-2016) is to "promote a culture of courtesy, acceptance, and safety for all modes through strategic outreach and technical assistance."





New Jersey Ambassadors in Motion (NJAIM)

The NJAIM serve as the BPRC’s public outreach team and consist of adult ambassadors who work part-time from April to November. The ambassadors are trained to promote safety and active transportation by educating and conducting outreach to bicyclists and pedestrians and in New Jersey. The NJAIM conduct public outreach at four levels – classrooms, on-street, events and municipal/government - on an “on-call” basis using an “Ambassador Request Form”.



Safe Routes to School, West Orange
Image: The RBA Group

Their goals are to:

- Promote a culture of courtesy, acceptance, and safety for all travel modes
- Strengthen and leverage a network of community organizations and leaders who can advocate on behalf of safe bicycling and pedestrian activity in their communities
- Provide training and education that helps to transform places and behaviors

- Encourage non-motorized transportation as a viable alternative to motorized transport
- Encourage everyday safe practices and behaviors by all travel modes

New Jersey Bicycle and Pedestrian Advisory Council (NJ BPAC)

The NJ BPAC is an advisory council that meets quarterly to advise NJDOT on policies, programs, research and priorities related to safe and accessible bicycling and walking environments in New Jersey. The NJ BPAC consists of a NJDOT-appointed advisory council, and four committees (Design, Legislative, Safety and Education) that are open to the public.



NJ BICYCLE & PEDESTRIAN RESOURCE CENTER
Educate. Encourage. Empower.



Bicycle & Pedestrian Training & Research Initiatives

VTC carries out a variety of research projects related to bicycle and pedestrian safety, including conducting pedestrian safety enforcement training for the local law enforcement community and a research project on bicycle safety enforcement. Current efforts also include understanding the barriers to increasing bicycling in NJ among minority communities, particularly women.





New Jersey Safe Routes to School Resource Center (NJ SRTSRC)

The New Jersey SRTS Resource Center is located within the VTC and supported by the NJDOT through funds provided by the FHWA. It assists public officials, transportation and health professionals, and the general public with encouraging walking and bicycling to school through research, education, training and a statewide crossing guard training program. The NJ SRTSRC maintains a website with many resources including the NJ School Zone Design Guide, funding sources, tips and policies.

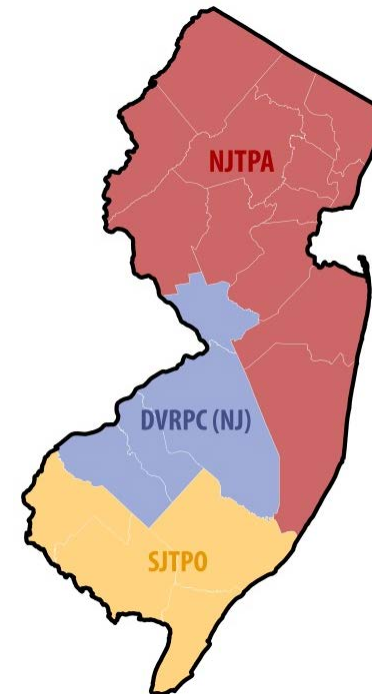
METROPOLITAN PLANNING ORGANIZATIONS (MPOS)

New Jersey has three metropolitan planning organizations (MPOs) that assist NJDOT, NJ TRANSIT and other transportation agencies in the selection of projects for the Statewide Transportation Improvement Program (STIP). Many of the projects in the STIP focus on providing safe and accessible bicycle facilities in New Jersey.

North Jersey Transportation Planning Authority (NJTPA)

The NJTPA is the MPO for 13 counties (Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren) in the Northern New Jersey region. The NJTPA works actively to promote walking and bicycling in its region and aims to make these travel modes viable alternatives to cars for shorter trips. This MPO makes direct investments in bicycle and pedestrian facilities including trails and waterfront walkways. In *Plan 2040 – NJTPA’s Long Range Transportation Plan*, supporting walking and bicycling is identified as a priority and as one of the eight Regional Capital Investment Strategy principles. In 2011, NJDOT appointed NJTPA as the lead agency to administer and manage New Jersey’s Transportation Management Associations (TMAs). The NJTPA oversees and coordinates activities among the TMAs, NJ Transit, NJDOT and

other partners. This shift in management was intended to increase the level of coordination and cooperation between NJTPA priorities and TMA activities in areas such as data collection, outreach, shuttle services and the development and implementation of the NJTPA’s long-range Regional Transportation Plan.



Metropolitan Planning Organizations (MPOs)
Image: The RBA Group

Delaware Valley Regional Planning Commission (DVRPC)

The DVRPC is the regional MPO for the nine-county and bi-state, Greater Philadelphia area. It serves four counties (Burlington, Camden, Gloucester and Mercer) in New Jersey and five counties in Pennsylvania. The DVRPC conducts many bicycle and pedestrian planning activities to ensure that bicycling and walking are affordable,





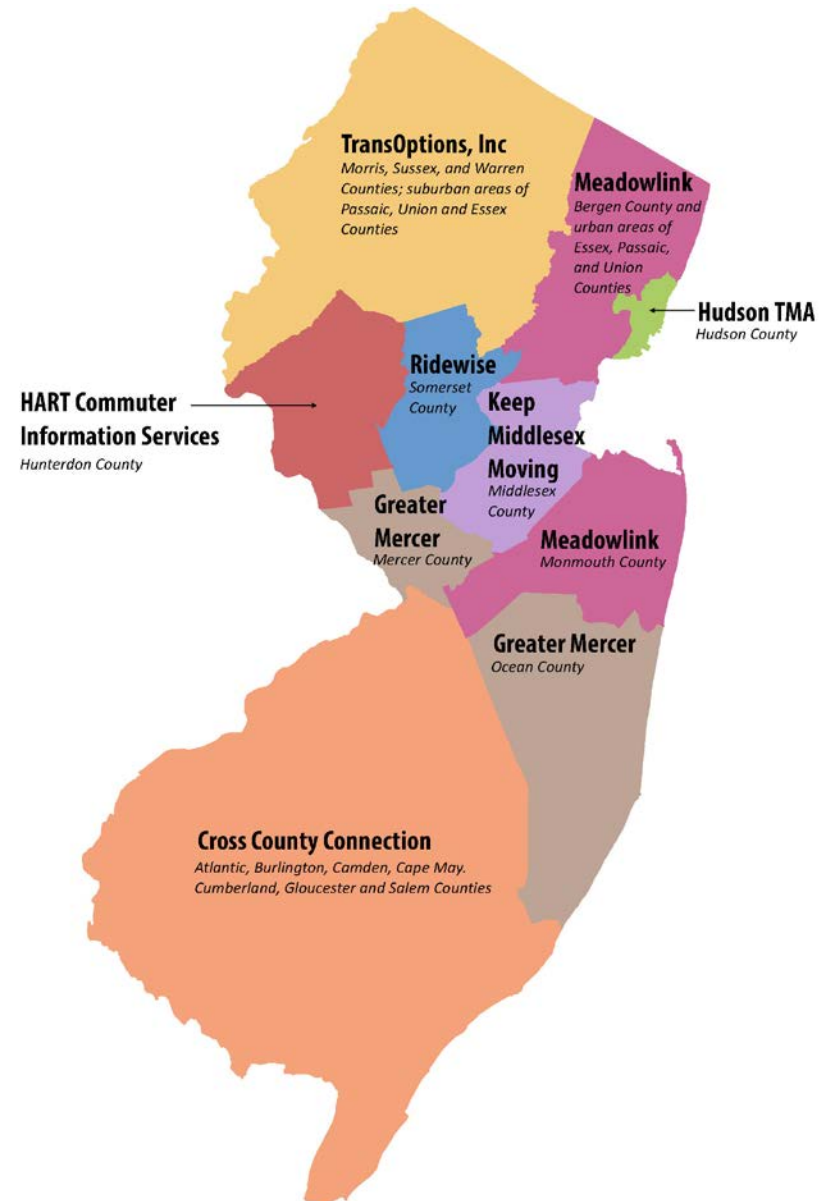
safe and effective modes of travel for everyone. In *Connections 2040 – Plan for Greater Philadelphia*, improving the safety of bicyclists and pedestrians is identified as critical to the plan.

South Jersey Transportation Planning Organization (SJTPO)

The SJTPO is the MPO for the four southernmost counties (Atlantic, Cape May, Cumberland and Salem) of New Jersey. The SJTPO works towards providing a regional approach to solving transportation problems. SJTPO makes bicycle and pedestrian safety a high priority by planning future initiatives and conducting safety campaigns.

TRANSPORTATION MANAGEMENT ASSOCIATIONS (TMAS)

TMAs are non-profit corporations dedicated to addressing local transportation concerns, reducing traffic congestion and improving air quality. They work with businesses, commuters, and local governments to help provide efficient and effective commuting and transportation options. There are eight TMAs in New Jersey – EZRide (Meadowlink), TransOptions, Hudson TMA, Keep Middlesex Moving (KMM), Ridewise, HART Commuter Information Services, Greater Mercer TMA, and Cross County Connection. TMAs provide traffic demand management assistance to employers through the Employer Services Program. They also work towards finding travel alternatives for commuters and they conduct programs on sustainability and bicycle safety. Some of the programs include bicycle route planning, Bike to Work challenges, information on bicycle lockers, bike sharing information, providing emergency rides to bicycling commuters, “green rewards” or discounts at local vendors, bike rodeos and bicycle safety programs. The TMAs are partly funded by the FHWA through NJDOT and NJ TRANSIT. They also provide SRTS programmatic (non-infrastructure) assistance to local schools and municipalities.



New Jersey Transportation Management Associations (TMAs)
Image: The RBA Group





COUNTIES AND MUNICIPALITIES

Activities pertaining to pedestrian safety enforcement, education and emergency medical services are primarily local functions. Many of New Jersey's counties and municipalities regularly conduct bicycle safety education and encouragement programs. In addition, many local governments have utilized NJDOT's local technical assistance to develop plans that address bicycle access and safety needs for their communities. Hundreds of municipalities and counties have been recipients of federal and state funds through competitive grant programs administered by NJDOT that provide funding for projects that address bicycle access and safety. Many others have been recipients of federal Section 402 funds administered by DHTS to implement enforcement and educational programs affecting bicyclist safety.

Many counties conduct bicycle rodeos which aim to educate residents on how to maintain and safely ride their bicycles. Municipalities have also started to host "open streets" events or "ciclovias" to encourage a safe street environment for bicyclists and other users.



New Brunswick Ciclovía
Image: Together North Jersey

ADVOCACY GROUPS

Many bicycle clubs and advocacy groups in New Jersey focus on safe bicycling and promote bicycle safety programs and initiatives. Some of the key groups include:

New Jersey Bike & Walk Coalition (NJBWC) is New Jersey's statewide organization for bicycle and pedestrian advocacy. NJBWC is dedicated to protecting the rights and safety of NJ bicyclists and walkers, promoting bicycling and walking, and educating all roadway users about their rights and responsibilities.

Tri-State Transportation Campaign is a non-profit organization dedicated to reducing car dependency in New York, New Jersey and Connecticut. They help to secure funding for many bicycle programs in the tri-state region.

In addition, there are numerous local clubs and advocacy organizations that focus on creating safer and more accessible bicycling environments in their neighborhoods/regions.

PRIVATE FOUNDATIONS AND NON-PROFIT ORGANIZATIONS

There are multiple non-profit organizations and private foundations that focus on bicycle safety in New Jersey. Examples of these include:

American Automobile Association (AAA) is a non-profit, non-partisan organization that works to promote public safety through education activities and programs. Among other efforts by AAA, those that relate to bicyclist safety aim to advance knowledge and raise awareness about distracted driving and transportation safety. The AAA website has a section focused on bicyclist safety with brochures, videos and





tips in addition to a review of motorist and bicyclist responsibilities that can help travelers avoid many common vehicle-bike collisions.

New Jersey Future is a non-profit, nonpartisan organization that aims to promote responsible land-use policies. With respect to bicycle safety, the organization conducts research, analysis and advocacy to develop land-use policies that focus on providing transportation choices beyond cars and expanding access to safer and affordable neighborhoods.

Robert Wood Johnson Foundation (RWJF) is dedicated to addressing the nation's most pressing health issues. Headquartered in New Jersey, RWJF is working to build a national Culture of Health – improved population health, well-being and equity. Creating healthier and more equitable communities is the third action area in the foundation's report: From Vision to Action - A Framework and Measures to Mobilize a Culture of Health. Adoption of Complete Streets policies, provision of a pedestrian- and bicycle-friendly built environment and access to healthy foods are some of the performance measures in the framework.

PROFESSIONAL ORGANIZATIONS

Professional Organizations in New Jersey that promote safe bicycle travel in a variety of ways include, but are not limited to, the New Jersey Chapter of the American Planning Association, the New Jersey Police Traffic Officers Association, Association of New Jersey Environmental Commissions, Institute of Transportation Engineers, American Society of Civil Engineers, American Society of Landscape Architects and the New Jersey State Association of Chiefs of Police.



Bike Depot, Montclair, NJ
Image: NJBWC



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CHAPTER 4 VISION STATEMENT AND GOALS

VISION STATEMENT

This Bicycle Safety Action Plan was developed out of a desire on the part of the NJDOT to address the safety concerns associated with travel by bicycle in New Jersey as was done for pedestrians in the Department’s Pedestrian Safety Action Plan (PSAP), published in 2014. The impetus for that plan was the unacceptable level of pedestrian crash fatalities and serious injuries in NJ. That plan featured a mission to reduce pedestrian fatalities and serious injuries by specific percentages over a five year period and the plan was focused on the carrying out/fulfillment of that mission.

In the PSAP, the Vision Zero and Towards Zero Deaths (TZD) movements were briefly alluded to as an “ultimate goal.” In the intervening years, these movements have flourished and have been adopted widely, including in the most recent Highway Safety Plan (HSP-2016) prepared by the Division of Highway Traffic Safety (DHTS) and the Strategic Highway Safety Plan (SHSP-2015) by NJDOT. Vision Zero and TZD are no longer are viewed as “pie in the sky” hypotheticals but something more than strictly aspirational; a desired state which should relentlessly guide the day to day efforts of those involved in roadway/highway safety. This is reflected in the vision statement that inspires this plan which evolved from the outreach activities that were carried out as part of plan development.

The vision for the New Jersey Bicycle Safety Action Plan is:

New Jersey is working toward a future with zero bicyclist deaths and serious injuries through safety initiatives that prioritize the needs of vulnerable populations and promote mutual respect among all roadway users.



On-road bicyclist in a shore community, North Wildwood
Image: The RBA Group





GOALS

Three core Goals have been developed as means to realize the vision. The goals are based on input from the steering committee and stakeholders, an assessment of Plan4Safety crash data pertaining to bicycle-motor vehicle crashes and a review of the state of the practice resources. They are similar to the core goals adopted in the Pedestrian Action Plan (PSAP). They are:

Goal 1: Establish a *governance and management structure* to facilitate improved data collection, to coordinate implementation of bicycle safety initiatives statewide, and to measure the success of this plan.

Goal 2: Foster *behavioral change* among users of public rights-of-way to promote mutual respect, courtesy and acceptance.

Goal 3: Improve and expand *transportation infrastructure and the built environment for bicyclists* in accordance with best practice standards and guidelines.

For each core goal, a series of recommended actions are proposed that relate back to data, trends and analysis discussed elsewhere in the plan. Fulfillment of each goal is related to the implementation of those action items. These actions are the central focus of plan implementation. For each recommended action, the lead (state) agency most responsible for implementing the action is identified as are supporting agencies and organizations, be they state, regional, or local governmental agencies or non-governmental entities.

VISION ZERO & TOWARDS ZERO DEATHS

Vision Zero is a multi-disciplinary strategy started in Sweden in the 1990s that calls for eliminating traffic fatalities and serious injuries. The Vision Zero strategy has a clear goal of eliminating all traffic fatalities and serious injuries within a set timeline. Vision Zero has proved successful across Europe and has been adopted in many cities in the United States.



Slides from a presentation on Vision Zero by Vision Zero Initiative Sweden

The National Strategy on Highway Safety called **Towards Zero Deaths (TZD)** was created in 2015 by transportation agencies in the United States to support the United Nations General Assembly's Decade of Action goal for Road Safety (2011-2020). It has since been adopted as a long-term vision by many states, including New Jersey.





CHAPTER 5 ACTION PLAN

For each core goal, a series of recommended actions is proposed that relates back to data, trends and analysis discussed elsewhere in the plan. Fulfillment of each goal is related to the implementation of those action items. These actions are the central focus of plan implementation. For each recommended action, the lead agency most responsible for implementing the action is identified as are supporting agencies and organizations, be they state, regional, or local governmental agencies or non-governmental entities (Figures 24-26).



Share the road signage, Hoboken
Image: The RBA Group



Bicycle boulevard, Ocean City, NJ
Image: The RBA Group





GOALS AND ACTIONS

GOAL 1 ACTIONS GOVERNANCE AND DATA MANAGEMENT STRUCTURES

Establish a governance and management structure to facilitate improved data collection, coordinate implementation of bicycle safety initiatives statewide, and to measure the success of this plan.

Figure 24: Goal 1 Actions

No	Action	Lead Agencies	Supporting Agencies and Organizations
1	Utilize the New Jersey Bicycle and Pedestrian Advisory Committee (NJ BPAC) to monitor and track progress of bicycle and pedestrian related plans and initiatives proposed in this plan and progress towards achieving the Plan’s Vision.	NJDOT	VTC/ NJ BPAC, DHTS
2	Continue to partner with the health community to educate the public on the benefits of and safe practices for bicycling and walking.	NJDOT, VTC	NJ BPAC, NJDOH/Shaping NJ, New Jersey Healthy Communities Network
3	Collaborate with NJDHTS and metropolitan planning organizations (MPOs) to develop bicycle-pedestrian safety performance measures as part of new FHWA rules to implement MAP-21 and FAST Act requirements and update the Strategic Highway Safety Plan (SHSP).	NJDOT, DHTS, MPOs	FHWA
4	Collaborate with municipalities and school boards on implementing transportation and land use (school siting) decisions that support bicycling and walking.	NJDOT, VTC	TMA’s (SRTS Regional Coordinators), municipalities
5	Conduct a comprehensive review and evaluation of the NJ Statutes as they pertain to bicycling and bicycle safety such as a safe passing distance law, a “dooring” law and operating requirements for E-bikes.	NJDOT, VTC, NJ BPAC	Advocacy Organizations
6	Continue to update and improve the quality of crash analysis tools such as Plan4Safety and non-motor vehicle related crash data collection. Identify high risk locations; and develop bicycle and pedestrian trip purpose, e.g. bike-to-transit counts and bicycle and pedestrian exposure data for New Jersey.	NJDOT, VTC	NJDHTS, Municipalities
7	Establish an interactive tool such as a smartphone app where pedestrians and bicyclists can report bicycle-friendly roads / routes and problem locations along roadways (near misses) to help identify high risk locations.	NJDOT	Counties, Municipalities





GOAL 2 ACTIONS FOSTER BEHAVIORAL CHANGE

Foster behavioral change among users of public rights-of-way to promote mutual respect, courtesy and acceptance.

Figure 25: Goal 2 Actions

No	Action	Lead Agencies	Supporting Agencies and Organizations
1	Promote education on sharing the road with bicyclists throughout the driver education, training, and licensing processes.	MVC	NJDOT, DHTS, VTC, BPRC, NJBWC
2	Expand pedestrian safety campaigns, such as <i>Street Smart</i> , to include more on bicycle safety and implement them in more communities; pair safety campaigns with enforcement efforts. Make use of social media to promote “Put the Brakes on Fatalities Day” and “Vision Zero” movements.	DHTS, MPOs – especially NJTPA	NJDOT
3	Create a pilot program, including a bilingual video, to encourage use of bike lights, reflectors, bells, and helmets focused on disadvantaged, high risk populations, including those who use the bicycle as a primary form of transportation.	DHTS, VTC – especially NJAIM	NJDOT, Local Law Enforcement
4	Collaborate with law enforcement agencies to undertake relevant research and to develop training to ensure enforcement of both motorists and bicyclist behaviors.	DHTS, VTC (Bicycle Safety Enforcement research effort)	NJDOT, Local Law Enforcement
5	Continue to promote and encourage schools to support and implement SRTS programs, including bicycle/pedestrian education programs, encouragement programs and policies, and School Travel Plans.	NJDOT, VTC SRTS Resource Center, TMAs	Counties , Municipalities and School Districts
6	Continue to improve police reporting for fatal and serious injury bicycle (and pedestrian) crashes.	DHTS, NJDOT (BTDS), CAIT, STRCC	VTC, Law Enforcement,
7	Promote high visibility targeted enforcement in areas where pedestrian and bicyclist crashes are overrepresented.	DHTS	Law Enforcement
8	Encourage Complete Streets policies, plans, educational/training efforts. Move beyond policy to implementation.	NJDOT, DHTS	VTC, Counties, Municipalities
9	Develop a campaign to replace the word “accident” with “crash” in all of NJDOT’s published and disseminated materials and encourage journalists to participate.	NJDOT, DHTS	MVC, Counties, Municipalities, police, NJBWC





GOAL 3 ACTIONS IMPROVE & EXPAND BICYCLING & PEDESTRIAN INFRASTRUCTURE

Improve and expand transportation infrastructure and the built environment for pedestrians and bicyclists in accordance with best practice standards and guidelines.

Figure 26: Goal 3 Actions

No	Action	Lead Agencies	Supporting Agencies and Organizations
1	Establish infrastructure investment priorities, specifically targeting high-frequency crash locations (systematic approach) as well as a system-based (systemic) approach; also considering concentrations of vulnerable populations using best available crash and demographic data.	NJDOT, VTC	CAIT, local governments
2	Align the highway access permit application checklist and methodology with NJDOT Complete Street polices and principles.	NJDOT	local governments
3	Revise capital programming policies and procedures to address both vulnerable users and communities with greatest need based on data driven methodologies.	NJDOT	MPOs
4	Identify and encourage implementation of best practices as well as emerging and innovative bicycle and pedestrian design approaches, facilities and treatments.	NJDOT	VTC, CAIT
5	Continue to fully staff the Office of Bicycle and Pedestrian Programs OBPP at NJDOT and promote/prioritize the Local Bicycle and Pedestrian Planning Assistance Program.	NJDOT	BPAC, Municipalities
6	Require context sensitive bicycle, pedestrian, and Americans with Disabilities (ADA) improvements for all projects consistent with federal guidance and NJDOT’s Complete Streets policy.	NJDOT	Counties, municipalities, CAIT/LTAP
7	Continue to conduct safe pedestrian and bicycle planning and design/Complete Streets workshops, webinars, and conferences for state agencies and local governments.	NJDOT, VTC, CAIT/LTAP	MPOs, counties, municipalities
8	Increase/create funding incentives for municipalities/counties and school districts that have adopted and implemented supportive policies and plans for example Complete Streets Policies and Implementation Plans and School Travel Plans.	NJDOT, DHTS	Counties, municipalities, NJDOH, healthy community network, Sustainable Jersey
9	Evaluate the Residential Site Improvement Standards (RSIS) in terms of their relationship / consistency with Complete Streets Design and their impact on bicycle and pedestrian safety.	NJDOT, VTC	DCA





CHAPTER 6 MONITORING OUTCOMES

This section presents a series of performance measures for each of the plan's core goals. There is not a performance measure proposed for each recommended action; rather there is a limited set of suggested performance measures for each goal. The purpose of limiting the number of performance measures is to simplify and streamline the evaluation process, to enable the agencies involved to focus their energy and resources on implementing the recommended actions and achieving the goals in pursuit of the vision. These performance measures are not fixed or immutable. It is anticipated that, during the first year following the publication/adoption of this plan, evaluation efforts will focus on refining the measures and identifying, discovering and/or assembling the data necessary to track progress, and, over time, establish reasonable performance targets.

Recommended performance measures are tracked in terms of activities undertaken (efforts) or achievements (results). It is further recommended that the evaluation process be managed by the NJDOT with input from the NJ BPAC and with the assistance of VTC. The following performance measures are recommended for each of the three goals.



Bicycle Rodeo, Newark, NJ
Image: The RBA Group





GOAL 1 GOVERNANCE AND MANAGEMENT STRUCTURE

Performance Measures

- Within six months of BSAP publication, enlist NJ BPAC and VTC to undertake the development of a tracking report that gauges the refinement and extent of achievement of selected performance measures for each of the plan's core goals.
- Within one year, complete the BSAP progress and tracking report; update annually thereafter.
- Within one year, initiate a comprehensive review and evaluation of bicyclist and pedestrian provisions of the New Jersey Statutes regarding bicycle and pedestrian issues including recommendations for additions and/or changes.

GOAL 2 FOSTER BEHAVIORAL CHANGE

Performance Measures

- Within two years complete production of a bilingual video demonstrating/encouraging use of bike lights, reflectors, helmets and bells (focused on disadvantaged, high risk populations, including those who use the bicycle as a primary form of transportation).
- Within two years initiate a study of the crash reporting form and the process of completing it with particular attention to capturing data that is essential for capturing and understanding bicycle crashes.
- Within a year initiate research on the current status and challenges associated with bicycle safety enforcement within NJ and nationally.

- Track number of summonses issued by law enforcement agencies to motorists who engage in inappropriate behavior towards bicyclist behaviors and to bicyclists who violate the rules of the road.
- Track number of Complete Streets policies adopted / implemented by counties and municipalities.
- Track number of School Travel Plans adopted/implemented.
- Track number of bicycle safety enforcement training sessions conducted by VTC.

GOAL 3 IMPROVE & EXPAND PEDESTRIAN & BICYCLING INFRASTRUCTURE

Performance Measures

- Within a year initiate a review of the highway access permit application/review process, with the purpose being to develop recommendations ensuring its consistency with the NJDOT Complete Street Policies and principles.
- Number of pedestrian and bicycle planning and design workshops, webinars, and conferences for state agencies and local governments.
- Within one year, initiate a study of emerging and innovative bicycle and pedestrian approaches, facilities and treatments.
- Within 3 years, develop and test an infrastructure prioritization tool, utilizing both a systematic and a systemic approach, while considering concentrations of vulnerable populations (based on risk assessment and demographic factors) and using best available crash and demographic data.





CONCLUSIONS AND NEXT STEPS

While the current level of fatalities and serious injuries due to bicycle-motor vehicle crashes in New Jersey may seem relatively minor, especially in comparison with the incidence and rate of pedestrian fatalities and serious injuries, the number and severity of these crashes is still too high, contributing to New Jersey's "status" as a pedestrian/bicycle focus state. These crashes can and must be addressed: first and foremost for their direct benefit in terms of reducing death and suffering; but also because addressing and achieving the goals of this plan will foster greater use of the bicycle, and, mirroring the experience of others, increase bicycle ridership thereby leading to increased safety (in numbers).

It should be kept in mind that an unknown but possibly substantial number of bicycle crashes do not involve a motor vehicle but are due to bicycle/bicycle crashes, bicycle/pedestrian crashes or a single bicyclist crash resulting from loss of control due to roadway impediments, motorists passing too closely, or bicyclist inattentiveness, etc. The incidence and results (fatalities and injuries) of these non-motor vehicle involved bicycle crashes should also be lessened by the implementation of actions and countermeasures recommended in this plan.

This **Bicycle Safety Action Plan** sets out a series of recommended actions to achieve a reduction in bicycle crashes. The success of this outcome is dependent on assertive and sustained effort pro-actively taken on by those interested in or responsible for an improved, safer bicycling environment in New Jersey. It can and should be led and facilitated by efforts and programs of those state agencies with principal involvement in bicycling safety programs and projects, supported by their federal and regional partner agencies. But, to have

a meaningful impact on the incidence of bicycle fatalities and serious injuries, others involved need to become leaders within their own organizations and their own communities.

The first and most critical step towards this kind of leadership is active "buy in" by all entities tasked with its implementation. This especially includes the Bicycle and Pedestrian Advisory Council taking on a significant role in facilitating and encouraging the proactive involvement of stakeholders within their spheres of influence and in evaluating the plan's success. This will drive the implementation of the Plan's recommended actions, the accomplishment of its goals, and the realization of its vision.



Bicyclists riding on the Route 36 Bridge, Highlands, NJ
Image: The RBA Group



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LIST OF ACRONYMS

AAA – American Automobile Association

ACS – American Community Survey

ADA – American Disabilities Act

BPRC – New Jersey Bicycle and Pedestrian Resource Center

BTDS – New Jersey Department of Transportation Bureau of Transportation Data and Safety

BSAP – Bicycle Safety Action Plan

CAIT – Rutgers Center for Advanced Infrastructure and Transportation

CS – Complete Streets

DHTS –New Jersey Department of Law and Public Safety Division of Highway Traffic Safety

DVRPC – Delaware Valley Regional Planning Commission

FHWA – Federal Highway Administration

LTAP – Local Technical Assistance Program

MPO – Metropolitan Planning Organization

MVC – New Jersey Motor Vehicle Commission

NHTSA – National Highway Traffic Safety Administration

NJAIM – Ambassadors in Motion

NJBPAC – Bicycle and Pedestrian Advisory Committee

NJBWC – New Jersey Bike Walk Coalition

NJDEP – New Jersey Department of Environmental Protection

NJDOH – New Jersey Department of Health

NJDOT – New Jersey Department of Transportation

NJLTAP – New Jersey Local Technical Assistance Program

NJSA – New Jersey Statutes Annotated

NJ SRTSRC –New Jersey Safe Routes to School Resource Center at Rutgers University

NJTPA – North Jersey Transportation Planning Authority

OBPP – New Jersey Department of Transportation, Office of Bicycle and Pedestrian Programs

PSAP – Pedestrian Safety Action Plan

RSA – Road Safety Audit

RWJF - Robert Wood Johnson foundation

SHSO – State Highway Safety Office

SHSP – Strategic Highway Safety Plan

SJTPO – South Jersey Transportation Planning Organization

SRTS – Safe Routes to School

STIP – Statewide Transportation Improvement Program

STRCC – Statewide Traffic Records Coordinating Committee

TMA – Transportation Management Association

TSRC - Transportation Safety Resource Center at CAIT

TSTC – Tri-State Transportation Campaign

TZD – Towards Zero Deaths

USDOT – United States Department of Transportation

VTC - Alan M. Voorhees Transportation Center at Rutgers University



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