RUTGERS

Edward J. Bloustein School
of Planning and Public Policy

New Jersey Bicycling Benchmarking Report

2013 - 2014

Prepared by :

Alan M. Voorhees
Transportation Center
Edward J. Bloustein School of
Planning and Public Policy
Rutgers, The State University of
New Jersey

Prepared for :

New Jersey Department
of Transportation

2013-2014 New Jersey Bicycling Benchmarking Report

SUBMITED TO:

New Jersey Department of Transportation
1035 Parkway Avenue
P.O. Box 600
Trenton, NJ 08635-0600

SUBMITED BY:

Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey
33 Livingston Avenue
New Brunswick, NJ 08901

ABOUT

The Alan M. Voorhees Transportation Center (VTC) is a national leader in the research and development of innovative transportation policy. Located within the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, VTC has the full array of resources from a major research university on transportation issues of regional and national significance.

Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey
33 Livingston Avenue, Fourth Floor
New Brunswick, New Jersey 08901

For questions or comments, you may contact Charles Brown, MPA at charles.brown@ejb.rutgers.edu

Please visit the Bicycle and Pedestrian Resource Center at http://njbikeped.org/

ACKNOWLEDGMENTS

This report was written by Charles Brown, MPA, Betsey Harvey, MCRP, James Sinclair, MCRP, and Nicholas J. Klein of the Alan M. Voorhees Transportation Center at Rutgers University, with support from Robert B. Noland.

The authors would like to thank the engineers, planners, police officers, elected officials, administrators, and countless other friendly municipal employees who responded to our survey on their bicycle infrastructure and policies. This report would not have been possible without their assistance. We would also like to thank graduate students James Bonanno, Gabriela Kappes, Mikhail Kublanov, and Michael Thompson for assisting in the collection of data, and Salwa Marzouk for her help in the design of the report.

New Brunswick, home to the Bicycle and Pedestrian Resource Center, during the winter.

TABLE OF CONTENTS

TABLES

FIGURES

INTRODUCTION

In 2014, the Alan M. Voorhees Transportation Center (VTC) undertook a study to benchmark the state of local bicycling investment in New Jersey municipalities for the years 2013-2014. The New Jersey Bicycling Benchmarking Report reviews the state of bicycle infrastructure, policies, programs, and safety in New Jersey. It relies primarily on 2013 and 2014 data provided by select municipalities through an extensive survey; secondary data from online resources was also used.

The purpose of this report is to provide a comprehensive summary of the bicycle environment at the municipal level and to provide a baseline for follow-up reports to show how municipal support for bicycling changes over time. An additional goal is to identify and highlight municipalities that are exemplary in their investment in a safe and convenient bicycling environment, and to encourage other municipalities to follow their lead.

The report is modeled after the *Bicycling and Walking in the United States: 2014 Benchmarking Report* by the Alliance for Biking and Walking, but focuses only on New Jersey to be more informative for local municipalities. It also draws from other state-based reports such as *WalkTexas, BikeTexas 2012 Benchmark Study*.

As this is the first time a bicycle benchmarking report has been completed in New Jersey, significant effort was put into collecting local bicycling information that was previously not easily accessible outside of municipal governments. To acquire this information, VTC conducted a detailed survey of 60 municipalities to understand their efforts to promote bicycling at the local level. Of the 60 municipalities surveyed, 54 provided responses, for a response rate of 90 percent. Aside from the survey, additional historical data from public online sources and previous VTC studies was complied. This data included crash data, commute mode data, demographic data, and other measures that provide insight into bicycling in the state.

This report focuses on six facets of bicycle planning, programming, and policy. Infrastructure – which includes safe bicycling facilities, bicycle parking, and maintenance – facilitates bicycling. Policy includes local ordinances and initiatives that can help – or hinder – the use of bicycles in municipalities. Funding and staffing shows a municipality's commitment to improving the local bicycle environment. Education and advocacy helps to improve safe bicycling habits by children and adults, while safety shows how these efforts translate into real-world benefits. A summary of the findings follow; a more detailed discussion can be found in the Survey Results chapter.

Education and Advocacy

Most of the municipalities surveyed do not offer bicycle education or other municipal bicycling programs for residents. Only four offer bicycle education to adults, and four were involved in the 2013 Safe Routes to School Bike to School Day. Nor do many offer incentives to government employees for bicycling for commuting or other work trips: just one municipality provides reimbursement to employees who use bicycles rather than vehicles for work trips, and eight have participated in bike to work events. On the advocacy side, nine respondents have hosted, or plan to host, a Ciclovia or a similar "open streets" initiative to promote physical activity.

Funding and Staffing

Most municipalities did not spend money on bicycling in 2013, with only fourteen reporting any spending on bicycle infrastructure and seven on bicycle education. Thirty municipalities did report employing at least one staff member to work on bicycle planning and other bicycle-related activities, with the average municipality having two staff members that do so.

Infrastructure

Municipalities vary in the type and amount of bicycling infrastructure that they have. Municipalities were asked about their bicycle route infrastructure, types and locations of bicycle racks, and the use of other infrastructure, such as advanced stop lines and bicycle signal heads. A total of 184.2 miles of bicycle infrastructure exists among the municipalities surveyed. The survey also found that the most innovative types of bicycle infrastructure, such as green painted bicycle lanes and bicycle traffic signals are rare in New Jersey. Many municipalities have no bicycle infrastructure at all aside from bicycle racks, and six reported having no bicycle racks.

Policy

Municipalities were asked about a range of policy topics, including the availability of bicycle maps, consideration of bicycles in master plans, local laws, bicycle share systems, and Complete Streets policies. Twenty-nine municipalities have a Complete Streets policy, while 32 municipalities have a bicycle element in their master plan. Only three municipalities stated that they actively enforce laws against illegal parking in bicycle lanes.

Safety

Data show that fatalities and injuries suffered by bicyclists involved in automobile crashes are decreasing. The shore towns that were surveyed, which have some of the highest rates of bicycling, have among the fewest numbers of bicycle-automobile collisions despite their high bicycle mode share, and also tend to have more police officers trained to patrol on bicycles.

Notable Communities

This report also highlights ten municipalities that stand out for their exemplary bicycle planning, policy, and programming efforts. They represent a diversity of locales – urban, suburban, shore towns – that similarly situated municipalities can look to as examples in their own bicycle planning efforts. While there are always opportunities for improvement, these locales strive for excellence in making their communities welcoming to bicyclists. These notable communities are presented in sidebars throughout the report. They have been placed in sections that reflect their strength, and their order does not constitute as a ranking.

The remainder of the report is divided into seven chapters. The Introduction summarizes the results of report and is followed by the Background chapter, which discusses past reports that were drawn upon in the creation of the methodology and the report as a whole. The Methodology chapter discusses the selection method for the municipalities included in the survey, the creation of the survey, and the process of collecting survey responses. The Demographics chapter includes pertinent demographic information about the communities involved in the survey, such as commuting mode share by bicycle, population, and employment statistics. The Survey Results chapter presents an analysis of the survey responses. The Discussion chapter follows, providing a summary look at the survey results as a whole, and what it reveals about the state of bicycling in New Jersey. Finally, the report wraps up with the Conclusion chapter, which summarizes the major finding of the survey and provides recommendations for future reporting on bicycling in New Jersey.

Figure 1: Delaware and Raritan Canal Trail

The popular Delaware and Raritan Canal Trail allows for 77 miles of scenic riding from New Brunswick to Trenton.

BACKGROUND

The objectives of this report are multi-fold. First, the objective is to develop a methodology for collecting bicycling data from municipal governments in New Jersey that will inform future data collection efforts. Second, the objective is to establish an initial standard against which future bicycling data can be compared. The third objective is to capture a wide range of components that contribute to a supportive bicycling environment that had not in the past been readily available in one place. Fourth, the objective is to collect and present this data in a way that is useful for municipalities, state agencies, advocacy groups, and counties alike to see where strengths and opportunities for growth exist. The final objective is to present these data in a way that will permit measurement and evaluation in future iterations of this report on the state of bicycling in New Jersey municipalities.

This report draws upon previous, similar studies conducted in other states and nationally. Of particular importance was the *Bicycling and Walking in the United States: 2014 Benchmarking Report* conducted by the Alliance for Bike & Walking and the *BikeTexas 2012 Benchmark Study*.

The project team examined the types of questions used in these reports to develop a questionnaire that would reflect the unique characteristics of New Jersey municipalities and needs of New Jersey bicyclists. The resulting survey became the basis upon which this report was founded.

Further municipal-level data was gathered from numerous online resources, including Plan4Safety (New Jersey's crash database), the American Community Survey, the United States Census, and municipal websites. The project team also included data previously gathered by the Alan M. Voorhees Transportation Center for use in other reports (see appendix B). This information not only provides context for the surveyed municipalities, but also supplies information that was not included on the survey, including demographic data, mode share data, and data on bicycling to work.

Figure 2: Hoboken Bicycle Corral

The first on-street bicycle corral in Hoboken was installed at the corner of Hudson Street and Hudson Place.
Picture source: City of Hoboken

Figure 3: Municipalities Selected for This Study

Atlantic County
Egg Harbor Township

Bergen County
Hackensack

Burlington County
Evesham

Camden County
Camden
Cherry Hill
Collingswood
Gloucester Township

Cape May County
Lower
Ocean City
West Cape May
Wildwood
Wildwood Crest

Cumberland County
Vineland

Essex County
East Orange
Glen Ridge
Maplewood
Montclair
Newark

Gloucester County
Washington Township

Hudson County
Bayonne
Hoboken
Jersey City
North Bergen
Union City

Hunterdon County
Raritan Township

Mercer County
Hamilton
Princeton
Trenton
West Windsor

Middlesex County
Edison
Metuchen
New Brunswick
Old Bridge
Piscataway
Woodbridge

Monmouth County
Allenhurst
Avon-by-the-Sea
Belmar
Bradley Beach
Middletown
Red Bank

Morris County
Chatham Borough
Morristown
Parsippany-Troy Hills

Ocean County
Brick
Lakewood
Seaside Heights
Toms River

Passaic County
Clifton
Passaic
Paterson

Salem County
Pennsville

Somerset County
Franklin Township

Sussex County
Vernon

Union County
Cranford
Elizabeth
Summit
Union Township
Westfield

Warren County
Phillipsburg

METHODOLOGY

To establish a benchmark for bicycling in New Jersey, the Alan M. Voorhees Transportation Center (VTC) developed a survey to gather information about numerous bicycling characteristics of select municipalities. These characteristics fell into one of six categories: education and advocacy programs, funding, infrastructure, policy, staffing, and safety. Because of the unwieldy nature of surveying all of New Jersey's 564 municipalities, a sample of 60 municipalities was selected based on five criteria. The municipalities to which the survey was sent is shown in Figure 3.

Selection criteria were as follows:

1. The largest municipality by population in each county (21 municipalities);
2. Largest municipalities by population not included in the first criteria (16);
3. Additional municipalities designated as a "Bicycle Friendly Community" by the League of American Bicyclists (4);
4. Municipalities with the highest bicycle mode shares (8); and
5. Municipalities with the highest levels of bicycle-transit commuters (10).

The project team first selected the municipality with the largest residential population in each of the 21 counties in New Jersey:

Camden / Camden County
Edison / Middlesex County
Egg Harbor Township / Atlantic County
Elizabeth / Union County
Evesham / Burlington County
Franklin Township / Somerset County
Hackensack / Bergen County
Hamilton / Mercer County
Jersey City / Hudson County
Lower Township / Cape May County
Middletown / Monmouth County
Newark / Essex County
Parsippany-Troy Hills / Morris County
Paterson / Passaic County
Pennsville / Salem County
Phillipsburg / Warren County
Raritan Township / Hunterdon County
Toms River / Ocean County
Vernon / Sussex County
Vineland / Cumberland County
Washington Township / Gloucester County

Second, the largest municipalities by residential population not included in the first criteria were chosen:

Bayonne / Hudson County
Brick / Ocean County
Cherry Hill / Camden County
Clifton / Passaic County
East Orange / Essex County
Gloucester Township / Camden County
Lakewood / Ocean County
New Brunswick / Middlesex County
North Bergen / Hudson County
Old Bridge / Middlesex County
Passaic / Passaic County
Piscataway / Middlesex County
Trenton / Mercer County
Union City / Hudson County
Union Township / Union County
Woodbridge / Middlesex County

Third, five municipalities that were not already selected and that the League of American Bicyclists have designated as "Bicycle Friendly Communities" were added:

Hoboken / Hudson County
Montclair / Essex County
Ocean City / Cape May County
Princeton / Mercer County
West Windsor / Mercer County

Fourth, eight municipalities with the highest bicycle mode share for the commute journey (based on data from the 2008-2012 American Community Survey [ACS]) were chosen. Due to the year-round nature of the ACS, these communities tended to be towns located along the Jersey Shore. Many of these communities have low populations that increase substantially during the summer months.

Allenhurst / Monmouth County
Avon-by-the-Sea / Monmouth County
Belmar / Monmouth County
Bradley Beach / Monmouth County
Seaside Heights / Ocean County
West Cape May / Cape May County
Wildwood / Cape May County
Wildwood Crest / Cape May County

Finally, the ten municipalities that have the highest levels of bicycle-transit commuters were selected. An earlier VTC study (*Bicycling to Rail Stations in NJ: 2013 Benchmarking Report*) analyzed commute patterns at NJ TRANSIT rail stations throughout the state. Using that data, the research team selected the final ten municipalities for the study:

Chatham Borough / Morris County
Collingswood / Camden County
Cranford / Union County
Glen Ridge / Essex County
Maplewood / Essex County
Metuchen / Middlesex County
Morristown / Morris County
Red Bank / Monmouth County
Summit / Union County
Westfield / Union County

To determine the survey questions, the research team looked at those posed in similar projects undertaken elsewhere – namely, the *BikeTexas 2012 Benchmark Study and the Bicycling and Walking in the United States: 2014 Benchmarking Report* – and chose those most relevant for New Jersey.

For some questions, particularly those concerning demographic data, Complete Streets policies, and Safe Routes to School participation, data was available without the need for input by the municipality. Therefore, in order to make the survey as straightforward as possible to complete, questions were included only if they would be hard, if not impossible to answer without the help of municipal staff. The resulting survey contained forty questions (see Appendix). Images of the object in question were included in those questions that addressed infrastructure improvements to ensure consistency of answers. Paper and online versions of the survey were created to give each municipality a choice in how to submit their responses.

To distribute the survey, municipal clerks in the chosen municipalities were first telephoned and asked to provide an initial point of contact. Trained graduate students then called each contact to confirm that the contact was the best person available to answer the questions in the survey. Letters were then mailed to those contacts notifying them that they would be approached to complete the questionnaire within two weeks. Each contact was given the option of completing the survey either online, on paper, or through a guided phone call. The majority elected to use the online questionnaire. In total, 54 of the 60 municipalities completed the survey for a response rate of 90 percent.

The survey asked respondents to provide their names and job positions. Municipalities could list up to three people who contributed to the responses. Table 1 shows that the majority of those involved in the survey worked as either planners or engineers, with local police departments often contributing as well.

Table 1: Profession of Survey Respondents

Profession	Number of Respondents
Engineer	17
Planner	16
Police	15
Other	7
Administration	6
Elected Official	2
Public Works	2

Figure 4: Safe Routes to School Event

A demonstration bicycle lane created for a Safe Routes to School event in Montclair.

DEMOGRAPHICS

Population and Employment

Prior to administering the survey, demographic data were collected for each of the 60 municipalities to be surveyed. Data were gathered on the population, age, bicycling mode share, and pedestrian and bicycle safety statistics for each municipality. (Bicycle safety statistics can be found in the Survey Results chapter.) Demographic data were obtained from the United States 2010 Decennial Census, the United States Census 2009-2013 American Community Survey 5-Year Estimates, and the 2011 Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (all sources use the most recent data available).

Table 2 (see next page) lists the population and employment numbers for each of the 60 municipalities surveyed. The total population of the sixty municipalities is 3,156,237, which represents about 36 percent of the state's total population. Persons employed within the 60 municipalities, an important factor that helps determine the need for bicycle route infrastructure, constituted a total workforce of 1,297,623, about 38 percent of the total number of people working within New Jersey. Data are also available for the number of jobs located locally or outside the municipality. The more local jobs that are available (as a percentage of total jobs), the greater the capacity of workers to bicycle to transit is likely to be. West Cape May has the highest percentage of residents who work locally at 50.0 percent, followed by Vernon (47.5%), Lower Township (45.9%), Bayonne (39.0%), and Vineland (31.0%). The data suggest that these, and other municipalities that score highly, may have an unmet capacity to provide commuters with bicycling facilities; only West Cape May and Lower Township have bicycle commuting mode shares in the top ten municipalities.

Figure 6 (see page 16) shows the age distribution of the population in each municipality (the municipalities are sorted in decreasing order by the share of the population that is under 18). Several communities stand out in that they have large shares of children (under 18) or adults over 65. In Lakewood, 42 percent of the population is under 18 years old. At the other end of the spectrum, almost 30 percent of the residents of Ocean City and West Cape May Borough are over 65 years old. Municipalities with a large share of children or a large share of older adults each have specific travel needs. For municipalities with a large number of children, planners may want to pay particular attention to the safety of bicycle infrastructure near schools and develop education programs for both drivers and school age children. For populations that skew older, planners should ensure that bicycling environments are safe for older people who may bicycle less frequently, more slowly, and be less aware of their surroundings. In addition, planners should ensure that mobility programs are in place for older adults who no longer drive.

Figure 5: Bicyclist and Toddler

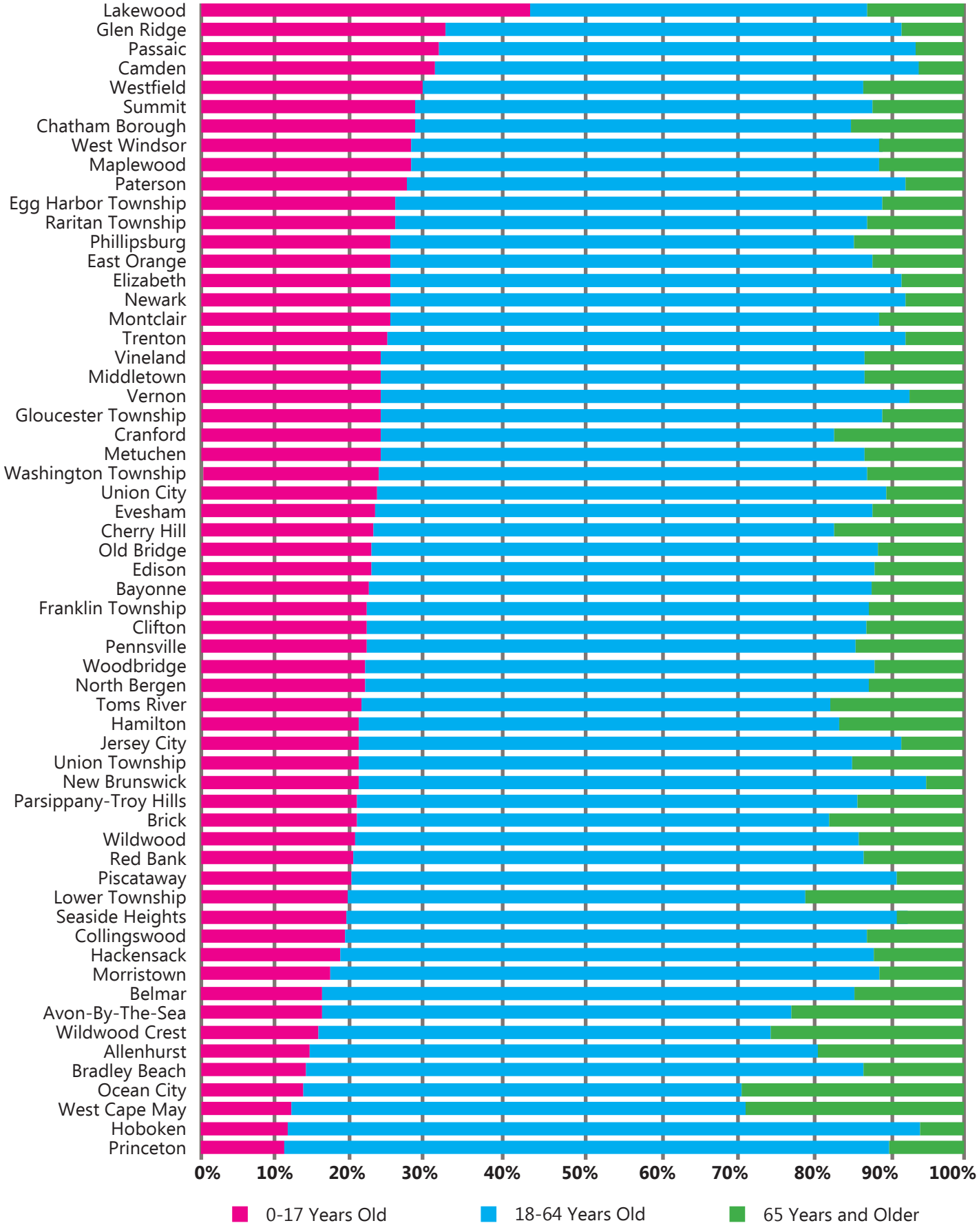
A man seen bicycling with his toddler in New Brunswick.

Table 2: Population and Employment

Municipality	County	Population	Local Jobs	Percent Residents Working Locally
West Cape May	Cape May	1,024	24	50.0%
Vernon	Sussex	23,943	3,181	47.5%
Lower Township	Cape May	22,866	3,948	45.9%
Bayonne	Hudson	63,024	13,717	39.0%
Vineland	Cumberland	60,724	25,507	31.0%
Paterson	Passaic	146,199	34,105	29.0%
Toms River	Ocean	91,239	34,942	27.8%
Pennsville	Salem	13,409	3,331	26.3%
Lakewood	Ocean	92,843	25,916	25.3%
Brick	Ocean	75,072	19,279	25.0%
Union City	Hudson	66,455	10,502	24.5%
Hamilton	Mercer	88,464	32,460	24.9%
Ocean City	Cape May	11,701	4,068	23.1%
Wildwood Crest	Cape May	3,270	379	22.2%
Egg Harbor Township	Atlantic	43,323	11,454	21.0%
Elizabeth	Union	124,969	46,031	20.9%
Middletown	Monmouth	66,522	17,578	20.8%
Old Bridge	Middlesex	65,375	10,255	20.8%
Jersey City	Hudson	247,597	102,358	20.6%
Washington Township	Gloucester	48,559	14,004	19.7%
Gloucester Township	Camden	64,634	14,825	19.8%
Phillipsburg	Warren	14,950	4,181	19.0%
Passaic	Passaic	69,781	13,377	17.7%
Newark	Essex	277,140	134,699	17.4%
East Orange	Essex	64,270	12,007	15.9%
North Bergen	Hudson	60,773	17,016	14.3%
Raritan Township	Hunterdon	22,185	5,907	14.3%
Camden	Camden	77,344	30,309	14.1%
Clifton	Passaic	84,136	29,133	14.1%
Trenton	Mercer	84,913	36,384	14.1%
Wildwood	Cape May	5,325	2,093	13.7%
Westfield	Union	30,316	8,732	13.8%
Hoboken	Hudson	50,005	17,365	13.4%
Evesham	Burlington	45,538	21,686	12.9%
Bradley Beach	Monmouth	4,298	528	12.7%
Woodbridge	Middlesex	99,585	47,517	12.7%
Avon-by-the-Sea	Monmouth	1,901	278	12.6%
Edison	Middlesex	99,967	65,892	12.3%
Belmar	Monmouth	5,794	930	12.2%
Franklin Township	Somerset	62,300	28,959	10.9%
Glen Ridge	Essex	7,527	1,043	10.5%
Metuchen	Middlesex	13,574	5,433	10.4%
Cherry Hill	Camden	71,045	47,172	10.0%
Collingswood	Camden	13,926	4,396	9.7%
Maplewood	Essex	23,867	5,786	9.5%
Seaside Heights	Ocean	2,887	935	9.3%
Montclair	Essex	37,669	18,975	9.0%
Cranford	Union	22,625	11,679	8.4%
Union Township	Union	56,642	28,342	8.4%
Parsippany-Troy Hills	Morris	53,238	47,310	8.1%
Princeton	Mercer	12,307	24,928	7.4%
Hackensack	Bergen	43,010	40,189	7.2%
Piscataway	Middlesex	56,044	35,598	7.1%
Summit	Union	21,457	16,386	6.3%
New Brunswick	Middlesex	55,181	40,193	5.9%
Red Bank	Monmouth	12,206	10,732	5.6%
Chatham Borough	Morris	8,962	3,987	5.3%
Morristown	Morris	18,411	24,035	5.3%
West Windsor	Mercer	27,165	25,919	5.2%
Allenhurst	Monmouth	496	376	0.3%

Source: 2010 United States Census, Table DP-1; 2011 Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics

Figure 6: Population Distribution by Age Group



Source: US 2010 Decennial Census, Table DP-1

Bicycling by Mode Share

The share of commuters who use a bicycle as their primary commute mode in New Jersey varies among the 60 municipalities that were surveyed. Table 3 and Figure 11 (see pages 19 and 21) summarize the share of employed residents who commute by bicycle. The highest bicycling mode share can be found in shore communities such as Wildwood and West Cape May – 14.4 percent and 11.2 percent respectively. Since this data comes from the American Community Survey, which is conducted throughout the year, it thus captures the summer commuters who are likely more reliant on bicycling than the off-season.

At the other end of the spectrum, heavily populated New Jersey cities like Newark and Hoboken have a bicycling mode share under one percent. One reason may be due to underdeveloped bicycle infrastructure in a crowded road network, which may not feel safe to many. Another reason may be that the ACS does not fully represent people who use bicycles during their commute due to their methodology.

Many of the communities in northern New Jersey are home to commuters who use public transit to reach the major employment centers, such as Newark and New York City. When responding to the ACS surveys, commuters are asked to pick which transportation mode they used the most within the previous week. That is, if a respondent used a bicycle for five minutes to reach a train station, and then rode the train for 45 minutes, the ACS will report the person only as a transit commuter. Table 3 (see page 19) includes the percentage of transit commuters in each municipality as a reference.

A 2013 study by VTC, *Bicycling to Rail Stations in New Jersey: 2013 Benchmarking Report*, collected data on bicycling conditions at all New Jersey rail stations. The study also counted the number of commuters who arrived or departed from 35 of the most well-used rail stations by bicycle during morning commute hours (6:30 AM – 10:00 AM). (While some non-commuters were likely to be included in these counts, the time period and the day of the week – Tuesday, Wednesday, or Thursday – likely kept the number of non-commuters low.) Table 4 shows the number of bicycle commuters counted by the ACS compared to the number of commuters observed at rail stations as part of the 2013 study. Although the VTC count is limited in that it likely captured non-commuters as well as commuters and it occurred on only one day at each location, it shows that the mode share statistic could be misleading when attempting to understand local bicycle use.

For example, according to the ACS, Westfield has a bicycle mode share of 0.3 percent, or 42 bicycle commuters. The VTC study, meanwhile, counted 52 bicyclists arriving or departing from the local rail station. Chatham and Glen Ridge both have a bicycle commute mode share of 0 percent, but VTC counts found 14 and 16 bicyclists using a bicycle as part of their rail trip, respectively. The result is that municipalities that encourage residents to bike to transit with good policies or excellent infrastructure may not find their efforts reflected in the ACS statistics. Instead, local counts are needed to capture a more accurate number of residents who use bicycles as part of their commute.

ACS data show that most work trips by bicycle were made by men (Table 3). A few shore communities, such as Seaside Heights and West Cape May, reported higher shares of female residents commuting by bicycle, though the number of such commuters in these places was otherwise small. On the other hand, men account for a majority of bicycle commuters in more populated areas like New Brunswick and Hoboken.

Figure 7: Bicyclist in the Winter

Rain, shine or snow, some bicycle commuters are active year-round in New Jersey, as seen in this picture from New Brunswick.

NOTABLE COMMUNITY

Princeton has the highest bicycle commuter mode share for any non-shore municipality in this survey. They also reported the second most mileage of off-road trails, with 32 miles. Along with Princeton University, the municipality has launched a pilot bicycle share program at their local train station. Princeton is recognized by the League of American Bicyclists as a Bicycle Friendly Community, and Princeton University as a Bicycle Friendly University (both Bronze). Princeton has a Complete Streets policy, and is located in Mercer County, which also has one in place, and is the only county where every municipality has a Complete Streets policy.

Figure 8: Nassau Street in Princeton

Princeton has added 5.2 miles of sharrow marking on their streets, including Nassau Street, which separates Princeton University from a popular commercial stretch of the downtown area.

Figure 9: Princeton University Bicycle Parking

Bicycle parking is plentiful inside Princeton University's scenic campus, with over 3,600 spaces available. The university has a variety of paths open to bicyclists within the campus, allowing for safe, low-stress riding for students and staff.
Picture source: princeton.edu

Figure 10: Zagster Bicycle Share Program

A pilot bicycle share program, Zagster, is available at the Princeton train station. Membership is $20 and allows for free use of the bicycles for two hours, or for a fee beyond that time.
Picture source: zagster.com

Table 3: Share of Bicycle Commuters by Gender

Rank	Municipality	Workers 16 Years and Older[1]	Percent of Workers who Commute by Bicycle			Percent of Workers who Commute by Transit
			All	Men	Women	All
1	Wildwood	2,322	14.4%	17.0%	12.3%	6.1%
2	West Cape May	365	11.2%	7.0%	14.9%	1.6%
3	Belmar	3,167	9.1%	12.8%	4.5%	4.9%
4	Wildwood Crest	1,479	8.2%	13.1%	2.6%	0.9%
5	Seaside Heights	978	7.6%	0.0%*	12.9%	14.1%
6	Allenhurst	275	7.3%	11.8%	0.0%*	11.3%
7	Avon-by-the-Sea	938	5.5%	7.1%	3.5%	3.6%
8	Princeton	13,649	4.6%	7.5%	1.6%	10.0%
9	Ocean City	5,139	3.6%	3.2%	3.9%	2.7%
10	Lower Township	10,359	1.9%	2.0%	1.8%	1.7%
11	Bradley Beach	2,229	1.8%	3.1%	0.0%*	4.3%
12	Red Bank	6,337	1.2%	2.1%	0.0%*	11.8%
13	Hackensack	21,927	1.1%	1.4%	0.8%	19.9%
14	New Brunswick	23,706	1.0%	1.5%	0.3%	10.9%
14	Passaic	26,543	1.0%	1.7%	0.0%*	17.2%
16	Lakewood	25,360	0.8%	1.0%	0.7%	3.4%
16	Trenton	32,898	0.8%	1.3%	0.2%	12.4%
18	Collingswood	7,372	0.7%	1.0%	0.4%	13.3%
18	Elizabeth	56,326	0.7%	1.1%	0.2%	12.0%
18	Hoboken	33084	0.7%	1.1%	0.3%	55.0%
18	Morristown	10,828	0.7%	1.2%	0.2%	5.1%
18	Toms River	43,088	0.7%	1.2%	0.1%	1.9%
23	Summit	9,409	0.6%	0.5%	0.6%	20.9%
23	Montclair	18,559	0.5%	0.8%	0.3%	24.3%
23	Pennsville	5,933	0.5%	1.0%	0.0%*	1.4%
23	West Windsor	12,932	0.5%	0.9%	0.0%*	20.7%
27	Camden	23,015	0.4%	0.5%	0.4%	14.5%
27	Jersey City	123,940	0.4%	0.6%	0.2%	46.2%
27	Union City	31,077	0.4%	0.7%	0.0%*	41.1%
30	Evesham	24,559	0.3%	0.1%	0.4%	3.2%
30	Hamilton	44,312	0.3%	0.6%	0.0%*	3.5%
30	Newark	104,438	0.3%	0.5%	0.1%	26.3%
30	Westfield	13,840	0.3%	0.0%*	0.7%	15.4%
34	Brick	35,346	0.2%	0.3%	0.1%	2.0%
34	Cherry Hill	34,401	0.2%	0.2%	0.1%	6.4%
34	Clifton	41,020	0.2%	0.2%	0.0%*	9.6%
34	Franklin Township	31,256	0.2%	0.4%	0.0%*	7.1%
34	Metuchen	6,768	0.2%	0.3%	0.2%	19.6%
34	North Bergen	29,254	0.2%	0.4%	0.1%	31.0%
34	Parsippany-Troy Hills	26,928	0.2%	0.2%	0.1%	3.5%
34	Washington Township	23,776	0.2%	0.3%	0.1%	2.7%
42	Bayonne	29,453	0.1%	0.2%	0.0%*	23.4%
42	Cranford	11,526	0.1%	0.2%	0.0%*	11.2%
42	East Orange	26,682	0.1%	0.1%	0.1%	23.4%
42	Edison	48,827	0.1%	0.2%	0.0%*	13.4%
42	Egg Harbor Township	20,803	0.1%	0.1%	0.0%*	2.2%
42	Gloucester Township	32,501	0.1%	0.2%	0.0%*	5.8%
42	Maplewood	11,651	0.1%	0.1%	0.1%	31.0%
42	Middletown	31,248	0.1%	0.2%	0.1%	12.1%
42	Old Bridge	32,674	0.1%	0.1%	0.2%	10.6%
42	Phillipsburg	6,400	0.1%	0.2%	0.0%*	2.6%
42	Piscataway	26,589	0.1%	0.2%	0.0%*	7.4%
42	Vineland	25,268	0.1%	0.2%	0.0%*	1.7%
42	Woodbridge	47,099	0.1%	0.2%	0.0%*	11.9%
55	Chatham Borough	4,116	0.0%*	0.0%*	0.0%*	21.1%
55	Glen Ridge	3,591	0.0%*	0.0%*	0.0%*	30.8%
55	Paterson	53,857	0.0%*	0.1%	0.0%*	13.1%
55	Raritan Township	11,215	0.0%*	0.0%*	0.0%*	3.3%
55	Union Township	27,159	0.0%*	0.0%*	0.0%*	9.1%
55	Vernon	12,293	0.0%*	0.0%*	0.0%*	1.1%

[1] *Individuals 16 years or older who worked during the reference week – the percentages are derived from this variable.*

** 0% may be due to the large margin of error created by the small ACS sample size, rather than zero bicycle commuters*

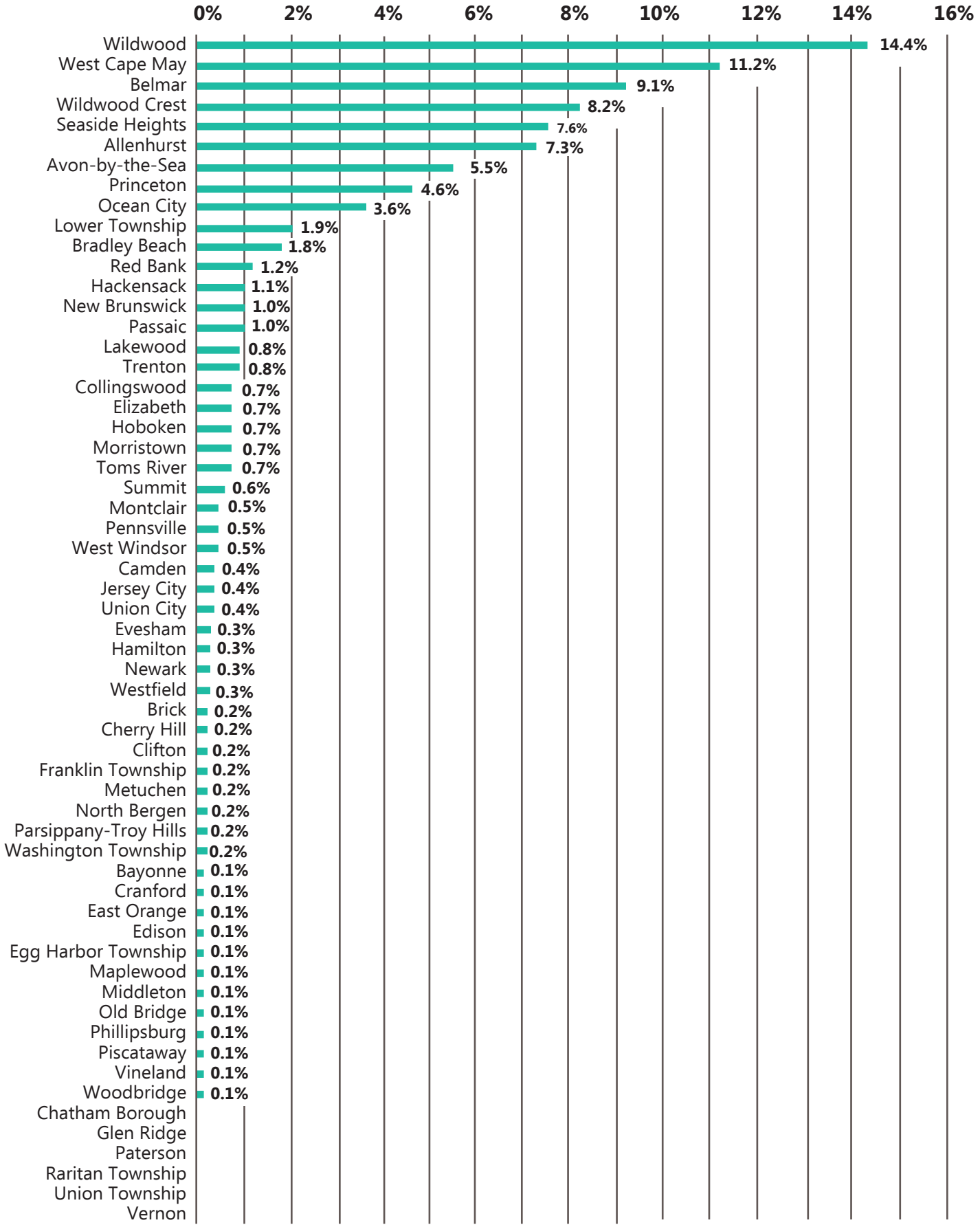
Source: American Community Survey 5-Year Estimate, 2009-2013, Table S0801

Table 4: Number of Bicycle Commuters Compared to the Results of VTC 2013 Study

Rank	Municipality	ACS Bicycle Commuters	VTC Bike to Transit Count
3	Belmar	288	N/A
6	Allenhurst	20	N/A
8	Princeton	628	45
11	Bradley Beach	40	14
12	Red Bank	76	20
13	Hackensack	241	N/A
14	New Brunswick	237	51
14	Passaic	265	N/A
16	Trenton	263	29
18	Collingswood	52	36
18	Elizabeth	394	N/A
18	Hoboken	232	N/A
18	Morristown	76	15
23	Summit	57	34
23	Montclair	93	10
23	West Windsor	65	45
23	Camden	92	N/A
27	Jersey City	496	11
27	Union City	124	N/A
30	Hamilton	133	2
30	Newark	313	45
30	Westfield	42	52
34	Cherry Hill	69	N/A
34	Clifton	82	N/A
34	Metuchen	14	30
34	North Bergen	59	N/A
34	Parsippany-Troy Hills	54	N/A
42	Bayonne	30	N/A
42	Cranford	12	33
42	East Orange	27	N/A
42	Edison	49	N/A
42	Egg Harbor Township	21	2
42	Maplewood	12	28
42	Middletown	31	N/A
42	Woodbridge	47	15
55	Chatham Borough	0	14
55	Glen Ridge	0	16
55	Paterson	0	N/A
55	Union Township	0	N/A

Source: American Community Survey 5-Year Estimate, 2009-2013, Table S0801

Figure 11: Commuting Bicycle Mode Share by Municipality



Source: American Community Survey 5-Year Estimate, 2009-2013, Table S0801

Education and Advocacy

Adult Education and Municipal Employee Incentives

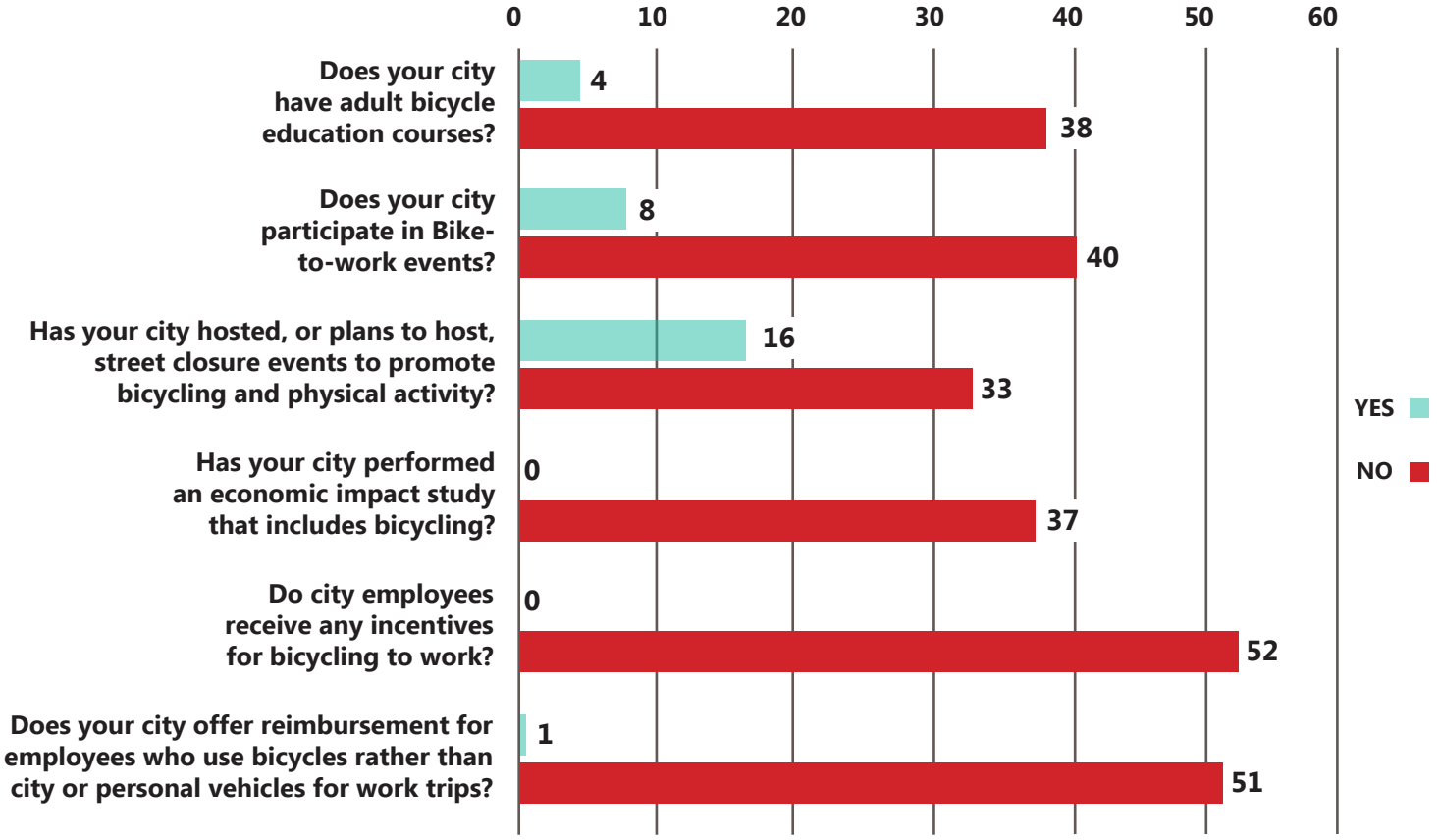
Some of the municipalities that were surveyed offer bicycle education and outreach for adults (Figure 13). Four offer bicycle education courses for adults, while sixteen have held or plan to hold a Ciclovia or similar "open streets" event that promotes bicycling and other physical activities. Nine have, or are planning to create, a bicycle sharing program. A few municipalities also offer their employees bicycling benefits: one offers reimbursement for employees who use bicycles rather than vehicles for work trips and eight municipalities participate in bike to work events. However, none offer incentives specifically to bicycle to work. Finally, none have completed an economic impact study that includes bicycling.

The Voorhees Transportation Center completed a report in 2012 called "The Economic Impacts of Active Transportation in New Jersey" which found that active transportation-related infrastructure, businesses, and events were estimated to have contributed $497.46 million to the New Jersey economy in 2011, supporting over 4,000 jobs. That report can be found on www.njbikeped.org.

Figure 12: Bicyclists at the New Brunswick Ciclovia

Open Streets events, such as the New Brunswick Ciclovia, allow bicyclists of all ages and abilities to hit the road.

Figure 13: Responses to Education and Advocacy Questions



Safe Routes to School

The survey found that numerous schools within the municipalities that were surveyed are involved in New Jersey Safe Routes to School (Tables 5 and 6). Nine are recognition program participants, seven have developed a school travel plan, and four have participated in Bike to School Day. Additionally, in 2013 or 2014, a number of schools within participant cities were awarded the Gold, Silver or Bronze level for their efforts to make bicycling to school safe for children.

Montclair has the most number of participant schools, with eleven awarded gold and one awarded silver. All of Brick Township has been awarded gold. Further, eight schools are located in Jersey City (six silver, two bronze), two in Maplewood (bronze), two in Bayonne (silver and bronze), two in Woodbridge (silver and bronze), and one each in the Chatham school district (silver), Union City (bronze), Collingswood (bronze), and Vineland (bronze).

Table 6: Municipalities Involved with Three Safe Routes to School Programs in 2013 and 2014

Recognition Program Participants	School Travel Plan	Bike to School Participants
Bayonne	Brick Township	Jersey City
Brick Township	Camden	Middletown
Chatham District	Chatham Borough	Montclair
Egg Harbor Township	Egg Harbor Township	Vineland
Jersey City	Montclair	
Maplewood	Newark	
Montclair	Raritan Township	
Trenton		
Vineland		

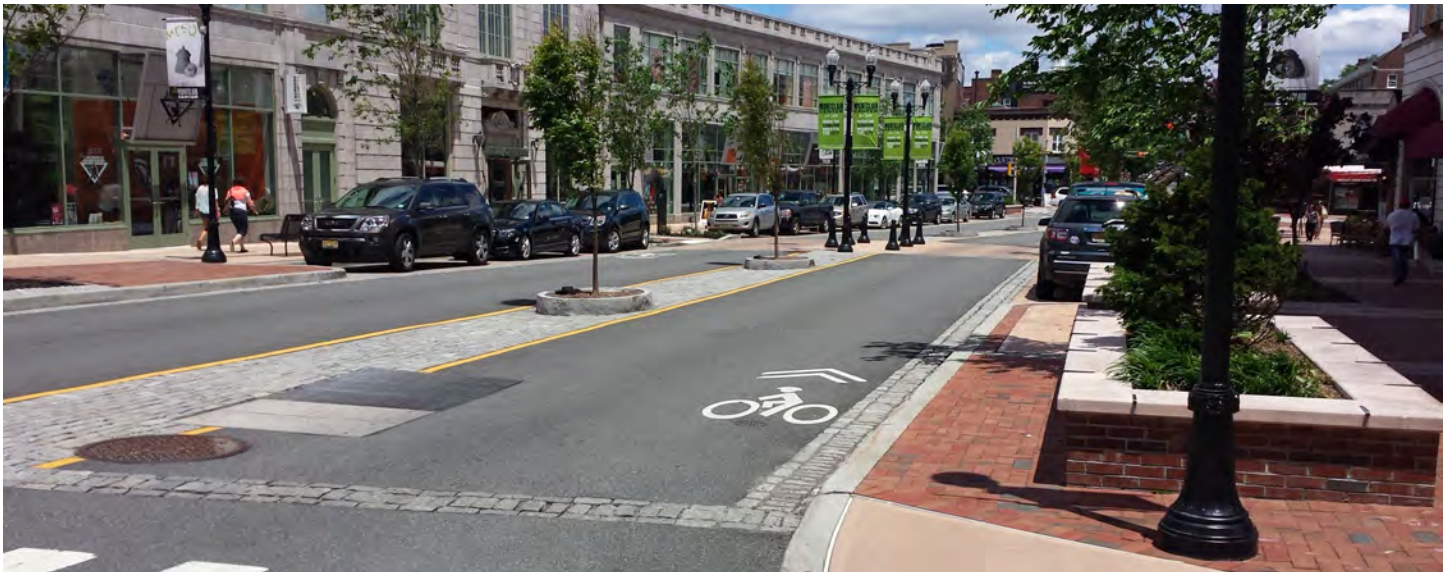
Table 5: Safe Routes to School Recognition Program Award Winners in 2013 and 2014

School	City	Gold	Silver	Bronze
Bradford Elementary School	Montclair	X		
Charles H. Bullock School	Montclair	X		
Edgemont Elementary School	Montclair	X		
Edgemont Montessori School	Montclair	X		
Glenfield Middle School	Montclair	X		
Hillside Elementary School	Montclair	X		
Township of Montclair	Montclair	X		
Mount Hebron Middle School	Montclair	X		
Nishuane School	Montclair	X		
Northeast Elementary School	Montclair	X		
Watchung School	Montclair	X		
Chatham Middle School	Chatham District		X	
PS #3 - Robinson School	Bayonne		X	
PS #15 - Whitney M. Young, Jr. School	Jersey City		X	
PS #17 - Joseph H. Bresinger School	Jersey City		X	
PS #25 - Nicholas Copernicus School	Jersey City		X	
PS #3 - F.R. Conwell School	Jersey City		X	
PS #6 - Jotham Wakeman School	Jersey City		X	
PS #8 - Charles E. Trefurt School	Jersey City		X	
Bradford School	Montclair		X	
Ross Street School #1	Woodbridge		X	
Midtown Community School	Bayonne			X
Zane North Elementary	Collingswood			X
PS #14 – O. Culbreth Jr. School	Jersey City			X
PS #28 Christa McAuliffe School	Jersey City			X
Seth Boyden Elementary	Maplewood			X
Tuscan Middle School	Maplewood			X
Colin Powell Elementary	Union City			X
Wallace Middle School	Vineland			X
Woodbridge Township	Woodbridge			X

NOTABLE COMMUNITY

Montclair Township received the Gold award from the 2014 Safe Routes to School Recognition Program, an improvement from the Bronze that it was awarded in 2013. Additionally, 11 of the schools within Montclair received Gold. Montclair is also recognized by the League of American Bicyclists as a Bicycle Friendly Community (Bronze). Montclair was the first municipality in New Jersey to pass a Complete Streets policy, and is located in Essex County which also has a Complete Streets policy, and is host to the highest number of municipal policies (14).

Figure 14: Montclair Complete Street

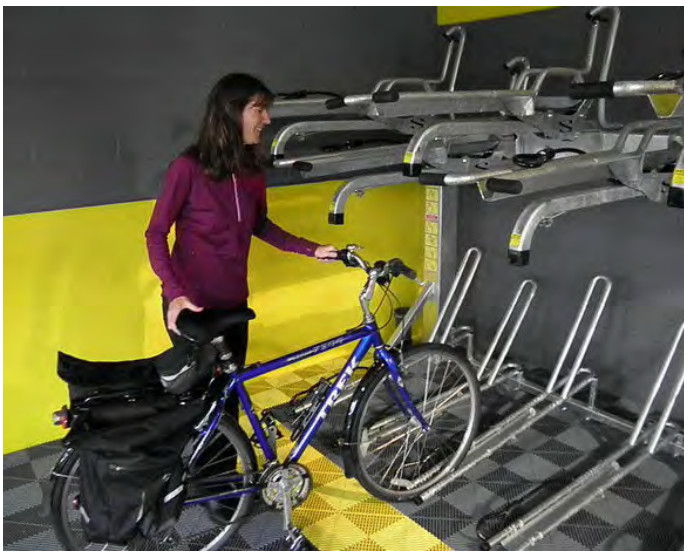


Completed in 2011, the South Park Street Improvement Project brought Complete Streets to one of Montclair's commercial focus areas. Using a mixture of colorful paving materials, the Township sought to bring visual vibrancy to the street, both to generate interest and slow traffic. The project included sharrows, where cyclists can share the lane with slow-moving traffic.

Figure 15: Safe Routes to School Recognition Award

Students, faculty, and staff at Montclair's Mount Hebron Middle School seen receiving a Safe Routes to School recognition award.

Figure 16: Bicycle Parking Depot



October 2014 saw the opening of a 24-space bicycle parking depot at the Bay Street train station in Montclair. The depot offers secure parking, lockers, and an air pump for commuters transferring to trains.
Photo source: NJ Advance Media for NJ.com

Funding and Staffing

Thirty-one municipalities reported that at least one staff member worked on bicycle planning, for a total of 98 staff. An average of two staff work at the 54 municipalities that responded. Ocean City has the most number of employees, with between seven and ten employees working on bicycle planning (this, and other recorded ranges of staff members, was coded as the average of the range [i.e., nine in Ocean City] in Figure 20), while six municipalities reported having the second most with five staff members: Camden, Cherry Hill, North Bergen, East Orange, Hoboken, and Vineland.

Because planning staff may be working on a variety of planning issues, municipalities were also asked for the number of "full time equivalent" (FTE) employees working on bicycle planning (Figure 24). Only 16 municipalities responded to this question, totaling 20 FTEs with an average of 0.4. The municipalities with the highest FTEs working on bicycle planning issues were Ocean City (6 FTEs), West Windsor (4), Hoboken (2), Trenton (2), Jersey City (1), Piscataway (1), Cherry Hill (1), and Parsippany-Troy Hills (1). Note that the municipalities left blank in both graphs are those municipalities whose responses were recorded as blank, ineligible, or zero.

Fourteen of the 54 respondents reported spending on bicycle infrastructure in 2013 (Table 7). Of those that did spend money, the median amount was $15,000. The municipalities that reported spending the most money on bicycle infrastructure were Newark ($600,000), Elizabeth ($400,000), West Windsor ($350,000), Hoboken ($75,000), and Vineland ($40,000). West Windsor spent the most money per capita at $12.88 per person.

Only six municipalities reported funding bicycle education in 2013 (Table 8). Of these, the median amount spent was $1,000 and the average was $1,429. The municipalities that spent the most on bicycle education were Brick ($5,000), Cranford ($1,000), Maplewood ($1,000), New Brunswick ($1,000), and North Bergen ($1,000).

Table 7: Spending on Bicycle Infrastructure in 2013

Municipality	Amount Spent	Amount Spent Per Capita
West Windsor	$350,000	$12.88
Elizabeth	$400,000	$3.20
Newark	$600,000	$2.16
Hoboken	$75,000	$1.50
Vineland	$40,000	$0.66
New Brunswick	$20,000	$0.36
Glen Ridge	$2,000	$0.27
Maplewood	$5,000	$0.21
Parsippany-Troy Hills	$10,000	$0.19
Brick	$10,000	$0.13
Montclair	$2,000	$0.05
Franklin Township	$2,000	$0.03
All other municipalities (each)	$0	$0.00

Table 8: Spending on Bicycle Education in 2013

Municipality	Amount Spent	Amount Spent Per Capita (Children under 18)
Belmar	$500	$0.51
Brick	$5,000	$0.32
Cranford	$1,000	$0.18
Maplewood	$1,000	$0.15
Morristown	$500	$0.15
New Brunswick	$1,000	$0.09
All other municipalities (each)	$0	$0.00

NOTABLE COMMUNITY

Chatham Borough received a Gold award from the Safe Routes to School Recognition Program in 2013. Three Chatham District schools were also awarded Gold, and one received Silver in that same year. The municipality has also worked to ensure that all schools and libraries have bicycle parking. Chatham Borough passed a Complete Streets policy in 2012.

Figure 17: Lafayette School Bicycle Parking

Children seen locking up their bicycles at the Lafayette School in Chatham.
Photo Source: TransOptions

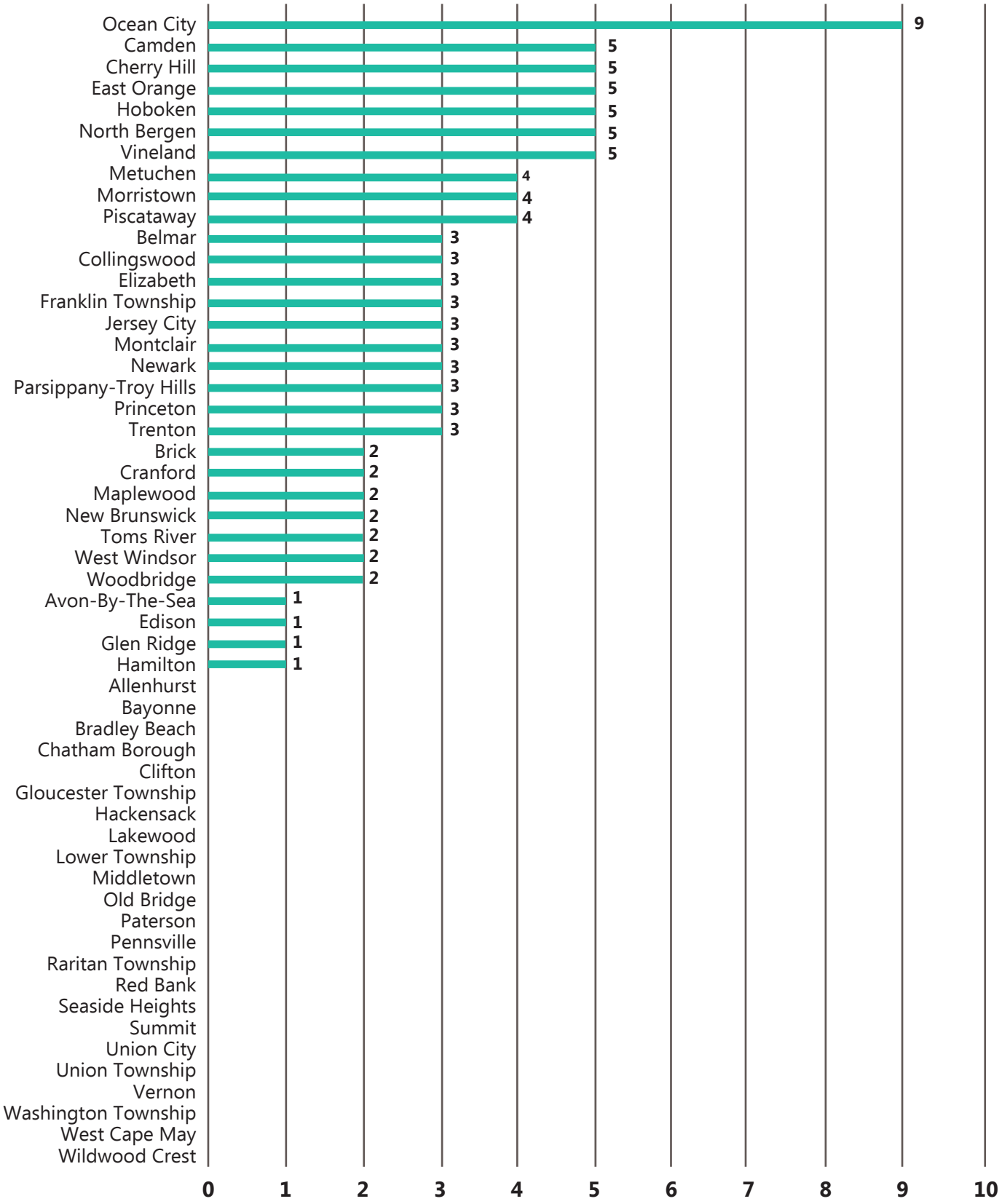
Figure 18: Children Riding to School

Although Chatham is lacking in bicycle infrastructure, a high quality Safe Routes to School Program allows children to safely bicycle to school.
Photo Source: TransOptions

Figure 19: Parking at Businesses

Parked bicycles are a common sight at the Chatham Cinema.
Photo Source: TransOptions

Figure 20: Number of Staff Devoted to Bicycle Planning in Each Municipality



NOTABLE COMMUNITY

West Windsor can act as a model of bicycling investment within a suburban context. With a population of just 27,165, it reported spending $12.88 per person on bicycle infrastructure – far more than any other municipality that was surveyed – and has two full-time staff members who work on bicycle planning. The municipality has built almost 16 miles of on-street bicycle facilities, and over 3 miles of off-road trails. West Windsor was recognized by the League of American Bicyclists as a Bicycle Friendly Community (Bronze). West Windsor passed a Complete Streets policy in 2010, and is located in Mercer County, which also has a policy.

Figure 21: Suburban Bicycle Lane

West Windsor is a suburban township, but that hasn't stopped them from deploying an extensive bicycle network, such as on Southfield Road, pictured above.

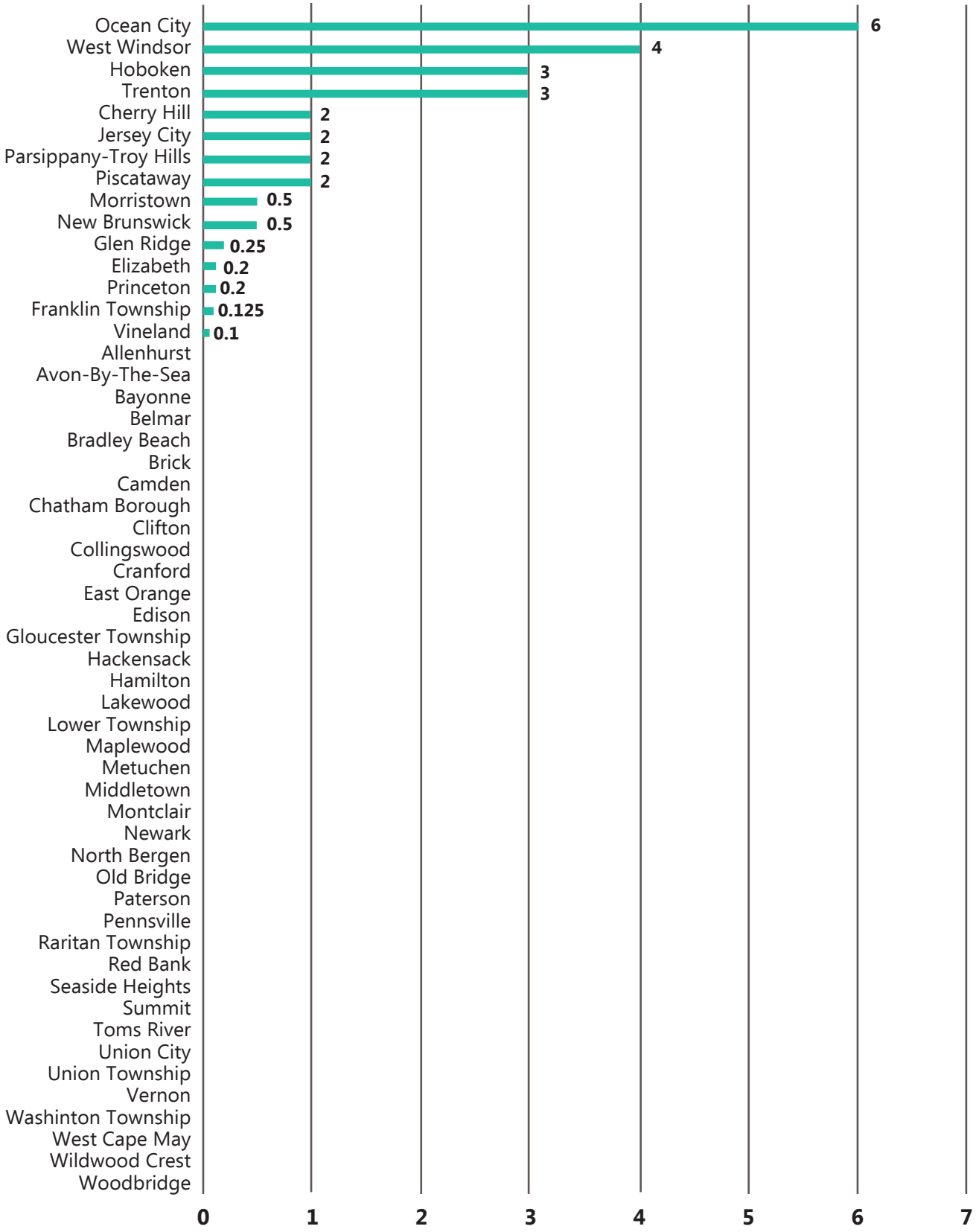
Figure 22: Bicycling Classes

The West Windsor Bicycle and Pedestrian Alliance has been active since 2006 in working to make the township and the surrounding areas safe for riding. In the picture above, they are seen teaching future bicyclists how to ride safely.
Photo Source: West Windsor Bicycle and Pedestrian Alliance

Figure 23: Princeton Junction Bicycle Parking

The Princeton Junction train station in West Windsor has hundreds of bicycle parking spaces, including many bicycle lockers available for rent.
Photo Source: Jerry Foster

Figure 24: Full-Time Equivalent Staff Devoted to Bicycle Planning in Each Municipality



Infrastructure

Bicycle Route Infrastructure

Not all bicycle lane mileage is created equal. A 2013 VTC report, "How Do People Value Different Types of Pedestrian and Bicycle Infrastructure?" surveyed 600 New Jersey residents on their preferences for bicycle infrastructure. Respondents were shown 13 images of bicycle infrastructure and were asked to state their preference. The overwhelming favorite was infrastructure separated from traffic with a physical barrier (i.e., a separated/buffered bicycle lane), while the least preferred were facilities in which cars and bicycles shared the road.

In the survey, municipalities were asked to report the number of miles within their borders of six types of bicycle route infrastructure: signed bicycle routes, shared lane markers (a.k.a., sharrows), bicycle boulevards, on-street bicycle lanes, protected/buffered bicycle lanes, and off-street multi-use paths. Thirty-nine municipalities reported having some type of bicycle route infrastructure. Table 9 shows the five municipalities with the most mileage for each type of infrastructure. Jersey City is the only city that is first in two infrastructure types: on-street bicycle lanes and signed bicycle routes. Other municipalities that are in the top five in more than one category include Princeton (twice), Hoboken (twice), and Cherry Hill (three times).

Table 10 (see page 31) shows the total number of miles of each type of infrastructure. Of the 41 municipalities with bicycle route infrastructure, 32 have off-street multi-use lanes or paths, the most of any infrastructure type, for a total of 213.9 miles, or 44.7 percent of the total bicycle route mileage. The least common types are bicycle boulevards and protected/buffered bicycle lanes. They are each found in just two municipalities with 4.25 miles and 0.9 route miles, respectively.

The survey results show that most municipal infrastructure comes in the form of either signed bicycle routes or off-street multi-use lanes or paths, suggesting that bicycling in these communities is geared toward recreational bicyclists rather than commuters. However, since the survey did not ask if municipal bicycle networks are built primarily to accommodate commuters or recreational bicyclists, this question should be asked in future editions of this survey. Additionally, it should be noted that much of the off-street mileage in the central and western portion of the state comes from the Delaware and Raritan Canal Towpath, a recreational multi-use path that runs through many municipalities along the Delaware and Raritan Rivers.

Off-Street Multi-Use Lanes or Paths

Off-street multi-use lanes or paths included a mix of recreational and commuter facilities, and some municipalities cited mileage that included parks. The benchmarking survey did not ask municipalities to separate trails intended for recreation versus those intended for commuting, although that may be prudent in future editions of this report. This survey also did not ask municipalities to specify the type of pavement used, although the 2013 VTC study did find that New Jersey residents prefer asphalt paths over gravel trails. While many municipalities do allow bicycling on sidewalks, these are not considered bicycle paths and were not included. Off-street multi-use lanes or paths have the highest total bicycle route mileage of all types of route infrastructure, with 211.9 miles, or 44.7% of the total mileage. Middletown leads the way with 50 miles, followed by Princeton (32.0 miles), and then Trenton (30.0 miles). A total of 32 municipalities have off-street multi-use lanes or paths.

Table 9: Municipalities with the Most Bicycle Route Infrastructure Mileage by Type

Route Type	Municipality and Mileage									
	1		2		3		4		5	
Off-Street Multi-Use Lanes or Paths	Middletown	50.0	Princeton	32.0	Trenton	30.0	Franklin Township	25.0	Cherry Hill	14.0
Signed Bicycle Routes	Jersey City	42.8	Ocean City	14.66	Cranford	13.5	Summit	10.0	Cherry Hill	8.3
On-Street Bicycle Lanes	Jersey City	24.3	West Windsor	15.8	Hoboken	8.0	Piscataway	7.6	Brick	6.8
Shared Lane Markers	Princeton	5.2	Hoboken	5.0	Newark	4.5	Morristown	3.5	Ocean City	3.16
Bicycle Boulevards	Ocean City	3.25	Edison	1.0						
Protected/Buffered Bicycle Lanes	Newark	0.5	Cherry Hill	0.4						

Protected/Buffered Bicycle Lanes

Protected/buffered bicycle lanes have only recently begun being built in the United States and are still rare in New Jersey: only two municipalities in the survey reported having one. Unlike off-road trails, protected lanes are usually created within the existing right-of-way, which decreases costs and does not require the acquisition of an additional right-of-ways. In the 2013 user preference survey, residents stated that they preferred protected bicycle lanes over standard lanes as it kept riders away from cars. Newark and Cherry Hill are the only municipalities that reported having protected/buffered bicycle lanes, with 0.5 miles and 0.4 miles, respectively. The 0.9 miles is only 0.2% of the total reported bicycle route infrastructure mileage.

On-Street Bicycle Lanes

On-street bicycle lanes are more common than protected/buffered bicycle lanes, and are easier to install as they require less pavement and do not require moving on-street parking. While they do not offer physical protection from vehicles, they do give bicyclists an exclusive space on the road on which to navigate. Jersey City also has the greatest mileage of on-street bicycle lanes with 24.3 miles, or one-quarter of the 98.5 total miles within the surveyed municipalities. West Windsor has the second most with 15.8 miles, followed by Hoboken with 8.0 miles.

Shared Lane Markers

Shared-lane markers (known also as "sharrows") were found to be the least popular type of bicycle facility in the "How Do People Value..." report, as they do not separate bicyclists from drivers. However, they do serve to educate bicyclists on the correct place to ride, and remind motorists that bicycles should be expected in the lane. When a road is too narrow to add any other facility, shared-lane markers can be a positive addition, but there are concerns that municipalities may use them instead of safer, bicyclist-preferred infrastructure.

The municipalities surveyed reported having 331.8 miles of shared lane markers, 6.6% of the total bicycle route infrastructure. Princeton has the most with 5.2 miles, followed by Hoboken and Ocean City with 5.0 miles each.

Bicycle Boulevards

Bicycle boulevards are similar to shared-lane markers except that they are deployed only on low-volume, residential streets along with other safety improvements for bicyclists. In many cases, they involve lower speed limits and traffic calming devices, which makes sharing a lane with motor vehicles safer and more comfortable than if only shared lane markers are used. Only two municipalities reported having bicycle boulevards: Edison and Ocean City. Combined, their infrastructure totals 4.25 miles, just 0.9% of the total bicycle route infrastructure.

Signed Bicycle Routes

Signed bicycle routes are the least sophisticated of bicycle infrastructure, as they exist only as signs on the side of the road. While they are helpful as a form of wayfinding for bicyclists, they do not provide safety benefits. The surveyed municipalities have a total of 129.6 miles of signed bicycle routes, or 27.1% of the total bicycle route mileage recorded in the survey; Jersey City has the most, with 42.8 miles, followed by Ocean City (14.66 miles) and Cranford (13.5 miles).

Totals

Figure 28 illustrates the total bicycle route infrastructure mileage in each municipality surveyed. Jersey City has the most, with 76 miles, followed by Middletown (54.0 miles), Princeton (37.2), and Franklin Township (37.0).

Table 10: Percent of and Total Mileage by Infrastructure Type

Type of Bicycle Route Infrastructure	Total Mileage	Percent of Total Mileage	Number of Municipalities with Infrastructure
Off-Street Multi-Use Lanes or Paths	213.9	44.7%	32
Signed Bicycle Routes	129.6	27.1%	19
On-Street Bicycle Lanes	98.5	20.6%	20
Shared Lane Markers	31.8	6.6%	14
Bicycle Boulevards	4.25	0.9%	2
Protected/Buffered Bicycle Lanes	0.9	0.2%	2
Total	**478.9**	**100.0%**	**41**

NOTABLE COMMUNITY

The City of Newark had the largest reported expenditure on bicycle infrastructure with $600,000 spent in 2013. The city spent $2.16 per person on bicycle infrastructure, and has installed green-painted, buffered bicycle lanes downtown, along with a solid network of sharrows. Newark passed a Complete Streets policy in 2012, and is located in Essex County which also passed a policy that same year.

Figure 25: Green Bicycle Lane

Newark was one of only four municipalities in our survey to affirm that they have green-painted bicycle lanes, as show in this image. The use of green helps to highlight to all road users the presence of the bicycle lane and bicyclists using it. Newark has also added an additional buffer, where space is available, to further separate bicyclists from motor vehicles.

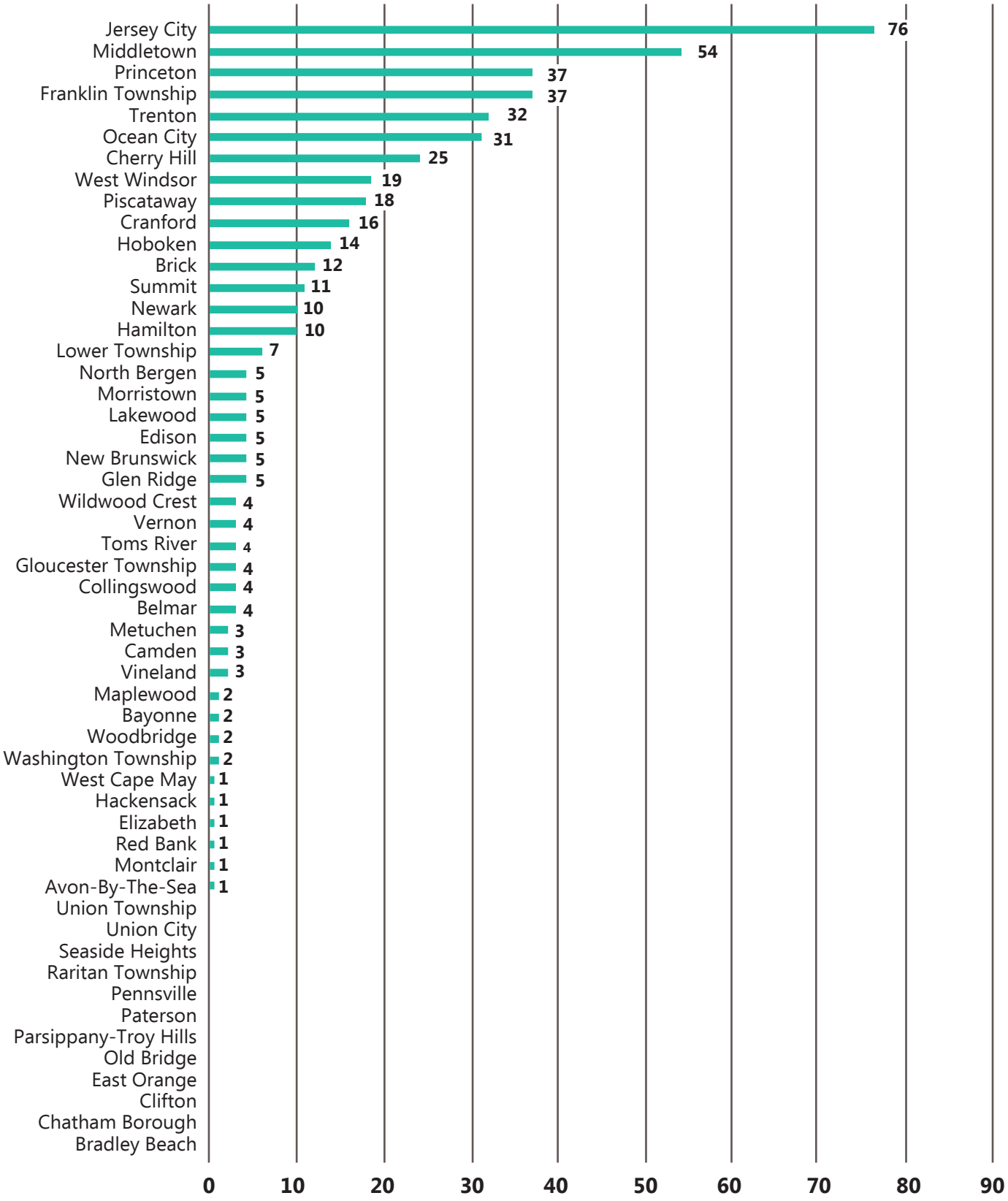
Figure 26: Newark's Sharrows

With 4.5 miles of sharrows, Newark has the 3rd longest shared-lane network in New Jersey. Newark has also placed the marking correctly in the center of the lane, and deployed them on streets where bicycle lanes cannot fit.

Figure 27: Newark's Waterfront Park

Although Newark does not yet have a network of off-road trails useful for bicycle commuting, an investment in parks has created a safe space to learn how to ride while enjoying a beautiful view of the city.

Figure 28: Total Bicycle Route Infrastructure Mileage



NOTABLE COMMUNITY

Hoboken is a notable community thanks to its infrastructure. The city has 13 miles of bicycle infrastructure on 35 miles of streets. This means that 37 percent of roads have bicycle infrastructure. Hoboken has also experimented with advance-stop lines (bicycle boxes) at intersections, and was the first municipality in New Jersey to pilot a bicycle share system. In 2015, the city plans to launch a full bicycle share system along with the neighboring municipality of Weehawken. Hoboken is recognized by the League of American Bicyclists as a Bicycle Friendly Community (Bronze), and has had a Complete Streets policy since 2010.

Figure 29: Hoboken Bicycle Racks

Hoboken has worked to install bicycle parking throughout the city, including on-street parking corrals near intersections. Hundreds of bicycles can be seen parked every day near the Hoboken Train Station, and the city has an interactive map available showing the locations and capacity of their racks.

Figure 30: Hoboken Bicycle Path

Hoboken has beautified its waterfront with a series of parks. Connecting them is the Sinatra Drive Greenway which offers a separated bicycle path.

Figure 31: Hoboken's Sharrows

Along with 8-miles of bicycle lanes, Hoboken has installed 5-miles of sharrows on narrow roadways.

Road Miles

The 39 municipalities with bicycle route infrastructure have a total road length of 7,943.99 road miles (as measured from the centerline, not lane miles; and excluding major state and interstate highways). Of this, 1.6 percent have bicycle infrastructure (Table 11). By this measure, Hoboken has the highest percentage of roads with bicycle infrastructure at 37 percent.

Figure 32: Edinburg Road, in West Windsor

Suburban bicycle lane on Edinburg Road, in West Windsor

Table 11: Percentage of Road Mileage with On-Street Bicycle Lanes

Municipality	Road Length (Miles)	On-Street Bicycle Lane and Sharrow Mileage	Percentage of Road Mileage with On-Street Bicycle Lanes or Sharrows
Avon-By-The-Sea	14.4	0.5	3.5%
Belmar	27.3	0.5	1.8%
Brick	403.0	6.8	1.7%
Camden	202.8	2.0	1.0%
Cherry Hill	380.5	2.3	0.6%
Edison	393.9	2.9	0.7%
Franklin Township	354.1	5.0	1.4%
Glen Ridge	25.2	0.6	2.4%
Hamilton	444.2	3.0	0.7%
Hoboken	35.1	13.0	37.0%
Jersey City	268.2	25.8	9.6%
Lower Township	208.3	3.5	1.7%
Maplewood	67.7	2.0	3.0%
Middletown	450.2	2.0	0.4%
Montclair	109.3	0.5	0.5%
Morristown	51.2	3.5	6.8%
New Brunswick	102.4	3.5	3.4%
Newark	465.1	10.0	2.2%
Ocean City	135.2	7.5	5.5%
Piscataway	267.8	7.6	2.8%
Princeton	159.4	5.2	3.3%
Red Bank	36.6	0.5	1.4%
Trenton	216.5	2.0	0.9%
Vineland	428.5	2.5	0.6%
West Windsor	211.1	15.8	7.5%
Wildwood Crest	32.8	1.0	3.0%
Woodbridge	375.4	0.5	0.1%

Note: Road length is the length of road centerlines (does not include highways). On-street bicycle lanes and sharrows are in each direction. Municipalities did not report whether streets had bicycle lanes or sharrows in both directions.
Source: NJDOT

NOTABLE COMMUNITY

Jersey City has the most bicycle route mileage of any surveyed municipality. It has 24.3 miles of on-street bicycle lanes, and 7.6 miles of off-street paths. Including shared-lane marking, 9.6 percent of Jersey City road mileage has bicycle infrastructure. Jersey City is also looking to join the Citi Bike bicycle share system, which currently exists in Manhattan and Brooklyn. Jersey City has three staff members that work on bicycle-related issues, and requires new developments to include a bicycle parking component. Jersey City adopted a Complete Streets policy in 2011, and Hudson County followed with their own policy in 2012.

Figure 33: Jersey City's Green-Painted Bicycle Lane

The World Trade Center in lower Manhattan is visible behind this green-painted bicycle lane, which was created in 2014.

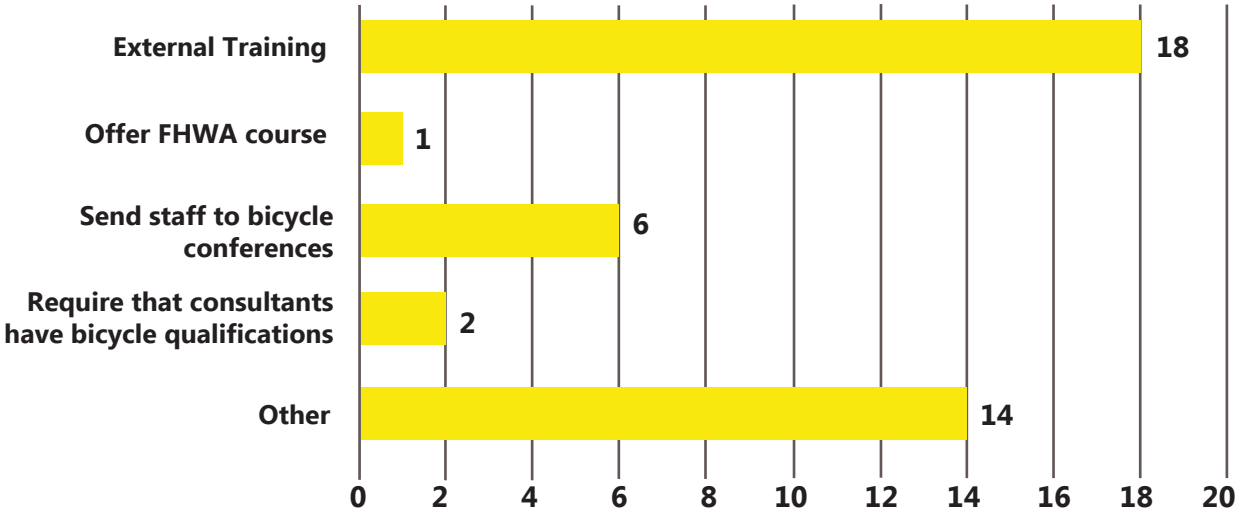
Figure 34: Jersey City's Main Street Bicycle Lane

Many streets in Jersey City now offer bicycle lanes, created a good network of bicycle infrastructure.

Figure 35: Jersey City Bicycle Lane

Another example of one of the many bicycle lanes in Jersey City.

Figure 36: How Does Your City Ensure That Those Responsible for the Design and Maintenance of City-Owned Roads are Familiar with the Latest Design Standards for Accommodating Bicyclists?

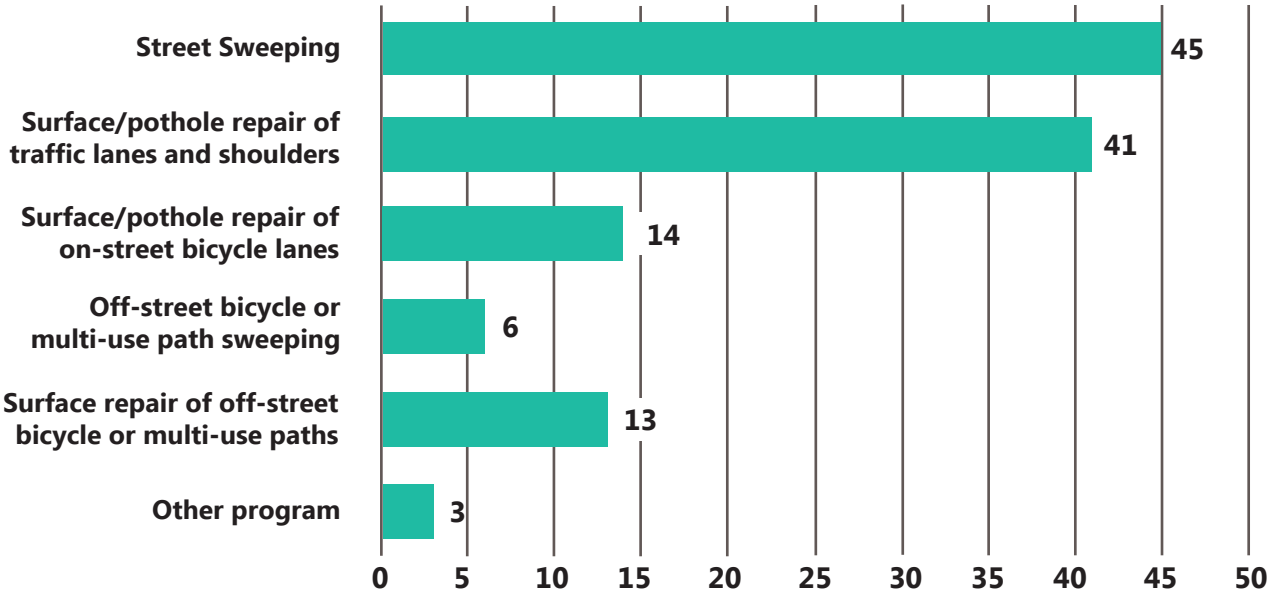


Infrastructure Maintenance

Many of the municipalities surveyed do not have programs in place to ensure those responsible for the design and maintenance of city-owned roads are familiar with the latest design standards for accommodating bicyclists (Figure 36). Twenty-one municipalities reported that they do not have any programs that do this. Eighteen offer external training, six send staff to bicycle conferences, two require consultants to have a bicycle qualification, and one offers a Federal Highway Administration course. Twelve cited other examples of programs or trainings that they attend, including attending New Jersey Department of Transportation seminars and events, and following up-to-date National Association of City Transportation Officials (NACTO) and American Association of State Highway and Transportation Officials (AASHTO) guidelines.

Most municipalities also have municipal programs to remove obstructions from bicycle and traffic lanes; only six do not (Figure 37). Of those that do, 41 reported having a surface/pothole repair program of traffic lanes and shoulders. Forty-five have an on-street sweeping program, 14 have a surface/pothole repair program of on-street bicycle lanes (out of 20 that have such lanes), six have an off-street bicycle or multi-use path street sweeping program (out of 32 that have such paths), and 13 have a surface repair program of off-street bicycle or multi-use paths. Two have another program – replacement of grates – that assist in the maintenance of bicycle route facilities.

Figure 37: Which Programs Does Your City Have to Remove Obstructions from Traffic Lanes and Bicycle Facilities?



NOTABLE COMMUNITY

Ocean City has established itself as one of the premiere shore towns for active transportation. Recognized by the League of American Bicyclists as a Bicycle Friendly Community (Bronze), the municipality is home to dedicated bicycle lanes, bicycle boulevards, and the only HAWK (high-intensity activated crosswalk) signal reported by respondents. This type of signal provides a safe place for pedestrians and bicyclists to cross a busy roadway. Ocean City has also experimented with various traffic calming techniques to keep bicycle riders safe, and has had a Complete Streets policy since 2011.

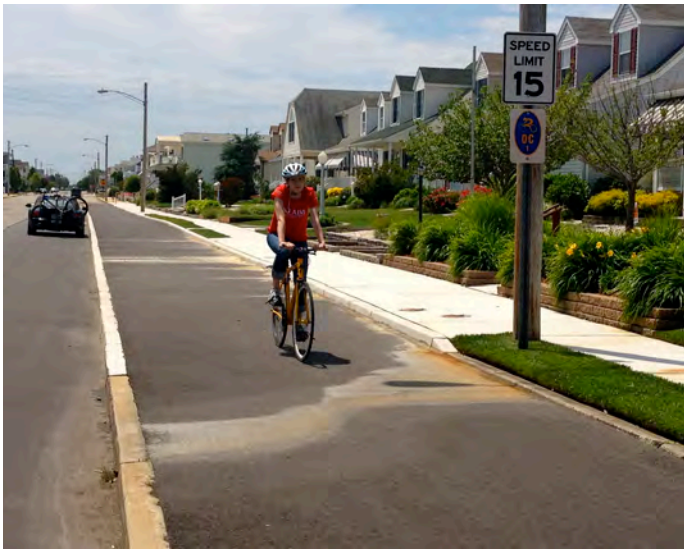
Figure 38: Ocean City's Bicycle Boulevard

Ocean City has one of only two bicycle boulevards in the state. As seen on Haven Avenue, sharrows are accompanied by traffic calming and speed restrictions which create a safe and comfortable place to ride.

Figure 39: Ocean City's HAWK Signal

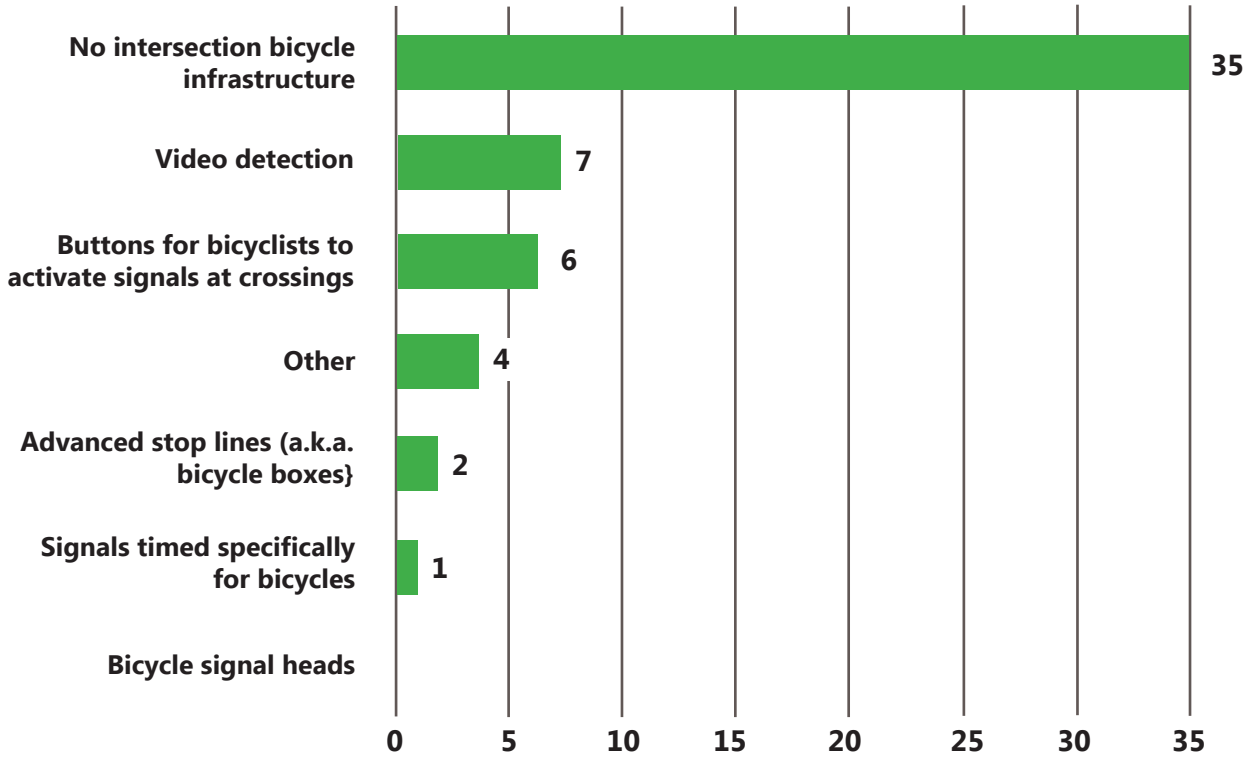
A recently installed HAWK signal stops traffic so pedestrians and bicyclists can safely cross the street and continue using an off-road trail.

Figure 40: Ocean City Cycle Track



An off-street section of the Haven Avenue bicycle boulevard.

Figure 41: What Infrastructure Does Your City Have to Accommodate Bicyclists at Intersections?



Other Infrastructure

Bicycle-friendly infrastructure at intersections, other than bicycle lanes, help bicyclists safely navigate them; however most municipalities (35) do not have this type of infrastructure (Figure 41). Only two have advanced stop lines for bicyclists (a.k.a. bicycle boxes), seven have video detection technology that senses when a bicyclist is present, six have user activated buttons of bicycle lights at crossings, and one has a traffic signal that is specifically designed for bicyclists. No municipality has bicycle signal heads.

Bicycle Parking

Bicycle Parking Infrastructure

Bicycle racks come in all shapes and sizes, and the survey asked municipalities which types are locally in use. Around the country, municipalities and bicycle advocacy organizations have taken steps to identify which style of rack should or should not be used, but the survey did not ask if any such policy was in place. The District of Columbia, for example, states that comb/grid racks and wave racks are unacceptable, as the former can damage wheels and does not provide support for frames, while the latter does not allow for two locking points. Typically, the inverted-U style is considered preferable as it supports the bicycle frame in two places for safe locking, prevents the bicycle from tipping over, does not damage the bicycle, and can be securely installed.

The survey asked which types of bicycle racks are located in each municipality. The most common type is the comb/grid rack, with 37 respondents affirming that their municipalities have this type, followed by wave racks with 23 (Figure 42, see page 40). Other types of bicycle racks include inverted-U racks, "post and ring" racks, and coat hanger racks, among others. Six municipalities reported that they do not have any bicycle racks at all. Bicycle lockers are also found, with 12 municipalities reporting they have some available (this includes those at train stations). There are a total of 168 bicycle lockers throughout the 60 municipalities, with West Windsor having the most with 88.

The survey also asked where the bicycle racks are located (Figure 44, see page 41). Libraries have most bicycle racks, with 32 municipalities reporting that all or most libraries have them. Sixteen municipalities reported that all schools have bicycle racks and 11 said most do. On the other end of the spectrum, city buildings are the least likely to have bicycle racks present, with eight municipalities having none available, indicating a potential unmet need. Respondents were most likely to not know about the presence of bicycle racks at private offices. Overall, the survey shows that frequently-visited public spaces are most likely to have bicycle racks present. The survey did not ask about the placement of bicycle parking within the roadway, but some municipalities in New Jersey, such as New Brunswick, have begun to experiment with on-street bicycle corrals. Future editions of this report should include this question.

Figure 42: Number of Municipalities that have Different Types of Bicycle Racks

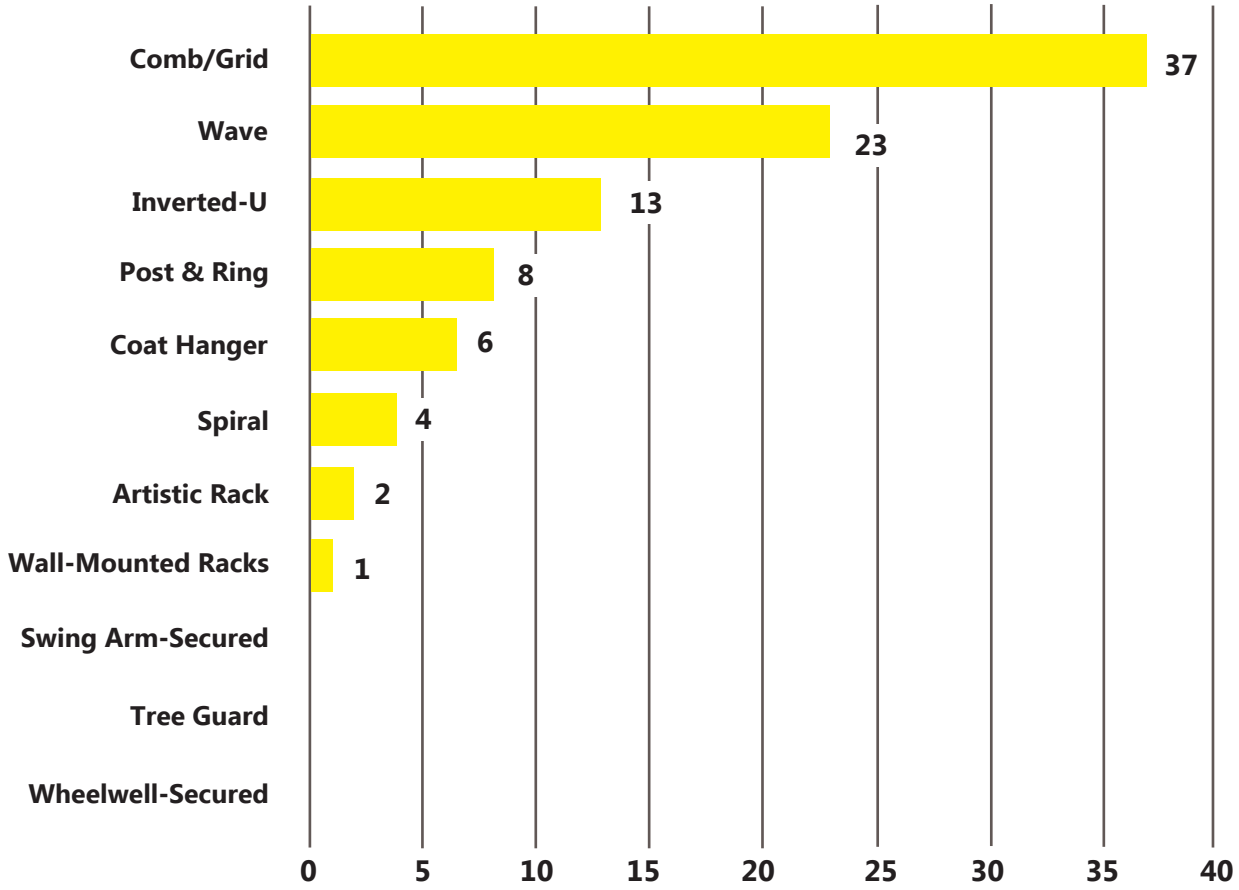
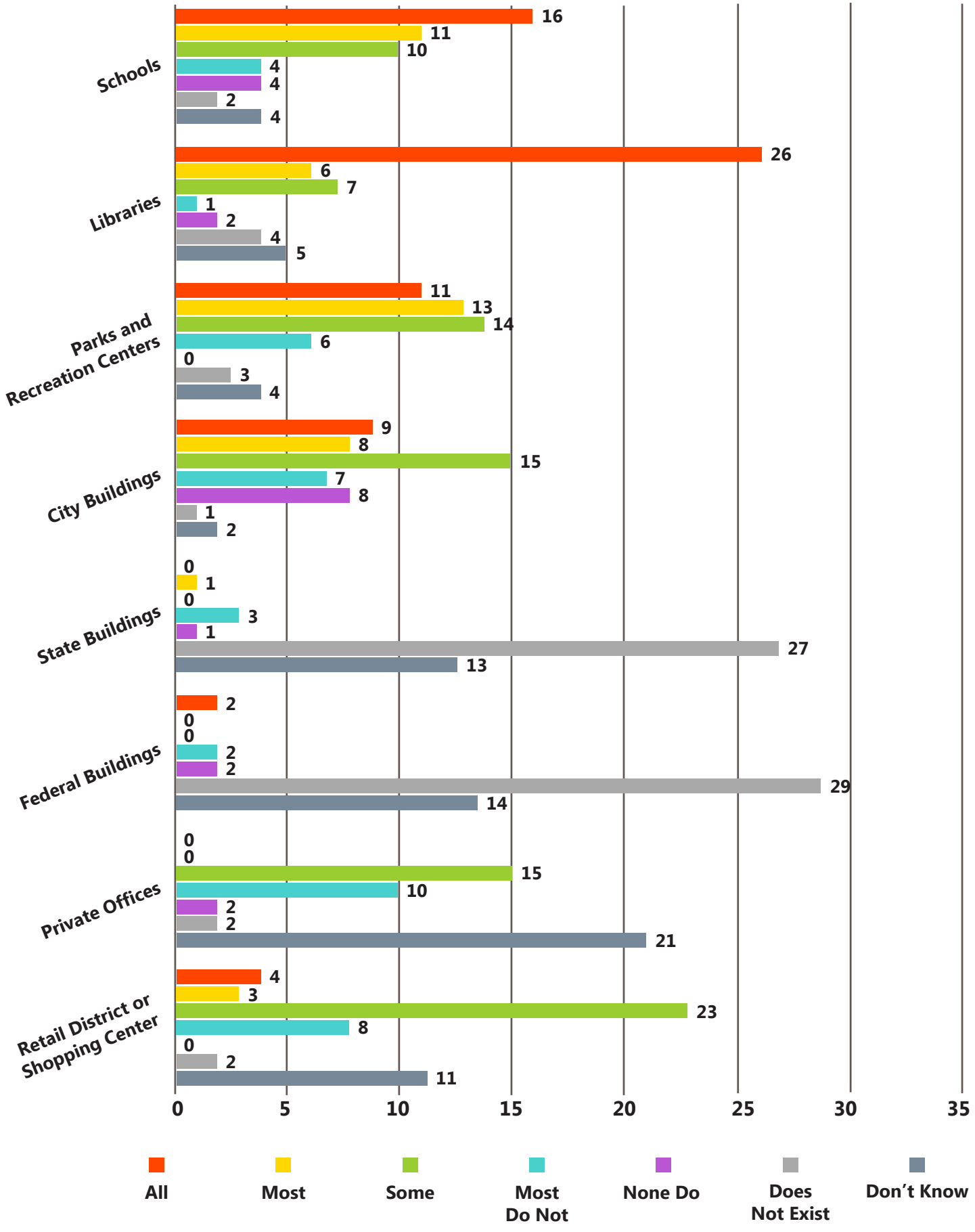


Figure 43: Types of Bicycle Racks

From left to right, a comb/grid rack, a wave rack, an inverted-U rack, and a post-and-ring rack. Although cited as most common in our survey, neither the grid style nor the wave style racks provide the security and structure that bicyclists need when parking their bicycle.
Photo Source: Association of Pedestrian and Bicycle Professionals

Figure 44: What Proportions of the Following Have Bicycle Racks in Your City?



NOTABLE COMMUNITY

New Brunswick was the only municipality surveyed that has a local ordinance requiring drivers to give a safe distance when passing bicyclists. It also requires bicycle parking to be included in new office, retail, and multi-family developments, and has a bicycle map available to the public. New Brunswick has also experimented with innovative bicycle infrastructure, including installing seven public bicycle-parking corrals on municipal streets. The city also hosts the largest *Ciclovia* (open streets) event in the state three times a year. New Brunswick and Middlesex Counties have had a Complete Streets policy since 2012.

Figure 45: New Brunswick Ciclovia

New Brunswick's Ciclovias bring out thousands of bicyclists of all ages to city streets three times a year. By opening the streets to bicycles and pedestrians, the city hopes to expand community engagement and public health.

Figure 46: Bicycle Corral

Seven bicycle corrals were installed around New Brunswick in 2014. Aside from providing ample bicycle parking, they help create safer intersections by ensuring visibility at corners.

Figure 47: New Brunswick Sharrow

New Brunswick has been adding bicycle lanes and sharrows over the past two years, with additional lanes planned for 2015.

Table 12: Municipalities that Require Bicycle Parking in New Developments

Municipality	Office Buildings	Retail or Shopping Districts	Multi-Family Housing
Belmar	Yes	Yes	Yes
Brick	N/A	Yes	Yes
Cherry Hill	Yes	Yes	No
Collingswood	Yes	Yes	Yes
Cranford	Yes	Yes	Yes
Jersey City	Yes	Yes	Yes
Maplewood	No	Yes	No
Metuchen	Yes	Yes	Yes
Montclair	Yes	Yes	Yes
Morristown	Yes	Yes	Yes
New Brunswick	Yes	Yes	Yes
Piscataway	No	Yes	Yes
Vineland	Yes	Yes	Yes
West Windsor	Yes	Yes	Yes

Zoning Policies that Require Bicycle Parking in New Developments

Access to safe and convenient bicycle parking is an important measure to promote bicycle use; it ensures bicyclists have a safe place to park their bicycles at both trip ends. Municipal ordinances addressing motor vehicle parking are common, but those requiring bicycle parking are less common. The survey reveals that some municipalities in New Jersey are standardizing bicycle parking in local ordinances. Eleven municipalities reported that they require bicycle parking for office buildings, 14 require it for retail districts, and 12 have a requirement for multi-family housing (Table 12).

Abandoned Bicycle Policies

Abandoned bicycles use valuable bicycle parking spaces in high demand areas, such as train stations, making it difficult for riders to find a safe and secure place for their bicycle. As the abandoned bicycles deteriorate, they also become an eyesore, which in turn can make it more difficult to create additional parking areas due to community concerns. Fifteen municipalities indicated that they have a policy in place to address the removal of abandoned bicycles, while twenty-five reported they did not, and thirteen did not know.

The municipalities that have abandoned bicycle policies are the following:

- Allenhurst
- Belmar
- Bradley Beach
- Chatham Borough
- Cranford
- Glen Ridge
- Hackensack
- Hoboken
- Lower Township
- Metuchen
- Parsippany-Troy Hills
- Princeton
- Red Bank
- Summit
- Union Township

The types of policies in place by municipalities vary. In most cases, the local police department collects abandoned bicycles and holds them for a period of time. If they are not claimed, they are then auctioned off. Collingswood uses bicycles that are not claimed to supplement their bicycle lending system.

Municipalities differ as to how they identify abandoned bicycles and how long they are stored. Hoboken provided the most complete response for how they handle these issues:

> "Abandoned bicycles are reported by residents or city staff through the Hoboken 311 constituent feedback system, which is then routed to the Hoboken Police Department. The HPD then tags the bicycles in question, and if those bicycles are not removed by their owner within 7 days, the bicycles are clipped and impounded by HPD. After being impounded for 6 months, the bicycles become City of Hoboken property and are later auctioned off or given away to charity."

Parsippany-Troy Hills described an almost identical process. Union Township identified their "obstruction of public passage" ordinance as a means to deal with abandoned bicycles.

Bicycle Policies

Safe Passing Laws

There has been movement nationwide over the past few years to establish laws that require motor vehicles to give at least three feet of space when passing bicyclists. Twenty-six states currently require either three or four feet be given, while eight states have general "safe passing" laws that require drivers to pass bicyclists at a safe distance. Bills have been passed by the New Jersey state assembly that would establish a similar law, but those bills have yet to pass through the state senate and be signed into law by the governor. As no such state law exists, it is up to individual municipalities to set their own safe passing standards.

The purpose of the legislation is primarily to remind motorists to give more space when overtaking a bicycle. Legislators and police officers acknowledge that it is very difficult, if not impossible, to actively enforce such a law, but it does raise awareness of the dangers that passing too closely can create. The law can also be used as a prosecution tool in cases of collisions. Of the municipalities that completed our survey, only New Brunswick has such a law in place. Thirty-nine other municipalities stated that they do not, while 13 answered that they do not know.

Electric Bicycle Policies

Electric bicycles are a relatively new addition to the bicycling scene, and as such, only the municipalities of North Bergen and Toms River stated that they have legislation affecting them. Nine municipalities stated that they do not know if a policy exists.

Cars Parked in Bicycle Lanes

Only three cities affirmed that they actively ticket and enforce car illegally parked in bicycle lanes. They were West Windsor, Ocean City, and Hoboken. This is just 15 percent of all municipalities surveyed that have bicycle lanes.

Bicycle Maps

Only twelve municipalities reported that they have a bicycle map (paper or online) available. They are listed below.

- Brick
- Cherry Hill
- Cranford
- East Orange
- Franklin Township
- Hoboken
- Jersey City
- Maplewood
- Middletown
- New Brunswick
- Ocean City
- Piscataway
- Princeton
- West Windsor

Bicycling on Sidewalks

In some situations, bicyclists can create an uncomfortable friction with pedestrians when sharing a sidewalk. The difference in speed between the two modes can cause collisions. Some municipalities have taken steps to prevent crashes by banning the use of sidewalks by adults on bicycles.

Fourteen municipalities ban the use of bicycles on all municipal sidewalks, while six stated that such a ban exists in specific areas (Table 13). Usually, bans on bicycling on the sidewalks in specific areas are implemented in popular commercial districts where sidewalks may be too narrow to share. Twenty-one municipalities have no ban, while twelve answered that they did not know if a ban exists.

Table 13: Municipalities that Prohibit Adults From Riding on Sidewalks

Everywhere	Only in Specific Areas
Allenhurst	Belmar
Bayonne	Bradley Beach
East Orange	Cranford
Elizabeth	Ocean City
Glen Ridge	Princeton
Hackensack	Vineland
Jersey City	
Metuchen	
Montclair	
Morristown	
New Brunswick	
North Bergen	
Raritan Township	
Summit	

Bicycle Transportation Within Master Plans

One of the first steps to creating a bicycle lane network and promoting bicycle-friendly policies is to include those goals as part of the municipal master plan. Thirty-two municipalities said they do consider bicycles in their plan, while only eight stated that they do not. Ten others do not know or did not respond. Upon receiving this data, the project team double-checked online to see if the "did not know" municipalities have a bicycle element in their master plan. Of those ten, seven were found to have a bicycle element in their master plan and three were found to not. Of the four municipalities that left the question blank, two were found to have this and two were found to not. This brings the total number of municipalities with a bicycle element within their master plan to 41.

Complete Streets

New Jersey is a national leader in Complete Streets policy adoption. At the state level, the New Jersey Department of Transportation was among the first in the country to adopt a Complete Streets policy. As of March 31, 2015, seven of the 21 counties have Complete Streets policies, and of the 564 municipalities in New Jersey, 114 have Complete Streets policies. The following 29 municipalities were included in the survey and have Complete Streets policies (date of adoption):

- Camden (June 13, 2013)
- Chatham Borough (March 21, 2012)
- Cherry Hill (March 24, 2014)
- Cranford (September 10, 2013)
- East Orange (September 23, 2013)
- Elizabeth (March 25, 2014)
- Glen Ridge (September 10, 2012)
- Gloucester Township (July 9, 2012)
- Hackensack (June 11, 2012)
- Hoboken (November 15, 2010)
- Jersey City (May 25, 2011)
- Lakewood (October 17, 2013)
- Maplewood (February 21, 2012)
- Metuchen (October 21, 2013)
- Montclair (October 6, 2009)
- Morristown (July 17, 2012)
- New Brunswick (May 6, 2012)
- Newark (September 6, 2012)
- Ocean City (October 13, 2011)
- Princeton (March 12/13, 2012)
- Raritan Township (February 6, 2013)
- Red Bank (August 9, 2010)
- Summit (June 4, 2014)
- Toms River (July 24, 2014)
- Trenton (March 1, 2012)
- Union City (December 17, 2013)
- Vineland (September 27, 2011)
- West Windsor (July 19, 2010)
- Woodbridge (July 12, 2011)

The counties that have Complete Streets policies are:

- Monmouth County (July 22, 2010)
- Essex County (April 11, 2012)
- Mercer County (April 26, 2012)
- Hudson County (May 25, 2012)
- Middlesex County (July, 2012)
- Camden County (December 19, 2013)
- Passaic County (February 11, 2014)

Of the municipalities surveyed, 29 have adopted Complete Streets policies, while 25 have not. Thirty-two municipalities are located in a county that has passed its own resolution, while 22 are located in a county that has not.

Bicycle Share

Bicycle sharing systems are an emerging tool that municipalities around the world use to supplement their local transportation systems. In New Jersey, no municipality currently operates a third-generation system, which relies heavily on technology to ensure that users return bicycles to docking stations; however, some municipalities have invested in small-scale rental systems. Belmar, Camden, Newark, Union City, and Montclair also either operate small lending systems or are in the process of planning larger systems as of December 31, 2014.

Collingswood operates a small bicycle share system that is maintained by volunteers and operates like a library. A resident can check out a bicycle, take it home, and keep it as long as they continue to use it. Use of the system costs $25 a year. The New Brunswick campus of Rutgers University operates a similar system for student use. In 2014, Princeton University launched a system with ten bicycles at the NJ TRANSIT "Dinky" stop. Operated by Zagster, membership costs $20 and allows free use of the bicycles for up to two hours. The system does rely on smartphone technology but does not utilize fixed docking stations.

Municipalities in northeastern New Jersey are moving forward with implementing more bicycle share systems. Jersey City is developing a 350-bicycle system to be launched in 2015 in a partnership with New York City's Citi Bike share that will allow Jersey City bike share members to use Citi Bike bicycles as well. Hoboken, which operated a pilot system in 2013 similar Princeton's, is working with Weehawken to launch a system within both cities; Weehawken is slated to receive 70 bicycles and Hoboken 230. It is expected to be rolled out in spring of 2015.

Bicycle Theft, Safety, and Security

Bicycle Security

Over half of the municipalities that responded to the survey reported that at least some of their police are trained to use bicycles on patrol (Figure 51, see page 47). On average, 14 percent of police are trained. The municipalities with the highest share of police trained to ride bicycles were all shore communities. Belmar had the highest share of police trained (100%) followed by Red Bank (65%), Collingswood (30%), Seaside Heights (30%), and Ocean City (30%).

NOTABLE COMMUNITY

Approximately nine percent of commute trips in **Belmar** are made by bicycle, the second highest in the state. The popular shore town is the only municipality surveyed that has 100 percent of its police force trained to use bicycles. Belmar is also one of 14 municipalities that has bicycle parking requirements for new developments. Belmar is located in Monmouth County, which in 2010 was the first New Jersey County to pass a Complete Streets policy.

Figure 48: Belmar Beach Cruisers

Although Belmar lacks in dedicated bicycle infrastructure, it offers many low stress streets connecting commerce, residential, and the ever-popular beach. Cruiser-style bicycles are a common way for residents and visitors to travel from their home to the oceanfront.

Figure 49: Boardwalk Bicycle Parking

Bicycle on the Belmar Boardwalk.
Picture Source: http://visitbelmarnj.com/

Figure 50: Event Bicycle Parking

Bicycle parking for a large event.
Picture Source: http://visitbelmarnj.com/

Figure 51: Percent of Police Trained to Use Bicycles on Patrol

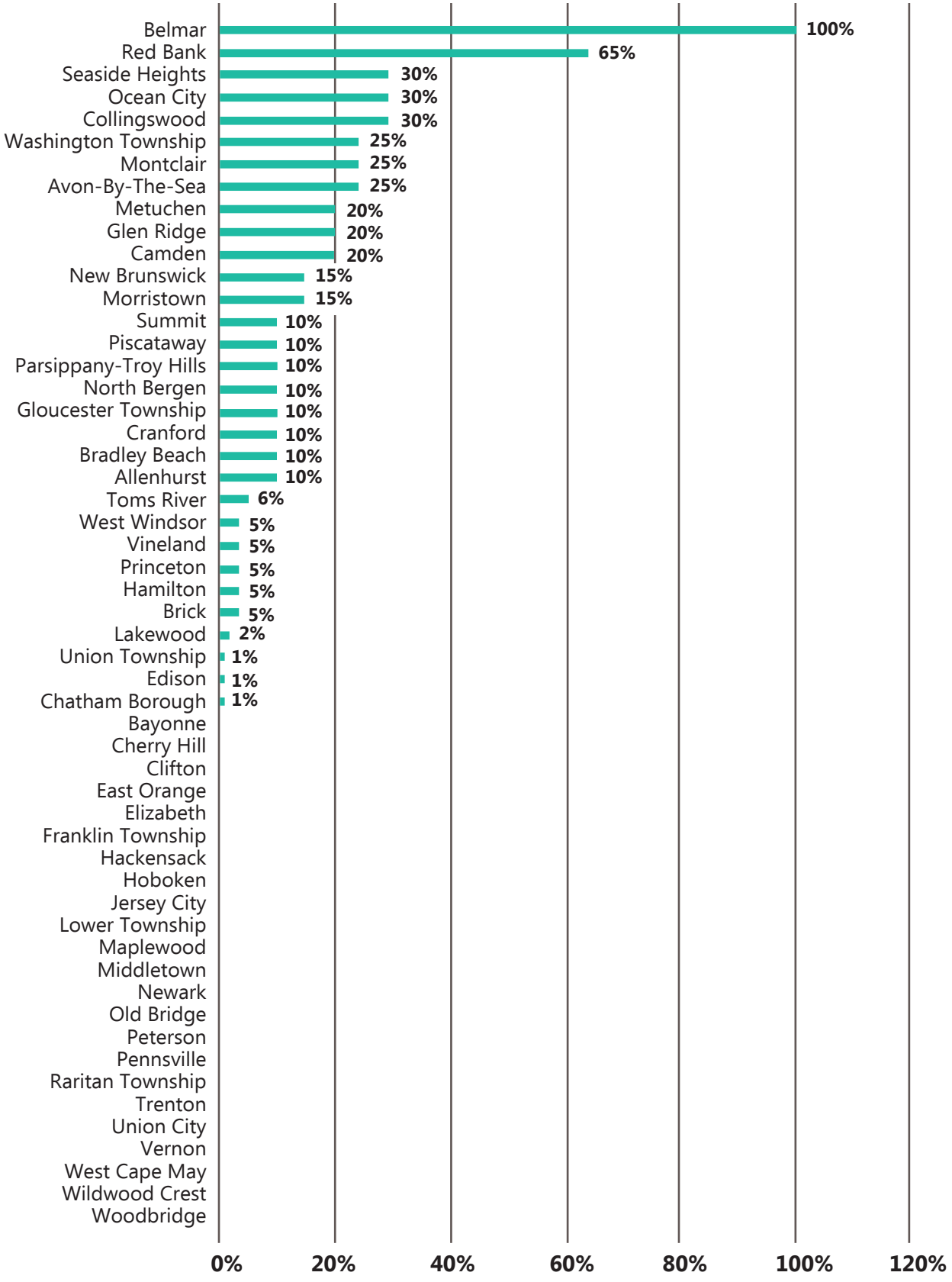


Table 14: Fatalities and Injuries to Bicyclists, 2009-2013

Municipality	Killed	Incapacitated	Moderate Injury	Complaint of Pain	TOTAL
Jersey City	3	7	24	311	412
Newark	3	1	35	210	268
Camden	0	6	44	131	196
Lakewood	0	4	91	107	180
Paterson	1	0	23	101	140
Toms River	3	4	6	48	114
Elizabeth	1	2	17	75	106
Passaic	0	2	10	75	100
New Brunswick	2	2	14	57	96
Union City	1	2	18	67	93
Edison	1	3	12	51	92
Clifton	0	3	21	58	91
Hamilton	0	4	28	44	90
Brick	1	1	16	43	89
Bayonne	0	1	3	60	83
Woodbridge	0	1	10	41	77
Hackensack	0	1	16	52	81
Vineland	3	2	2	56	78
Hoboken	0	1	42	51	76
North Bergen	0	1	54	52	75
Trenton	1	3	59	53	75
Montclair	0	1	28	38	71
Princeton	0	0	11	31	66
Ocean City	0	0	22	24	64
Franklin Township	1	2	12	34	61
Cherry Hill	1	4	2	30	56
Egg Harbor Township	2	5	37	32	56
Belmar	0	2	22	27	53
Union Township	0	2	23	36	53
Middletown	0	1	6	23	52
Lower	0	2	69	24	50
East Orange	0	1	17	35	48
Wildwood	0	2	23	12	48
Gloucester Township	0	4	4	24	44
Cranford	0	1	10	21	39
Red Bank	0	0	4	17	35
Piscataway	0	4	8	19	34
Westfield	0	0	11	10	33
Collingswood	0	2	30	16	28
Evesham	0	3	28	12	27
Morristown	0	0	32	13	27
West Windsor	0	0	0	16	27
Bradley Beach	0	1	24	9	26
Parsippany-Troy Hills	0	1	11	14	25
Washington Township	0	2	17	10	23
Old Bridge	1	0	40	10	22
Wildwood Crest	0	1	34	9	20
Metuchen	0	0	7	12	18
Seaside Heights	0	0	18	9	18
Maplewood	0	0	24	9	16
Phillipsburg	0	1	6	6	15
Pennsville	1	1	38	6	14
Summit	0	1	9	6	13
Glen Ridge	0	0	24	3	7
Raritan Township	1	0	4	2	7
Chatham Borough	0	1	59	2	5
Vernon	0	1	15	1	4
Allenhurst	0	0	1	2	3
Avon-by-the-Sea	0	0	1	0	3
West Cape May	0	0	11	0	0
TOTAL	**27**	**97**	**1,352**	**2,347**	**3,823**

Note: The crashes in this analysis are only those for which bicyclist injury severity was recorded in Plan4Safety. The total recorded number of bicycle-vehicle crashes during this time period was 5,465.
Source: Plan4Safety

Bicycle Theft

Municipalities were asked two questions regarding their experience with bicycle theft in their city. The first was if they offered a bicycle registration program with the police department or within city hall. Twenty-two municipalities affirmed that they offer an optional registration program within their police department. These programs usually involve informing the department about the model, color, and serial number of a bicycle, which can then be used to assist with recovery in the event of a theft.

Municipalities were also asked to rank the locations where bicycle theft most commonly occurred. Of the 34 municipalities who replied to this question, 19 reported that residences are the most common location for bicycle theft. Recreational and retail locations were also frequently cited as common locations for theft, while libraries and government buildings were the least. Frequency of theft at transit locations was mixed; cities with large amounts of bicycle parking at major transit stations, such as Newark, New Brunswick, and Chatham Borough, citied train and bus stops as the most common locations for theft. Shore towns, on the other hand, were least likely to rank transit locations highly.

Bicyclist Fatalities and Injuries

The project team gathered safety data from Plan4Safety, a crash database housed at the Rutgers University Center for Advanced Infrastructure and Transportation. Between 2009 and 2013, 26 bicyclists were killed in the 60 municipalities and 3,803 were injured for a total of 3,829 crashes (Table 14, see page 48). Note that these crashes are only those for which bicyclist injury severity was recorded in Plan4Safety. The total number of reported bicycle-vehicle crashes during this time period was 5,465. Fatalities and injuries suffered by bicyclists using New Jersey's transportation infrastructure are on a downward trend. Between 2009 and 2013, the number of bicycle-vehicle crashes within the sixty municipalities decreased by 180, from 1,176 to 996, a 15.3 percent decrease. (Note that, again, for consistency sake, these crashes are only those for which bicyclist injury severity was recorded.) This trend, however, is not as evident in national-level data. Nationally, 726 people died and 49,000 were injured in bicycle-vehicle crashes in 2012 (the most recent year data are available), while in 2008, 718 were killed and 52,000 injured. While fatalities increased by 1.1 percent, injuries decreased by 5.8 percent. Generally speaking, more crashes occur in urban areas, while higher rates of fatalities occur in rural and suburban areas.

New Jersey's shore towns, renowned for their higher rates of bicycling, had fewer bicycle-vehicle crashes than non-shore towns, and were less severe. For example, West Cape May, Avon-by-the-Sea, West Cape May, and West Wildwood, had less severe injuries than many municipalities that did not have high bicycling mode shares; no bicyclists were incapacitated or killed. The lower numbers of injury and fatality in these towns, even given their comparatively higher rates of bicycling to work, may be due to many factors, including land use, the presence of bicycle infrastructure, and the increased visibility caused by the presence of a high number of bicyclists.

Investing in Bicycling

Engagement at the state level to encourage bicycling within municipalities should start with an understanding of what is important to each community. Not all community officials may feel that there is public demand for bicycling but they may understand that investing in bicycling will increase residents' quality of life. Increased bicycling activity has positive health impacts and also is an inexpensive mode of travel. There are other ancillary benefits such as reduced congestion, recreational benefits, and reduced parking needs.

The survey asked why municipalities invest in bicycling. The most frequently cited reason is improved public health with 31 affirmative responses, followed closely by improved quality of life with 30. Rounding out the top three reasons is community connectivity with 28 responses. The least cited reason is cooperation with adjacent communities with eight responses. The breakdown of the responses by municipality is shown in Table 15 (Appendix A). This information elucidates the motivations behind municipalities' investment in bicycling infrastructure and programs. Many municipalities make the connection with health and quality of life but not necessarily with safety or do not believe there is sufficient public demand.

The responses to this question demonstrate some of the bicycling challenges within some New Jersey municipalities. Continued community engagement is needed with public officials who may not be aware of or understand the myriad benefits of municipal support of bicycling. Educating local officials about the benefits of bicycling programming and infrastructure could strengthen the case that bicycling should become a standard component of the transportation network.

CONCLUSION

This report summarizes the state of bicycling within New Jersey and highlights some of the most notable contributions to bicycle planning and programming by municipalities. To continue to increase the number of New Jersey residents who bicycle regularly, it is critical that New Jersey municipalities make a stronger push to improve their local infrastructure, enact more pro-bicycling policies, and invest in bicycle education and safety. This report shows that while the level of bicycling investment varies widely from municipality to municipality, cities that have demonstrated commitment to bicycling are not limited to a specific geographic area or size.

A number of New Jersey municipalities demonstrate how effective bicycle policies and infrastructure can be implemented across communities that differ widely from each other – from urban to suburban to rural to shore towns. Cities such as Jersey City show that dense, urban areas can introduce innovative bicycle infrastructure, but such innovation is not restricted to the urban core; suburban municipalities such as West Windsor show that lower densities need not be a barrier to building bicycle infrastructure. Indeed, West Windsor was named New Jersey's first "Bicycle-Friendly Municipality" by the League of American Bicyclists. Meanwhile, the shore communities have the highest rates of bicycle ridership in the state, but aside from Ocean City, typically lack significant bicycle investment. With more investment, use of the bicycle in those communities could increase.

This benchmarking report is intended to highlight many of the benefits that come from the implementation of modern bicycle infrastructure and policies, and to inspire municipalities across New Jersey to critically examine their support of bicycling in comparison with some of their peers. While some municipalities were noted for their efforts in certain areas, no municipality excels in all areas. Further, some municipalities have done little to promote bicycle use and even the "Notable Communities" have areas in which they can improve.

Future editions of this benchmarking report should document changes over time, and identify trends among municipalities. The experience in putting this report together will also allow for improved methodology and data collection, especially with regards to standardization of records. The report has also served as a way to let municipal employees know what data are valuable, and the hope is that future requests for information will not come as a surprise.

The project team also hopes that municipalities that were not included within this study will take the initiative to provide data so that they can be compared with their peers, and also to complete the understanding of the current state of bicycling in New Jersey. Municipalities interested in being a part of the Benchmarking Report can contact the team to be included in future editions, or to provide other recommendations with regards to the report.

Figure 52: Bicyclists in Collingswood

Bicyclists in Collingswood on a beautiful fall day
Photo Source: Collingswood.com

2013-2014 New Jersey Bicycling Benchmarking Report

APPENDIXES

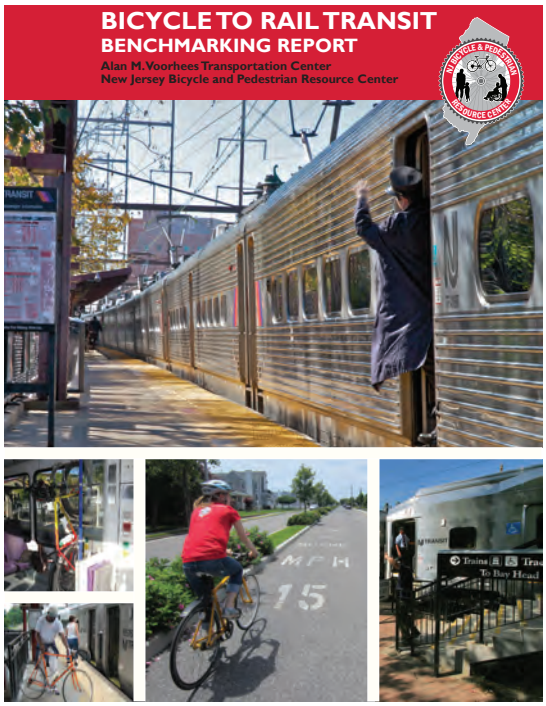
APPENDIX A

Table 15: Reasons for Investing in Bicycling

Municipality	Improved Quality of Life	Improved Public Health	Community Connectivity	Provide More Transportation Options	Decrease Traffic Congestion	Increased Tourism	Increased Property Values	Cooperation with Adjacent Communities	Public Demand	Economic Development	Traffic Safety
Allenhurst											
Avon-By-The-Sea											
Belmar	X	X		X	X	X	X		X		X
Bradley Beach											
Brick	X	X	X	X							X
Camden	X	X	X	X	X	X	X	X	X	X	X
Chatham Borough		X									X
Cherry Hill	X	X	X	X	X	X			X		X
Bayonne											
Clifton											
Collingswood	X	X	X	X	X	X	X	X	X	X	X
Cranford		X	X		X						
East Orange	X	X	X	X	X	X	X		X	X	X
Edison	X		X	X	X						X
Elizabeth	X	X	X	X	X		X				
Franklin Township	X	X	X								
Gloucester Township											
Glen Ridge	X	X	X	X	X		X	X	X		X
Hackensack		X		X							
Hamilton	X	X	X	X	X						
Hoboken	X	X	X	X	X	X		X	X	X	X
Jersey City	X	X	X	X							X
Lakewood											
Lower											
Maplewood	X	X	X	X	X			X	X		
Metuchen	X	X	X	X	X				X	X	X
Middletown											
Montclair	X	X	X	X	X	X	X		X		X
Morristown	X	X	X	X	X	X	X		X	X	
New Brunswick	X	X	X	X	X		X		X	X	X
Newark	X	X	X	X	X					X	X
North Bergen	X	X	X								X
Ocean City	X	X	X	X	X	X		X	X		X
Old Bridge											
Parsippany-Troy Hills											X
Paterson				X	X						
Pennsville											
Piscataway	X	X							X		
Princeton	X	X		X	X						
Raritan Township											
Red Bank	X	X	X	X	X				X		X
Seaside Heights											
Summit	X										
Toms River	X		X	X					X		
Trenton	X	X	X	X		X				X	
Union City			X	X	X			X			
Union Township											
Vernon	X	X	X			X					
Vineland		X		X							X
Washington Township											
West Cape May											
West Windsor	X	X	X	X	X	X	X	X	X	X	X
Wildwood Crest											
Woodbridge	X	X	X	X							
West Windsor											
TOTAL	30	31	28	29	23	12	10	8	17	10	21

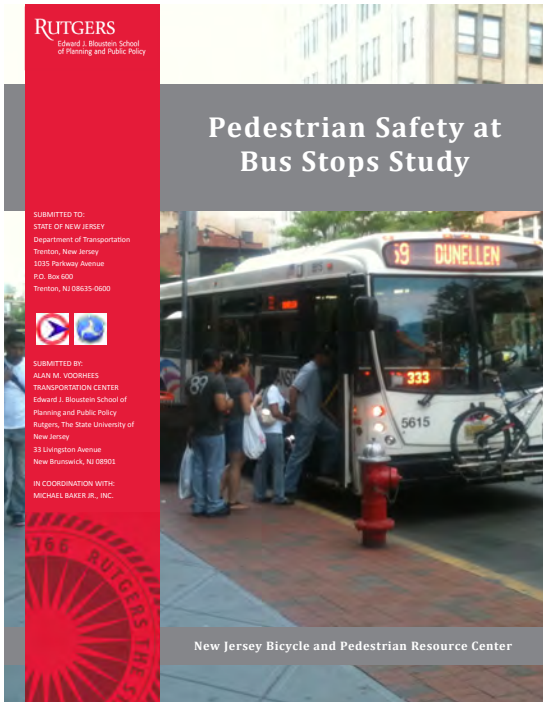
APPENDIX B

Voorhees Transportation Center Reports Referenced in the Text

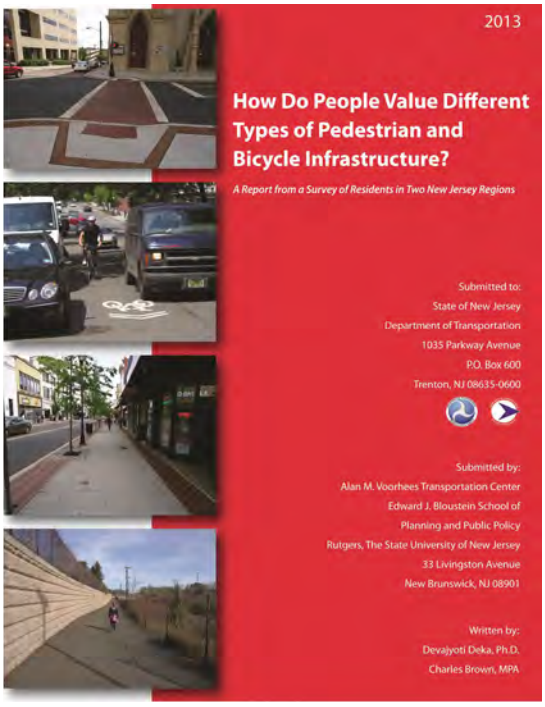


Bicycle to Rail Transit: Benchmarking Report

The Economic Impacts of Active Transportation in New Jersey



Pedestrian Safety at Bus Stops



How do People Value Different Types of Pedestrian and Bicycle Infrastructure?

Reports available on http://njbikeped.org/portfolio-page/

Bi-Annual New Jersey Bicycle Benchmarking Report Survey

RUTGERS
Edward J. Bloustein School of Planning and Public Policy

Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey

The Alan M. Voorhees Transportation Center at Rutgers University is compiling a report in cooperation with the New Jersey Department of Transportation on current bicycling conditions in New Jersey, including infrastructure, policy, funding, staffing, education, and safety. To that end, we would appreciate you completing the survey to provide us with data about bicycling in your city in 2013.

This research is confidential. Confidential means that the research records will include some information about you and that this will be stored in such a manner that some linkage between your identity and the response in the research exists. If you have any questions about this study, or you wish to return it by mail, you can contact:

Charles Brown, Senior Research Associate
Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning & Public Policy
Rutgers, The State University of New Jersey
33 Livingston Avenue, Room 446
New Brunswick, NJ 08901
T: 848-932-2846, F: 732-932-3714 or charles.brown@ejb.rutgers.edu

This study has been reviewed and approved by the Rutgers University Institutional Review Board for the Protection of Human Subjects. If you have any questions about your rights as a participant, please contact:

Rutgers, The State University of New Jersey
Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza, New Brunswick, NJ 08901-8559848-932-0150 or humansubjects@orsp.rutgers.edu

--Your Municipality--

A) What is the name of your municipality?

_____

B) What is the name of the person or persons who filled out this survey?

_____

_____

_____

C) What is the position of the person or persons who filled out this survey?

_____

_____

_____

--Infrastructure--

1) Approximately how many miles of the following types of bicycle route facilities does your city have?

Shared lane markers (a.k.a. sharrows): _____mi

Protected/buffered bicycle lanes: _____ mi

On-street bicycle lanes: _____ mi

Signed bicycle routes: _____ mi

Off-street multi-use lanes or paths: _____ mi

Bicycle boulevards: _____ mi

Other: _____Miles:_____

Please write "0" here if your city does not have any bicycle route facilities. _____ mi

2) Are any of your city's bicycle lanes painted? (Usually green)

o Yes
o No
o Don't know

3) If your city has painted bicycle lanes, how many miles does it have?

_____ mi

4) Which types of bicycle racks does your city have? (Check all that apply)

o Inverted U:

o Spiral:

o Wheelwell-secured:

o Post & ring:

o Wave:

o Swing arm-secured:

o Tree guard:

o Coat hanger:

o Artistic rack (i.e. rack shaped like a bicycle):

o Comb/grid:

o Wall-mounted racks:

o Other:_____

o My city does not have bicycle racks

5) How many bicycle lockers are available in your city for bicyclists? (Including those at rail and bus stations.)

_____

6) Are there any traffic lights dedicated to bicyclists in your city?

- o Yes
- o No
- o Don't know

7) How does your city ensure that engineers and others who are responsible for the design and maintenance of city-owned roads are familiar with the latest design standards for accommodating bicyclists? (Check all that apply.)

- o External training
- o Offer FHWA course
- o Send staff to bicycle conferences
- o Require that consultants have bicycle qualifications
- o Other: _____
- o My city does not have programs that do this

8) Are there any bridges, tunnels, or underpasses in your city that are difficult for bicyclists to use?

_____

_____

_____

Examples: Narrow underpass or bridge with no bicycle lane or shoulder:

9) What proportions of the following have bicycle racks in your city?

	All	Most	Some	Most Do Not	None Do	Don't Know	Does Not Exist
Schools	o	o	o	o	o	o	o
Libraries	o	o	o	o	o	o	o
Perks & Recreation Centers	o	o	o	o	o	o	o
City Buildings	o	o	o	o	o	o	o
Federal Buildings	o	o	o	o	o	o	o
Private Offices	o	o	o	o	o	o	o
Retail District or Shopping Center	o	o	o	o	o	o	o

10) What proportion of storm water grates run parallel to traffic and create a gap larger than the width of a bicycle tire (one inch wide)?

- o All
- o Most
- o Some
- o Most do not
- o None do
- o Don't know

11) Which programs does your city have to remove obstructions from traffic lanes and bicycle facilities? (Check all that apply.)

- o Street sweeping
- o Surface/pothole repair of traffic lanes and shoulders
- o Surface/pothole repair of on-street bicycle lanes
- o Off-street bicycle or multi-use path sweeping
- o Surface repair of off-street bicycle or multi-use paths
- o Other Program: _____
- o My city does not have any programs to remove obstructions from traffic and bicycle lanes

12) What infrastructure does your city have to accommodate bicyclists at intersections?

o Traffic signals are timed specifically for bicyclists:

o Advanced stop lines for bicyclists (a.k.a bicycle boxes):

o Video detection:

o Loop detector markings:

o Bicycle signal heads:

o User-activated buttons for bicycle lights at crossings:

o Other: _____

o My city does not have infrastructure to accommodate bicyclists at intersections

13) Are there any other infrastructure improvements in your city that promote bicycling? If so, please describe:

_____

_____

_____

--Policy--

14) Does your city have legislation mandating motor vehicles allow a minimum of 3-feet when passing a bicycle?

o Yes
o No
o Don't know

15) Does your city prohibit adults from riding on the sidewalk?

o Yes, but only in specific areas
o Yes, everywhere
o No
o Don't know

16) Does your city have a policy regulating the use of electric bicycles?

o Yes
o No
o Don't know

17) Does your city have zoning policies that require bicycle parking when the following types of NEW development are built?

	Yes	No	Don't Know
Office Buildings	o	o	o
Retail District or Shopping Center	o	o	o
Multi-family Housing	o	o	o

18) Does your city have a policy to remove abandoned bicycles from public spaces?

o Yes
o No
o Don't know

19) If yes, please describe:

_____

_____

_____

20) Does your city ticket and remove cars illegally parking in bicycle lanes?

o Yes
o No
o Don't know

21) Does the master plan for your city include the consideration of bicycle transportation?

o Yes
o No
o Don't know

--Funding--

22) Approximately how much did your city spend on bicycle infrastructure last year (2013)?

$_____

23) Do any schools in your city have programs that promote bicycle education?

o Yes
o No
o Don't know

24) Approximately how much did your city spend on bicycle education last year?

$_____

25) What is your city's reason for investing in bicycling? (Check all that apply.)

- o Improved quality of life
- o Improved public health
- o Community connectivity
- o To provide more transportation options
- o Decreased traffic congestions
- o Increased tourism
- o Increased property values
- o Cooperation with adjacent communities
- o Public demand
- o Economic development
- o Traffic safety
- o Other: _____

--Staffing--

26) How many public employees work on bicycle issues and planning in your city?

_____

27) How many full-time equivalent (FTE) staff are devoted to bicycle issues and planning in your city?

_____

28) Does your city have a bicycle advisory committee (a group of citizens that work with the city on bicycle issues)?

- o Yes
- o No
- o Don't know

29) Approximately what percentage of your city's police force is trained to use bicycles on patrol?

_____%

--Education and Advocacy Programs--

30) Does your city have adult bicycle education courses?

o Yes
o No
o Don't know

31) Does your city participate in Bike-to-Work events?

o Yes
o No
o Don't know

32) Has your city hosted street closure events to promote bicycling and physical activity, such as Ciclovia, or does your city have plans to do so in the next year?

o Yes
o No
o Don't know

33) Has your city performed an economic impact study that includes bicycling?

o Yes
o No
o Don't know

34) Do city employees receive any incentives for bicycling to work?

o Yes
o No
o Don't know

35) Does your city offer reimbursement for employees who use bicycles rather than city-owned or their own vehicles for work trips?

o Yes
o No
o Don't know

36) Does your city have or is your city planning to have a bicycle sharing program?

o Yes
o No
o Don't know

--Safety--

37) Does your city have either a public (paper) or online bicycle map?

o Yes
o No
o Don't know

38) What type of bicycle registration is available in your city?

o With the city
o With the police department
o Other: _____
o No type of bicycle registration is available

39) Please rank the places below based on where bicycle theft is most common, with one being the most common and seven being the least common.

_____ Near libraries
_____ Near schools
_____ At train or bus station(s)
_____ Near government buildings
_____ Near retail and commercial businesses
_____ At recreational facilities
_____ At residences

40) Is there anything else you want to tell us about bicycling in your city?

_____

_____

_____

_____

_____

END

--Thank you for your participation--

Bi-Annual New Jersey Bicycle Benchmarking Report Survey

Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey

RUTGERS
Edward J. Bloustein School of Planning and Public Policy

Alan M. Voorhees Transportation Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey
33 Livingston Avenue
New Brunswick, NJ 08901