

Bridgewater Township Pedestrian & Bicycle Travel Plan

Safe Routes to Schools, Parks & Trails



March 2020

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Introduction



Introduction

The Bridgewater Bicycle and Pedestrian Travel Plan was prepared by the Safe Routes to School Resource Center at the Alan M. Voorhees Transportation Center (VTC) of the Edward J. Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey with funding from The Regional Center Partnership of Somerset County (Bridgewater, Raritan, Somerville). The goal of the Partnership includes improving the identity and functionality of the Regional Center, the quality of life for residents, and creating a favorable environment for business.¹

This report is provided by the New Jersey Safe Routes to School Resource Center at Rutgers, The State University of New Jersey and the New Jersey Department of Transportation with funding from the Federal Highway Administration. New Jersey and the United States Government assume no liability for its contents or its use thereof.

Safe Routes to School

Safe Routes to School (SRTS) is an international, federal, state, and local effort to create safe, convenient, and enjoyable opportunities for children to walk and bicycle to and from school. The National Safe Routes to School program was established through legislation passed by Congress in 2005, which dedicated funds through the Federal Highway Administration and required each state

to have a SRTS Coordinator as a central point of contact for the state.

The New Jersey Safe Routes to School program is led by the New Jersey Department of Transportation (NJDOT) and seeks to empower and assist communities throughout the state with identifying issues, creating partnerships, and implementing projects that improve safety and encourage students to walk and bike to and from school on a daily basis. SRTS projects can involve physical improvements as well as encouragement and education programs to promote safety and increased walking and bicycling. The vision of NJ SRTS is to develop a culture and environment where walking and bicycling to and from school is safer, more appealing, and a part of daily life for students of all ages and abilities throughout New Jersey.



A walkability audit at Milltown Primary School

SRTS recognizes the many benefits that accrue from increased walking and biking, including reduced road congestion; reduced emissions and cleaner air; cost savings for schools through reduced bussing; and increased physical activity for children, resulting in improved academic performance.

School Travel Plans

A School Travel Plan is a document outlining a community's goals for increasing walking and biking amongst students, as well as a set of both short- and long-term actions to help reach those goals. To this end, a School Travel Plan identifies:

- Where students currently walk and bike
- Where students would walk and bike if they could
- What interventions are necessary to increase the number of students walking and biking to school

A School Travel Plan helps to create partnerships between the school or school district, the municipality, and members of the community. By clearly articulating goals and actions, a School Travel Plan not only strengthens SRTS grant applications, but also provides a community with a clear vision for moving forward with improvements to bicycle and pedestrian programs and policies.

About RideWise

RideWise, Inc. is an independent non-profit organization focused on promoting efficient, safe, and sustainable transportation choices in Somerset County. RideWise engages with businesses, local governments, and community members to improve mobility, including increasing opportunities for walking and biking. The agency is funded through contracts with the North Jersey Transportation Planning Authority (NJTPA), NJDOT, and NJ TRANSIT, as well as through outside grants and sponsorships. RideWise provides staff who support Safe Routes to School projects in communities throughout Somerset County.



RideWise facilitates activities that help promote walking and bicycling to school

NEW JERSEY Safe Routes to School



www.saferoutesnj.org

About the New Jersey Safe Routes Resource Center

The New Jersey Safe Routes Resource Center assists public officials, transportation and health professionals, and the general public in creating a safer and more accessible walking and bicycling environment through primary research, education and dissemination of information about best practices in policy and design. The Safe Routes Resource Center is supported by the New Jersey Department of Transportation through funds provided by the Federal Highway Administration and is managed by the Alan M. Voorhees Transportation Center within the Edward J. Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey. Resource Center staff assist schools and municipalities with education, encouragement, enforcement, evaluation, planning, funding and other non-construction related activities and connects people and places to free technical assistance and resources.

Safe Routes to Parks

Safe Routes to Parks is a campaign by the National Recreation and Park Association (NRPA) to implement programs and policies that encourage safe and equitable access to parks. The Safe Routes to Parks program provides technical assistance and grant funding to communities seeking to promote walking and biking to parks, especially in low-income areas and communities of color.²

Safe Routes to Parks are defined as ten-minute walks or bike rides to parks that are accessible, safe, convenient, and comfortable. They are especially important to children and the elderly--who may not be able to drive--as well as those without cars.³ Just like SRTS, the Safe Routes to Parks initiative recognizes the virtues of walking and biking and seeks to build on the benefits of physical activity by increasing accessibility to places of active recreation. The Safe Routes to Parks program is discussed further in subsequent sections of this report.



Introduction

Steering Committee

The Bridgewater School Travel Plan Steering Committee was composed of the following members. The Steering Committee met on May 30, 2019 and October 8, 2019 to discuss the vision and goals for this School Travel Plan. Meeting agendas and notes are included in Appendix B. The Steering Committee's work concluded with the drafting of the report shortly after these meetings transpired and the Township appreciates their efforts.

Name	Title	Affiliation
Tom Forsythe	Public Works	Bridgewater Township
Kristen Schiro	Director of Health & Human Services	Bridgewater Township
Al Nicaretta	Police Chief	Bridgewater Township
Jodi Zangari Schneider	Grants Manager	Bridgewater Township
Peter Starrs	Business Adm./Bd.Sec	Bridgewater-Raritan Regional School District
Jon Dugan	Bicycle & Pedestrian Safety Manager	RideWise
Donna Allison	Executive Director	RideWise
Walter C. Lane, AICP/PP	Director of Planning	Somerset County
Andras Holzmann, PP/AICP	Senior Planner	Somerset County
Leigh Ann Von Hagen, AICP/PP	Senior Research Manager	NJ Safe Routes Resource Center, Rutgers University
Sean Meehan	Senior Research Specialist	NJ Safe Routes Resource Center, Rutgers University
Samuel Rosenthal	Student Research Associate	NJ Safe Routes Resource Center, Rutgers University

Bridgewater Background



Bridgewater Background

Context

Bridgewater Township is located in central Somerset County, New Jersey. The Township is bordered by Raritan and Somerville to the south and Bound Brook to the east. Bridgewater is served by the NJ TRANSIT Raritan Valley Line, with one station in the Township itself and two additional stations in Raritan and Somerville nearby. Several major roads pass through Bridgewater, including Interstate 287, US Route 22, US Route 202, US Route 206, and NJ Route 28. Bridgewater is served by two NJ TRANSIT bus routes, the 65/66 and the 114/117, as well as several County bus routes, including the CAT-1R, the CAT-2R, the SCOOT-R1, the SCOOT-R2, and the SCOOT 858, 859, and 860.⁴

The Bridgewater-Raritan School District serves both Bridgewater Township and Raritan Borough and is the largest district in Somerset County. The district covers 35 square miles and includes eleven schools serving approximately 8,800 students.⁵

Retail is a major economic driver in Bridgewater. The Bridgewater Commons Mall and surrounding retail establishments are regionally significant, attracting residents from around the County.

Demographic Profile

In 2017, the total population of Bridgewater Township was 45,336.⁶ This represents a slight increase from a population of 44,234 in 2010 (about 2.5%). Of the total population, 10,481 (23%) are under 18 years of age, which is a slightly higher percentage than both Somerset County and New Jersey. This is a decrease from 2010, where 25.5% of the Township’s population were under the age of 18. The median age for Bridgewater residents is 42.6 years, which is also higher than the County and the State.

	<i>Bridgewater</i>	<i>Somerset County</i>	<i>New Jersey</i>
Total Population	45,336	333,316	8,960,161
Percent Under 18	23.1%	22.8%	22.3%
Median Age	42.6	41.3	39.6

Table 1: Population data for Bridgewater, Somerset County, and New Jersey.
(Source: ACS 5-year estimates 2013-2017)

Bridgewater Background

70.7% of Bridgewater residents identify as white, while 22.6% identify as Asian, and 2.9% identify as Black or African American. 1.7% of residents identify as some other race, and an additional 2% identify as two or more races.⁷ A greater percentage of Bridgewater's population identifies as white compared to Somerset County and New Jersey.

9.2% of Bridgewater's population identifies as Hispanic or Latino, which is lower than both Somerset County (14.4%) and New Jersey (19.7%).⁸ In general, minority populations in Bridgewater are concentrated in the southern part of the Township.

Race	Bridgewater	Somerset County	New Jersey
White alone	71	68	68
Black or African American alone	3	9	14
American Indian or Alaska Native alone	0	0	0
Asian alone	23	17	9
Native Hawaiian and Other Pacific Islander alone	0	0	0
Some other race alone	2	4	6
Two or more races	2	2	3

Table 2: Race and ethnicity data for Bridgewater, Somerset County, and New Jersey, in percentages. (Source: ACS 5-year estimates 2013-2017)

Bridgewater Race and Ethnicity (2017)

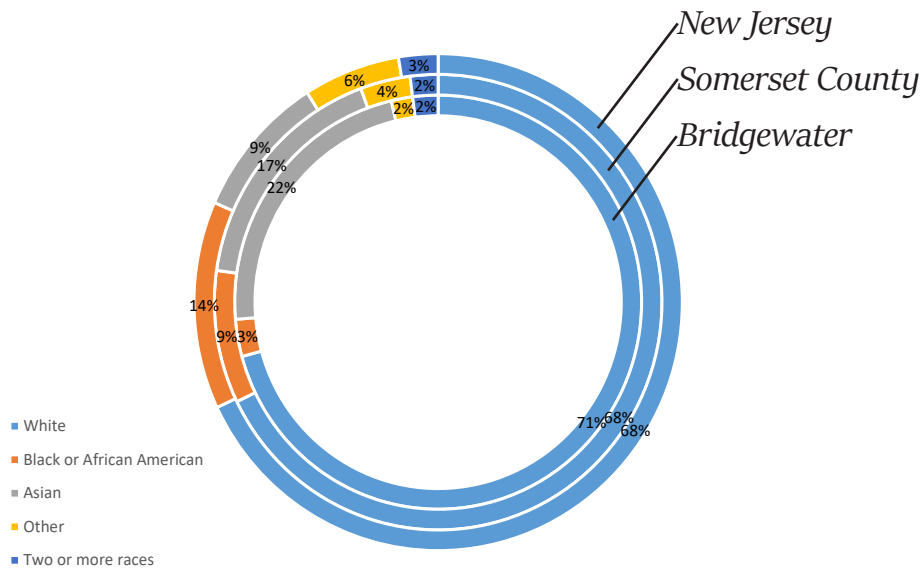


Figure 1: Race and ethnicity data for Bridgewater, Somerset County, and New Jersey. (Source: ACS 5-year estimates 2013-2017)

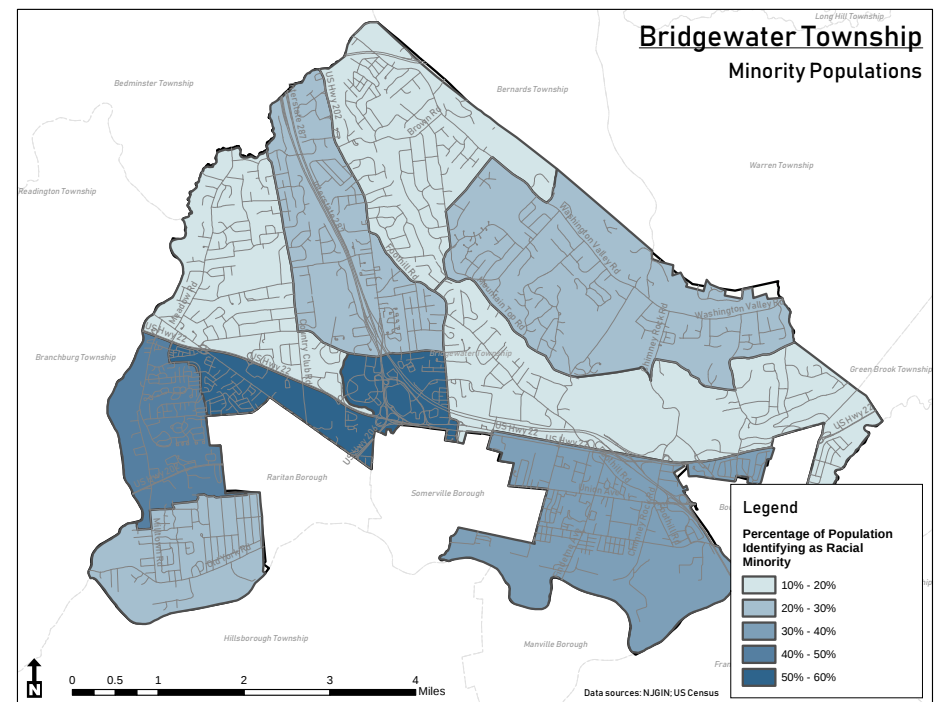


Figure 2: Percentage of the population identifying as a racial minority by census tract. (Source: ACS 5-year estimates 2013-2017)

Bridgewater Background

Income and Poverty

The total number of households in Bridgewater is 15,303. The median household income for 2017 was \$122,684, which is higher than both Somerset County and the State of New Jersey.⁹

As of 2017, 2.6% of Bridgewater families earned income below the poverty level and 3.8% of all people fell below the poverty line, both of which are lower than the rates in Somerset County and New Jersey as a whole.

When broken down by census tract, it is clear that rates of family poverty are higher in the southern part of the Township, especially in the areas surrounding and south of US Route 22. This correlates with the same parts of Bridgewater that have large minority populations.

	<i>Bridgewater</i>	<i>Somerset County</i>	<i>New Jersey</i>
Total Number of Households	15,303	115,970	3,199,111
Median Household Income	\$122,684	\$106,046	\$76,475
Percent of Families in Poverty	2.6%	3.2%	7.9%
Percent of People in Poverty	3.8%	4.8%	10.7%

Table 3: Household income and poverty statistics for individuals and families in Bridgewater, Somerset County, and New Jersey.

(Source: ACS 5-year estimates 2013-2017)

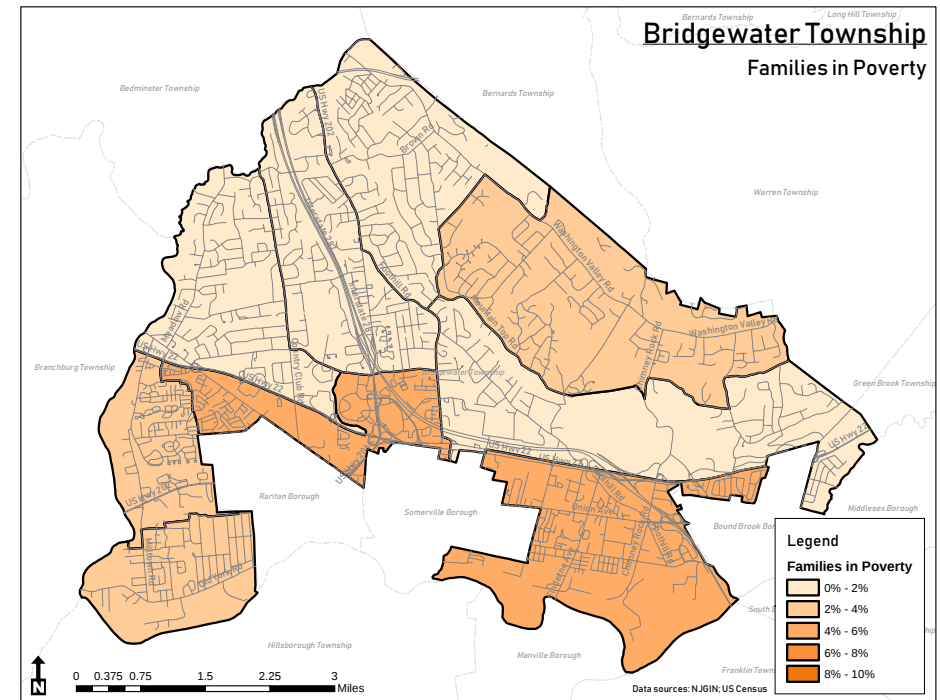


Figure 3: Percentage of Bridgewater families living in poverty by census tract.
(Source: ACS 5-year estimates 2013-2017)

	Park	Location	Acres
1	Alfred S. Brown	Beach Avenue	10
2	Ardmaer	Old York Road	4.78
3	Bel Air	Marie Place	1.26
4	Cedarbrook	Cedarbrook Road	5.1
5	Chimney Rock Park	Chimney Rock Road	24
6	Crim Fields	Crim Road	25
7	Duke Island (County)	Old York Road	194
8	Gene G. King	Frohlin Drive	30
9	Glen Park	Glen Road	2.21
10	Harry Ally Memorial	Main Street to Grand Boulevard	12
11	Kidstreet/Municipal Turf	Garretson Road	16.7
12	North Branch (County)	Milltown Road	194
13	North Bridge Street	North Bridge Street	7.5
14	Peterpar	Petepar Road	2.6
15	Prince Rodgers Complex	Prince Rodgers Road	10
16	Rolling Knolls	Rolling Knolls Way	1.7
17	Shady Lane	Shady Lane	1.2
18	Somerville Manor	Sussex Avenue	1.7
19	Thomae	Nagle Street	8
20	Torpey Athletic Complex (County)	Nimitz Street	20
21	Washington Valley Park (County)	Newman's Lane & Miller Lane	719
	TOTAL		1290.75

Table 4: List of municipal and county parks in Bridgewater.
(Source: Bridgewater Township)

Parks

Bridgewater Township contains 20 parks, of which 17 are administered by the Township and 3 by the County. Located throughout the Township, the parks total over 570 acres.

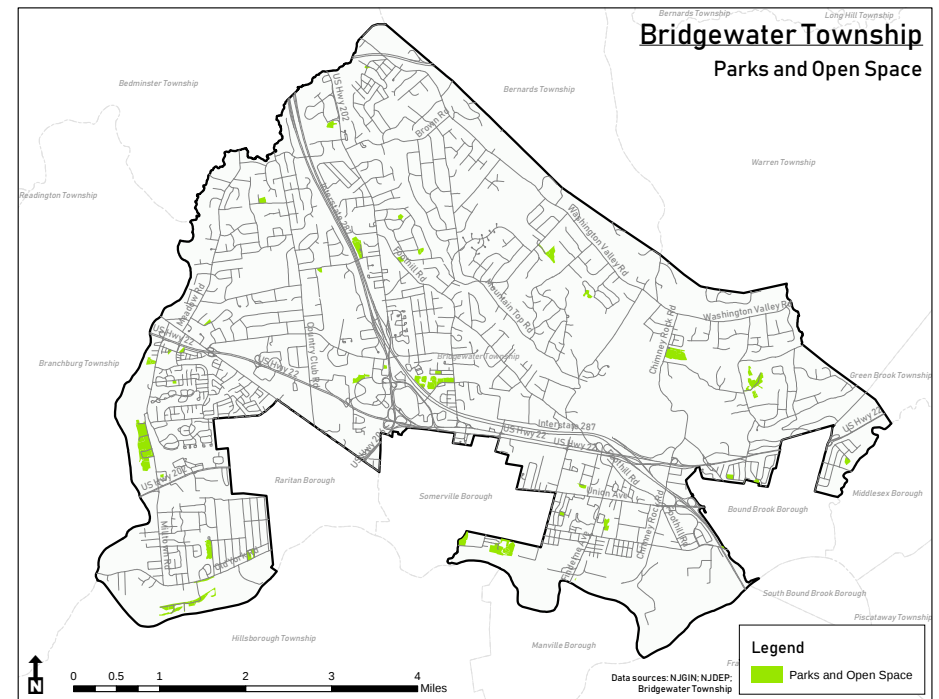


Figure 4: Location of parks and open space in Bridgewater.
(Source: Bridgewater Township)

Bridgewater Background

Existing Municipal Policies

Background research into existing municipal policies was conducted to learn about regulations already in place, as well as walking- and bicycling-related goals already set forth in previous planning documents.

Ordinances

Ordinances are adopted by a municipality and are enforceable by law. Bridgewater currently has several ordinances related to walking and bicycling. The following table lists ordinances related to the following topics: bike racks, trails, sidewalks, circulation, and open space and recreation. Only relevant sections of each ordinance are included in the “text” column.

Topic Area	Section	Text
Bike racks	§ 126-198 B	Certain street furniture is functional in nature and should be located where the demand is. Bike racks should be located in front or to the rear of multifamily areas and with easy access to bike trails. They also should be placed near service areas and by recreational activities.
	§ 126-320 6J	Special Economic Development (SED) Zone Bicycle racks shall be provided at all buildings.
Trails	§ 126-199 B	<i>Open Space and Recreation</i>
		Recreational facilities. The following recreational facilities should be considered as part of any, but not necessarily all, planned developments: (1) Trails. Use to connect open space, between recreational facilities and between buildings and other uses.
	§ 126-190	<i>Lighting</i> In connection with every site plan, the applicant shall submit plans for all proposed exterior lighting. These plans shall include the location, type of light, radius of light, manufacturer's specification sheet and the intensity in footcandles. The following design standards shall be followed: (H) Pathways, sidewalks and trails should be lighted with low or mushroom-type standards.

Topic Area	Section	Text
Trails	§ 126-321.6 C	Redevelopment Special Economic and Employment Development (C) Permitted accessory uses: Open space and recreational facilities such as gardens, bicycle paths, jogging and fitness trails, passive sitting areas, tennis courts and other athletic facilities for the benefit of building occupants shall be provided.
	§ 126-345.3	M-2 Zone Planned Commercial Development/Corporate Office Park (6) Other site design criteria. The following site planning objectives shall be considered as part of any planned office park developments: (e) To provide for active and passive recreational facilities such as
	§ 151-7	<i>Supplemental regulations for municipal parks</i> Prohibited uses: (9) Operating hours. The Division reserves the right to establish operating hours as well as the closing of parking areas specifically to address use and maintenance issues. Trail systems may be closed and rested, even rerouted for a number of years, if necessary, when degradation symptoms become evident. Some activities and uses may be restricted or prohibited in the interest of public safety or natural resource protection.
Sidewalks	§ 126-199.1	A. Sidewalks shall be installed for all new developments as described below to provide for safe pedestrian access in residential, commercial and public areas.
		B. On local streets, sidewalks shall have a four-foot width and shall be located not less than three feet from the curbline. On collector roads or higher road classifications, sidewalks shall have a five-foot width in order to double as bikeways.
		C. Sidewalks shall be required in accordance with the following standards of road classification, use and density, The Planning Board may permit an applicant to provide an escrow contribution in lieu of construction of the required sidewalk. The contribution shall be equivalent to the cost of said sidewalk, as approved by the Township Engineer.
		(1) Read classification. (a) Major arterial: no sidewalk required, pedestrian use discouraged.

Topic Area	Section	Text
Sidewalks	§ 126-199.1	(b) Minor arterial:
		[1] Rural areas: sidewalk on one side.
		[2] Developed areas: sidewalk on two sides.
		(c) Collector roads: sidewalk on two sides.
		(d) Local roads:
		[1] Cul-de-sac [under 150 average daily traffic (ADT)]: no sidewalk required.
		[2] Cul-de-sac/loops (150 to 400 ADT): sidewalk on one side.
		[3] Cul-de-sac/loops (over 400 ADT): sidewalk on two sides.
		(e) Subcollectors: sidewalk on one or two sides.
		(2) Residential zones.
		(a) High-density (four units per acre; lots of 10,000 square feet or smaller): sidewalks required on two sides.
		(b) Medium-density (two to three units per acre; lots of 15,000 square feet to 30,000 square feet): sidewalks required on one side.
		(c) Low-density (one or fewer units per acre): no sidewalks required.
		(3) Business zones. Sidewalks should always be required along street frontages and from parking areas to entrances and exits.
		(4) Industrial zones. Sidewalks may be required by the Planning Board; however, the requirement for sidewalks should be based on the merits of individual applications.
	§ 126-179	<i>Maintenance of parking and loading areas</i>
		A. Every parcel of land hereafter used as a public or private off-street parking or loading area shall be maintained in good condition, free of hazards and deterioration. All pavement areas, sidewalks, curbing, drainage facilities, lighting, bumpers, guardrails, markings, signs, landscaping and other improvements shall be maintained in workable, safe and good condition.
		B. The governing body may authorize repairs for such improvements if, after proper notice, the owner fails to maintain such improvements and such conditions constitute a hazard to health and safety or where such improvements are governed by a development or other similar agreement.

Topic Area	Section	Text
Sidewalks	§ 126-257	<i>Specific Improvements</i>
		A. Stormwater. The stormwater disposal system shall include all or some of the following: curbs, catch basins, culverts, pipes, stormwater drains, swales, drainage rights-of-way, ditches, channel improvements, riprap, retention and detention basins, or combinations of all or some of the above where appropriate. It may also include ground cover, seeding, trees, shrubs, bushes and vegetation.
		B. Sanitary sewage disposal. A sanitary waste disposal system shall include all or some of the following: pipes and necessary appurtenances, such as manholes, handholes, pumping stations, drainage tiles, valves and siphons.
		C. Water. A water system shall include all or part of the following: pipes and necessary appurtenances of sufficient size, material and capacity, pumps, valves, pumping stations, standpipes and fire hydrants. Fire hydrants shall be of a design and type approved by the Township and be installed in accordance with Township requirements.
		D. Private utilities. Gas lines, telephone lines, electrical services, cable television and similar utilities when installed shall consist of
		E. Vehicular and pedestrian improvements. Such improvements shall include all or part of the following: street paving, curbs, gutters, concrete sidewalks, bituminous concrete driveway aprons, streetlighting, traffic signs, traffic control devices, guardrails and other street improvements.
		(1) Streets. Streets shall meet the design specifications established in this chapter.[1]
		[1]Editor's Note: See § 126-239 of this chapter.
		(2) Street signs. The design and location of all street signs shall be approved by the Planning Board. The name of all new streets shall be approved by the Township Council or its designee.
		(3) Sidewalks. Sidewalks, where required, shall be a minimum of four feet in width and shall otherwise comply with § 126-199.1.
		[Amended 11-18-1991 by Ord. No. 91-33]

Bridgewater Background

Topic Area	Section	Text
Sidewalks	§ 126-257	(4) Traffic signs and control devices. These improvements, such as stop, yield and one-way signs, etc., shall be designed and installed in accordance with applicable federal, state and county regulations. Recommendations as to their installation may be made by the Police Department or other competent agency.
		(5) Guardrails. These shall be designed to prevent cars from leaving the road. They shall be installed where danger exists to the traveling public due to steep topography, narrow roadways, location of drainage ditches or other similar conditions.
		F. Natural improvements. These improvements shall include all or some of the following: shade trees, topsoil, earth removal, borrow and fill, improvements to prevent erosion and landslides, improvements to prevent damage to adjacent property, to protect vistas and existing natural growth.
		G. Monuments. Monuments shall be of such size and shape and properly located as required by the Map Filing Law.
		H. In order to ensure that existing well supplies are protected and that water is available for fire-fighting purposes, public water shall be provided in connection with all new major subdivision and site plan applications in the designated regional center area
		[Added 4-4-2005 by Ord. No. 05-12]
	§ 182-1	<i>Snow and Ice Removal</i> The owner or owners, tenant or tenants of any land abutting upon the public streets, avenues and highways of the Township of Bridgewater shall remove all snow and ice from the abutting sidewalks of such public streets, avenues and highways within 12 hours of daylight after the same shall cease to fall or be formed thereon or within such longer period as shall be fixed by the Mayor or Director of Public Works in the event of emergency.
	§ 126-313.1A	C-3B Professional Office Zone D (1) A sidewalk will be required along the entire frontage of any property within this zone.

Topic Area	Section	Text
Sidewalks	§ 126-190	<i>Lighting</i> In connection with every site plan, the applicant shall submit plans for all proposed exterior lighting. These plans shall include the location, type of light, radius of light, manufacturer's specification sheet and the intensity in footcandles. The following design standards shall be followed:
		H. Pathways, sidewalks and trails should be lighted with low or mushroom-type standards.
Circulation	§ 126-158	A. Provision shall be made for pedestrian and vehicular traffic movement within and adjacent to the site, with particular emphasis on the provision and layout of parking areas, off-street loading and
		B. The Planning Board shall ensure that all parking areas are landscaped and spaces are usable and are safely and conveniently
		C. As stated in the Master Plan's circulation plan element, major access improvements in critical environmental areas to be discouraged. The location and provision of bikeways, sidewalks and other pedestrian linkages are encouraged and may be required by the Planning Board.
		D. Traffic generated from regional commercial and/or industrial uses are required to be accessed from an arterial or primary roadway only. No ingress or egress shall be permitted from any local street or collector road as defined within the Township Master Plan unless the Planning Board determines that such road, or portions thereof, are predominately used to service nonresidential developments.
		[Added 5-6-1996 by Ord. No. 96-7]
Open Space and Recreation	§ 126-199	B. Recreational facilities. The following recreational facilities should be considered as part of any, but not necessarily all, planned developments:
		(1) Trails. Use to connect open space, between recreational facilities and between buildings and other uses.
		(2) Bikeways. Minimum width of five feet, optimum of eight feet. Keep grades under 10%, lower if for any length. Improved surfaces are desirable and all turning radii should be 12 feet.

Table 5: List of relevant municipal ordinances related to bike racks, trails, sidewalks, circulation, open space, and recreation.
(Source: Bridgewater Township)

Existing Plans and Studies

Bridgewater has published a number of planning documents in the past decade. Of these, the Open Space and Recreation Plan and the Circulation Element of the Master Plan are the most relevant, addressing topics related to walking and bicycling and advancing recommendations that support this School Travel Plan's objectives.

*Open Space and Recreation Plan (May 2010)*¹⁰

The Amendment to the Bridgewater Township Open Space and Recreation Plan Element was published in 2010 and lays out a vision for expanding and maintaining the Township's parks and recreation facilities. Many of the goals forwarded by the Open Space and Recreation Plan are consistent with the objectives of this School Travel Plan, including the expansion of recreational facilities in the high-density neighborhoods of Bradley Gardens and Finderne (Adamsville Primary School).¹¹ These locations are identified in this School Travel Plan as priority areas with higher crash rates and a greater number of families in poverty than other parts of the Township.

The Open Space and Recreation Plan also recommends the development of hiking and biking trails as part of the Middlebrook Open Space Plan, which supports this School Travel Plan's goals of improving and expanding Bridgewater's trails



Bridgewater's 2010 Open Space and Recreation Plan Element.

system to be more accessible, connected, and appealing to users of all ages and abilities.¹²

In addition, the Open Space Plan advocates the creation of greenways along the Raritan River, the North Branch of the Raritan River, and the Green Brook. The Raritan River and its North Branch about the neighborhoods of Bradley Gardens and Finderne, as well as the area surrounding Milltown Primary School, and greenways in these locations would support this School Travel Plan's goals of increased opportunities for walking and biking and improved connections in Bridgewater's bicycle and pedestrian network.

*Circulation Element of the Master Plan (September 2010)*¹³

The Circulation Element of Bridgewater's Master Plan was published in 2010 and outlines the Township's goals for maintaining and improving its transportation system. The document contains a crash analysis section, which identifies "hot spots" based on crashes between 2006 and 2008. Some of the hot spots included in the Circulation Element overlap with priority areas identified in this School Travel Plan, including US Route 22 between US Route 202 and I-287 and NJ Route 28 in the Finderne neighborhood. Based on the crash analysis conducted for this School Travel Plan, it appears that these areas continue to experience high crash rates, including crashes involving pedestrians and cyclists.¹⁴

The Circulation Element also addresses school transportation, noting that New Jersey law requires school districts to provide bussing to students living beyond certain radii,¹⁵ but may also be required to provide transportation to students within those radii if there are specific impediments to walking or bicycling. The Circulation Element notes that lack of sidewalks and high traffic volumes qualify a route for bussing. The Circulation Element identifies the cul-de-sac formation of Bridgewater's residential street network as a barrier to walking and bicycling to school, and recommends off-road pathways to connect neighborhoods and facilitate access to schools.¹⁶

Bridgewater Background

Circulation Element, continued

Additional pedestrian- and bicycle-related goals of the Circulation Element include:¹⁷

- Completing a Township-wide network of multi-use paths
- Providing sidewalks along higher classes of roadway in the vicinity of all schools
- Requiring new commercial retail developments to provide bicycle parking and connections to adjacent neighborhoods
- Prioritizing bicycle and pedestrian improvements (including bicycle parking) near schools, recreational facilities, employment centers, libraries, and senior centers
- Providing on- and off-road bicycle and pedestrian facilities that connect trails to public destinations

Many of these goals are consistent with the objectives of this School Travel Plan, which seeks to improve bicycle and pedestrian connections, especially near public parks and schools.

Complete Streets

Complete Streets are those which are designed for the safety and mobility of all users, including pedestrians, cyclists, motorists, transit users, and persons with disabilities. Complete Streets seek to create an integrated multi-modal transportation

network through design, planning, construction, and maintenance of transportation facilities. When implemented successfully, Complete Streets provide safe and accessible transportation options for people of all ages and abilities. When a municipality adopts a Complete Streets policy, it represents a commitment to the goals and ideals of the Complete Streets approach to planning.¹⁸

In October 2017, Bridgewater adopted its own Complete Streets resolution, which expresses support of Complete Streets implementation “whenever it is reasonable and feasible to do so.” While signifying general support of Complete Streets, Bridgewater’s resolution lacks a number of key elements and falls short of the standards required for Sustainable Jersey points. See Appendix C for a checklist comparing Bridgewater’s Complete Streets resolution with the Sustainable Jersey requirements for points.

In 2019, the *Complete & Green Streets for All: Model Complete Streets Policy & Guide* was published. The guide serves as a resource for New Jersey municipalities, counties, and agencies interested in implementing Complete Streets in their communities, explaining the concept and highlighting some of the many benefits of Complete Streets, including improved public health and safety, greener streets, economic vitality, and transportation equity.



The Complete & Green Streets For All Model Policy and Guide offers an excellent resource for communities drafting or amending Complete Streets policies.

The guide provides a Model Complete Streets Resolution, which cites and officially adopts the policy, as well as a Model Complete Streets Policy, which describes how the policy will be implemented. The Model Policy incorporates best practices and meets Sustainable Jersey’s high standards for adopting and implementing Complete Streets.¹⁹ The Model Policy also includes mechanisms for public participation in the planning process, as well as procedures for tracking implementation progress.

Health Profile

Healthy Communities have access to clean air and recreational and transportation opportunities that affect chronic diseases such as diabetes and asthma, vibrant and secure neighborhoods that improve physical safety and mental health, access to quality schools and transportation alternatives giving people the opportunity for active travel to and from school and to maintain quality jobs, among other factors. New Jersey ranks in the bottom half of all states in levels of physical activity (inactivity) and cardiovascular disease, and adult obesity is trending upward.²⁰ Integrating health into community planning and design helps address economic, social, and community factors that have a major impact on the quality and length of life. Opportunities abound for local elected and appointed officials, along with residents and professional staff, to consider possible health outcomes of local decision-making including decision-making that might not otherwise seem to be health-related. For example, decisions related to land use, zoning and master

planning, housing, education, roads and transit, housing siting and standards, trash and wastewater, etc. all have impacts on health and quality of life. Often known as Social Determinants of Health, these are the circumstances in which people are born, grow up, live, work, and age, as well as the systems put in place to deal with illness. Because of the known connections between increased physical activity and improved air quality with better health outcomes, this section summarizes health plans, reports, and data that addresses pressing health needs in the Bridgewater community.

Community Health Needs Assessment (CHNA)

Healthier Somerset is a coalition of over 50 organizations, representing residents, businesses, schools, and nonprofits, with the goal of improving the health and well-being of those who live and work in Somerset County.

In 2018, Healthier Somerset partnered with Robert Wood Johnson University Hospital Somerset (RWJUH) to develop a Somerset County Community Health Needs Assessment (CHNA). The purpose of the CHNA is to ensure that the health needs of community members are effectively met and that quality of life is improved throughout the County. Building upon a similar assessment undertaken in

2015, the 2018 CHNA combines secondary health and demographic data with primary data collected through surveys, focus groups, and interviews to provide a comprehensive view of public health in Somerset County.²¹

Based on the data gathered, the assessment identifies four health priority areas: behavioral health; obesity, overweight, and nutrition; chronic diseases; and access to care and healthy foods.²²

- **Behavioral health:** About 38% of survey respondents noted mental health and substance abuse as health-related concerns for Somerset County residents. In 2016, 12.5% of Somerset County residents reported a history of depression.²³
- **Obesity, overweight, and nutrition:** Obesity was a primary concern for Somerset County residents, with nearly 50% of survey respondents noting it as an issue. About 62% of Somerset County residents are overweight or obese.²⁴ Overweight and obesity are risk factors for chronic diseases such as heart disease, stroke, and diabetes. Overweight and obesity can result from poor nutrition and a lack of physical activity.²⁵



Bridgewater Background

- **Chronic diseases:** Chronic diseases are those which are prolonged in duration and difficult to completely cure, such as cancer, heart disease, diabetes, and arthritis. According to the survey, concern over chronic diseases, especially diabetes, was more common amongst lower-income individuals.²⁶ Four of the top five causes of death in the County are chronic diseases: heart disease, cancer, stroke, and Alzheimer's Disease.²⁷
- **Access to care and healthy foods:** Barriers to accessing healthcare services are a major concern amongst lower-income individuals. Those making less than \$50,000 per year are especially likely to face insurance and cost problems when seeking care.²⁸ Access to healthcare is important because it helps treat and prevent diseases, improving overall quality of life. Many respondents also expressed concerns over access to healthy foods. About 7% of County residents have limited access to healthy foods.²⁹

The school travel plan seeks to address many of these concerns by encouraging increased walking and biking to school. When young people establish healthy habits early in life, they are less likely to develop health issues related to lack of exercise, including overweight and obesity, which in turn reduces the likelihood of developing chronic diseases related to those conditions.

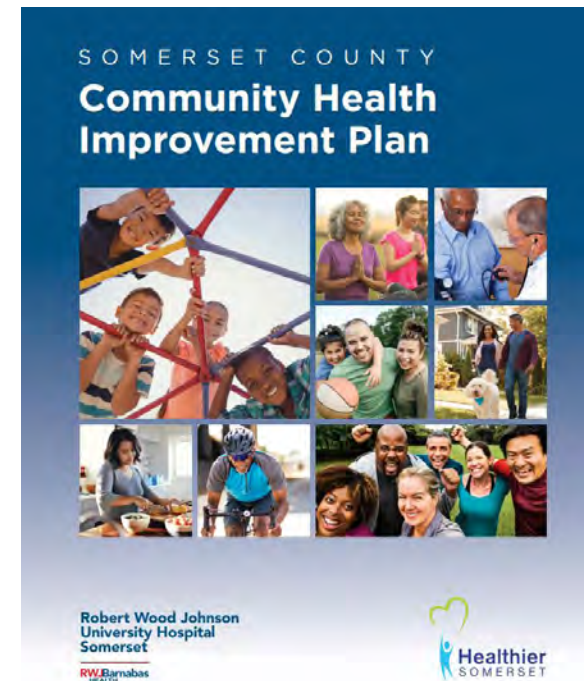
Community Health Improvement Plan (CHIP)

Completed in 2019, the Community Health Improvement Plan (CHIP) builds on the CHNA, laying out a set of goals and recommended actions that can be taken to improve community health and well-being in Somerset County.

- **Behavioral health:** The CHIP proposes to reduce the prevalence of both depression and substance abuse in Somerset County by 10% by the end of 2021. Actions to help achieve this include increasing locations and hours of mental health care providers, expanding peer-mentoring and anti-bullying programs in schools, and engaging communities to identify factors that influence substance abuse.³⁰
- **Obesity, overweight, and nutrition:** The CHIP proposes to increase the number of adults reporting leisure time physical activity by 10% and reduce adult overweight and obesity prevalence by 5% by the end of 2021. Actions to help achieve this include implementing multi-use trails in the County, adopting Complete Streets policies, and increasing physical activity during school hours.³¹
- **Chronic diseases:** The CHIP proposes to reduce the County diabetes rate by 3% and increase hypertension screening for high risk populations by 30% by the end of 2021. Actions to help achieve this include creating programs that encourage exercise and

increasing participation on chronic disease self-management programs.³²

- **Access to care and healthy foods:** The CHIP proposes to reduce the number of uninsured individuals and individuals lacking primary care physicians by 5% by the end of 2021. Actions to help achieve this include exploring the potential for increased bus services and enhancing health literacy through education.³³



The 2019-2021 Somerset County CHIP sets forth goals and actions aimed at improving community health and well-being in the county.

Existing Safe Routes to School Efforts

RideWise assists with Safe Routes to School educational and encouragement programs in many of the Bridgewater schools. Most recently in 2019, Bridgewater's Eisenhower Intermediate School received the First Step designation for the NJ Safe Routes to School Recognition Program. Municipalities and schools (public, private, or charter) are recognized for their commitment and support of the Safe Routes to School program by completing projects and programs that meet designation requirements. Certification is valid for three years.

Bridgewater Safe Routes to School Program

In Bridgewater, the Safe Routes to School program has been running for over four years with assistance and guidance from RideWise staff and involves students from Adamsville, Bradley Gardens, Hamilton, Hillside, JFK, Milltown, and Van Holten schools. The following are past and upcoming programs to encourage safe walking and bicycling:

- Adamsville School has participated in a walk to school event during the month of May for a number of years. Students met at three separate locations and all entered the school property through accessible walkways and paths.

- Adamsville School also participated in a Walkability Assessment during the month of October, when school officials were concerned about Halloween safety for the young students.
- In the 2017-2018 and 2018-2019 school years, students from several schools received a SRTS Health and Wellness presentation before the Holiday break.
- Bradley Gardens School worked on making walking easier and fun for students and participated in Walk to School Days from 2017-2019. RideWise also created a Safety Patrol along with school staff to implement safer drop-off and pick-ups for the students.
- The Safety Town pedestrian education program was taught to students attending five of the Bridgewater schools. The program was offered

in the spring and fall of 2018 and taught by RideWise staff.

- John F. Kennedy school received pedestrian education in 2017, weekly bike train from Fall 2016-present, and a Bike to School contest in Spring of 2018.
- At the request of residents and school staff, RideWise conducted a Traffic Assessment for Hamilton School.
- A high-level Safe Routes to School assessment was conducted at Van Holten and Hillside schools from July to October 2016 to evaluate whether the local infrastructure could safely support students walking or biking to school.
- Future plans include bringing Safety Town programming and Walk to School events to the remaining schools within the district.



Previous Safe Routes to School activities in Bridgewater led by RideWise.

Crash Analysis

A crash analysis for Bridgewater Township was conducted using the New Jersey Division of Highway Traffic Safety’s online Crash Analysis Tool. The tool compiles data based on crash reports from NJDOT, providing information on crash location, time of day, whether pedestrians or bicyclists were involved, whether the driver was distracted, and other circumstances related to the crash.

For this analysis, the project team examined data from bicycle- and pedestrian-involved crashes between 2014 and 2018. A total of 75 of these types of crashes occurred during this timeframe, of which 48 had location data available. Of the 75 total crashes, 42 involved a pedestrian and 33 involved a cyclist. There were six pedestrian fatalities and two cyclist fatalities.

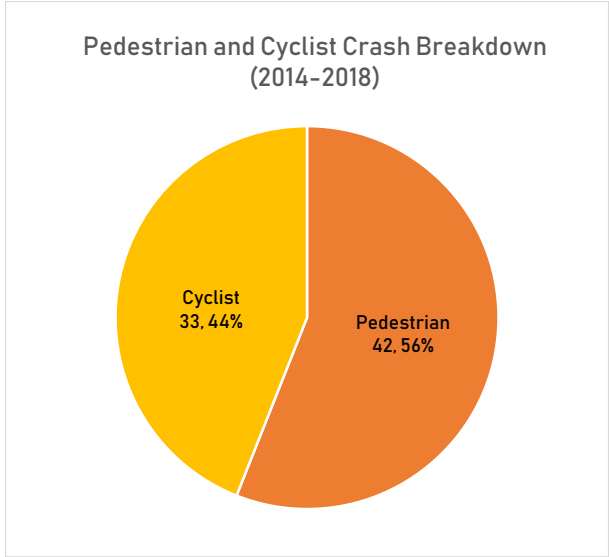


Figure 5: Pedestrians were involved in 56% of all bike-ped crashes, while cyclists were involved in 44% of those crashes. (Source: NJDHTS Crash Analysis Tool)

The most common time of day for bicycle and pedestrian crashes was the 2 pm to 4 pm period, with 17 crashes recorded during those hours. Significantly, this is the time of day when children are most likely to be walking or biking outside as they leave school and head toward their homes and after-school activities.

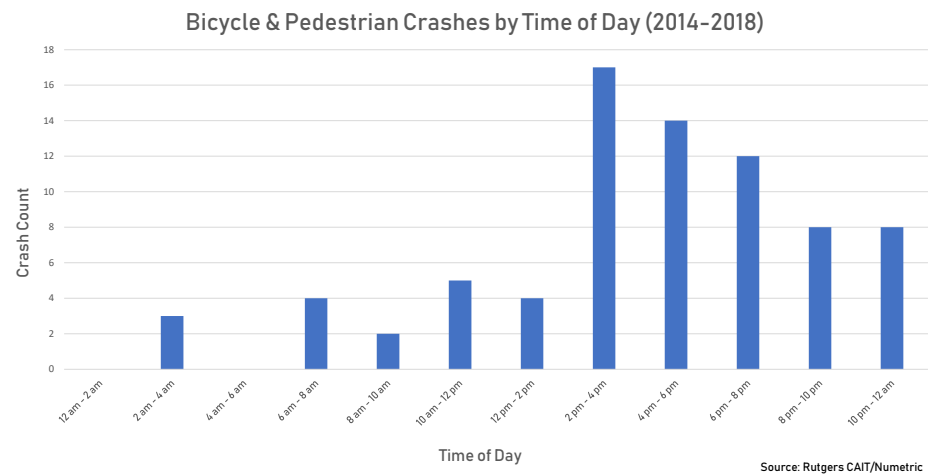


Figure 6: A large number of bicycle- and pedestrian-involved crashes occur between 2 and 4 pm, when many students are traveling from school. (Source: NJDHTS Crash Analysis Tool)

Bridgewater Background

The majority of crashes occurred along major thoroughfares in Bridgewater, including NJ Route 28 (Easton Turnpike and Union Avenue), US Route 22, Milltown Road, Main Street, Finderne Avenue, and North Bridge Street. Clusters of crashes occurred in front of the High School, at the intersection of Main Street and Finderne Avenue, and at the intersection of US Route 22 and Adamsville Road. Overall, most crashes were located to the south and west of Interstate 287.

While the Crash Analysis Tool is a valuable resource, it is important to recognize that it is incomplete. Dangerous incidents such as near misses likely go unreported and are therefore not part of the dataset. Of those crashes that are recorded, many do not include location data. Additionally, specific circumstances of a particular crash may be inexact. For instance, a police officer cannot officially report distracted driving unless it is witnessed by the officer or the driver admits to it on their own.

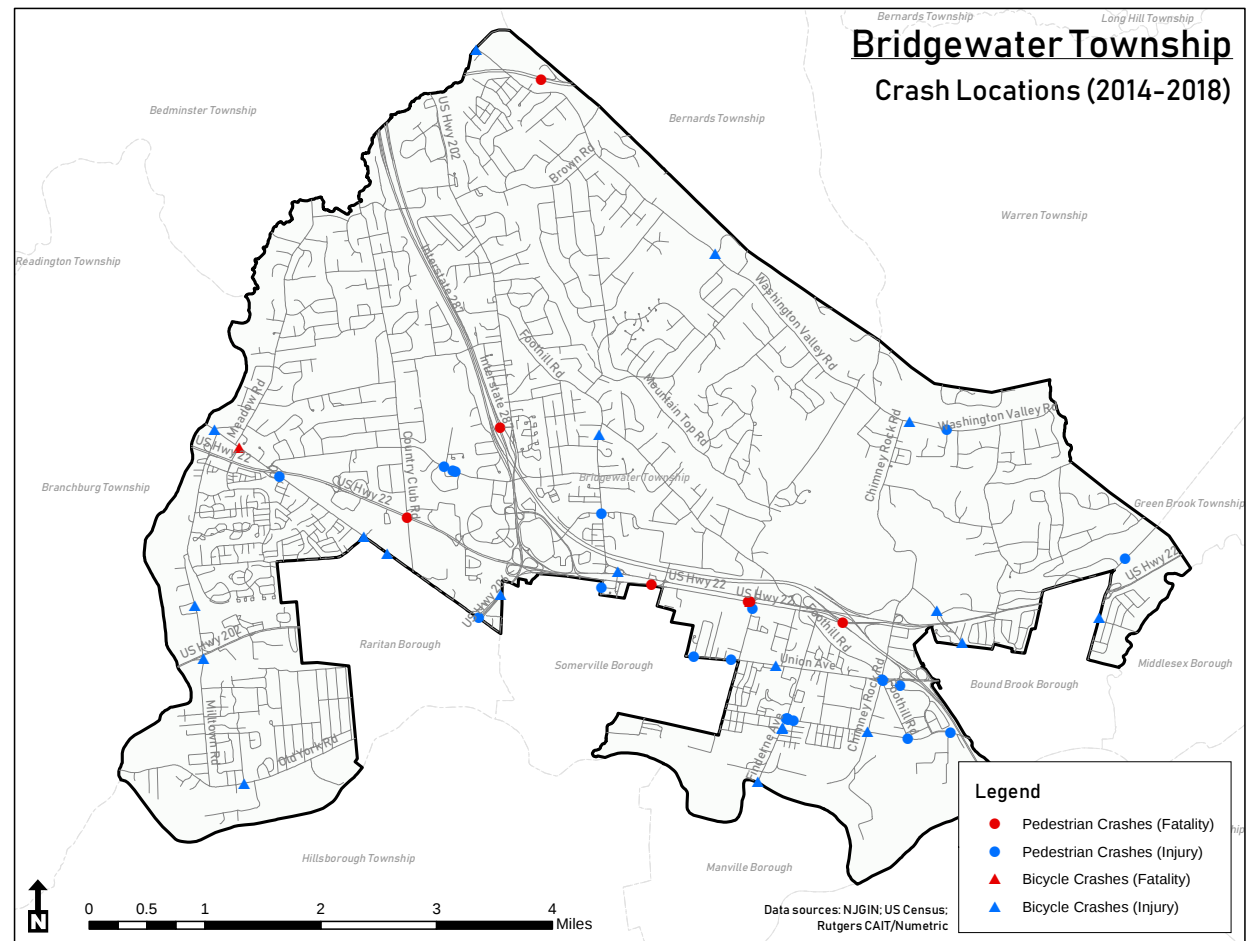


Figure 7: Many bicycle and pedestrian crashes occur along major thoroughfares in Bridgewater.
(Source: Rutgers CAIT/Numetric)

Bridgewater Background

This graphic, created by the Tri-State Transportation Campaign, outlines the myriad reasons Bridgewater needs complete and green streets. Using various kinds of data, the graphic clearly links the issues of safety, equity, environment, and public health to make the convincing case for complete streets. It is recommended that Bridgewater Township use this resource to educate community members when promoting the need for complete streets within the township.

BRIDGEWATER NEEDS COMPLETE & GREEN STREETS

SAFETY

Crashes by the numbers (2006-2019)

196 

88 

10 pedestrian crashes 10 bicycle crashes

Total crashes: 241, 16 fatalities

High Risk Areas

There have been **16 crashes** resulting in pedestrian or bicyclist injury or death just along one stretch of road **surrounding Bridgewater Commons**.

EQUITY & ECONOMY

A safe commute for all

47% of Bridgewater residents who walk to work make less than **\$25K** per year.

28% make less than **\$15,000** per year.

Economic benefits



Bridgewater has a **walk score ranging from 0 to the mid-50s** out of 100. An increase of 10 points improves **commercial values by 5 to 8%**.

GREEN STREETS



Flood Zones

Many Bridgewater neighborhoods are located partially in FEMA high risk flood zones.

Environmental benefits

Green stormwater infrastructure, shade trees, and use of recycled materials will protect and create a **healthier natural and social environment**, which is especially important in coastal regions.

PUBLIC HEALTH

Health Indicators



A majority of **Bradley Gardens** has **higher rates of asthma** than the overall region, and is the worst in the least walkable area.

Green Knoll has very low walkability, and **high traffic pollution exposure**.



Health Benefits

Improving walkability, bikeability, and transit access helps to solve urgent public health problems by **reducing air pollution and promoting an active lifestyle**. Complete Streets creates safe and convenient spaces to bike and walk, increasing activity and reducing polluting car traffic.

DATA SOURCES

Crash data: NJ DOT Safety Voyagers; New Jersey Division of Highway Traffic Safety Crash Analysis Tool
Environmental data: NEEP Bureau of GIS
Economic data: Metrolink Minutes, "Making the Economic Case for More Walkability," Urban Land Magazine, May 8, 2015, <http://urbanland.ullmag.com/sustainability/transportation-economic-case-walkability/>

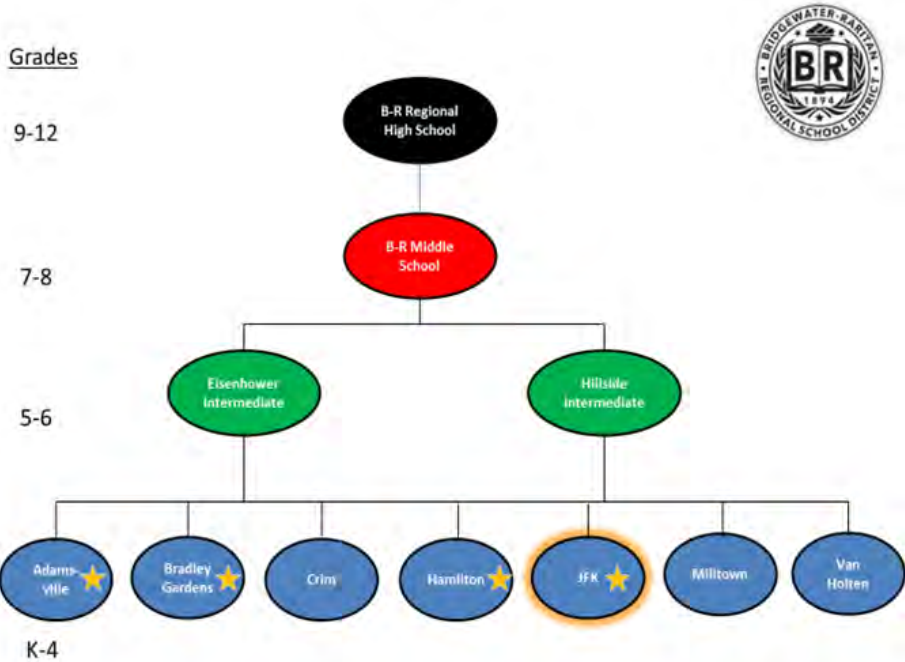
School District Profile



School District Profile

The Bridgewater-Raritan School District is the largest in Somerset County, serving approximately 8,800 students in both Bridgewater Township and Raritan Borough.³⁴ The district includes seven primary schools, two intermediate schools, one middle school, and one high school.

Though the percentage of economically disadvantaged students at every school in the district falls below the statewide rate of 37.4%, two schools in the district have rates higher than 15%. John F. Kennedy Primary School, which is located in Raritan, has a rate of 25.4%, while Adamsville Primary School has a rate of 18.2%.



(Source: Bridgewater-Raritan School District)

Many schools in the district have high percentages of students with disabilities. Milltown Primary School, Adamsville Primary School, Bradley Gardens Primary School, and Crim Primary School all have rates of about 20% or greater, which exceeds New Jersey’s overall rate of 17.1%.

School Name	Grades Offered	Number of Students	Bus Arrival Time	Start Time	Dismissal Time	% Economically Disadvantaged	% with Disabilities
Adamsville Primary School	PK-4	582	8:20 AM	8:35 AM	2:55 PM	18.2	20.3
Bradley Gardens Primary School	PK-4	303	8:20 AM	8:35 AM	2:55 PM	6.3	24.4
Bridgewater-Raritan High School	9-12	2799	-	7:20 AM	2:21 PM	8.2	15.9
Bridgewater-Raritan Middle School	7-8	1361	-	7:35 AM	2:15 PM	10.5	14.8
Crim Primary School	PK-4	399	8:20 AM	8:35 AM	2:55 PM	3.3	26.6
Eisenhower Intermediate School	5-6	778	8:50 AM	9:05 AM	3:30 PM	10.2	15.4
Hamilton Primary School	K-4	509	8:20 AM	8:35 AM	2:55 PM	3.1	9.2
Hillside Intermediate School	5-6	581	8:50 AM	9:05 AM	3:30 PM	11.2	12.9
John F. Kennedy Primary School	K-4	406	8:20 AM	8:35 AM	2:55 PM	25.4	16.3
Milltown Primary School	PK-4	450	8:20 AM	8:35 AM	2:55 PM	5.3	19.8
Van Holten Primary School	PK-4	418	8:20 AM	8:35 AM	2:55 PM	2.9	15.8
Bridgewater-Raritan School District	PK-12	8586				9.4	16.4
New Jersey	PK-12	1408108				37.4	17.1

Table 6: Schools in the Bridgewater-Raritan School District. Adamsville Primary and JFK Primary (Raritan) have high rates of economically disadvantaged students. (Source: NJDOE School Performance Reports. Data from 2017-2018 school year)

Crossing Guards

The township employs seven crossing guards plus one substitute at seven posts, which are stationed at four schools: Bradley Gardens Primary, Van Holten Primary, Eisenhower Intermediate, and Hillside Intermediate. The remaining schools do not have assigned crossing guards.

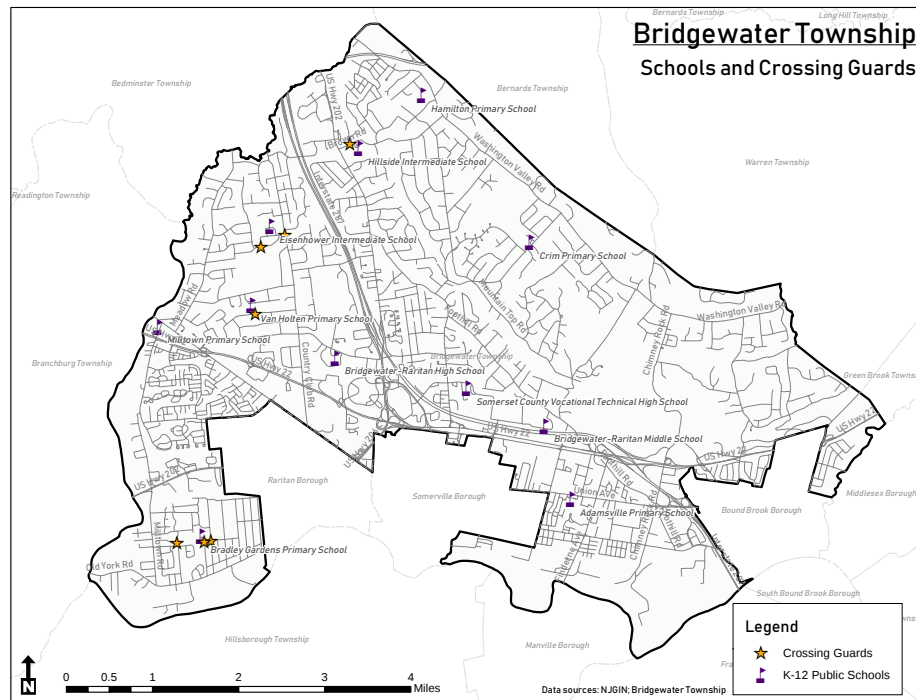


Figure 8: Bridgewater employs seven crossing guards (plus one substitute) stationed at four schools.

(Source: Bridgewater Township)

Post	School	Morning Hours	Afternoon Hours
Roanoke Rd & Berwick Dr	Bradley Gardens	7:30 am - 9:00 am	2:30 pm - 4:00 pm
Brahma Ave & Pine St	Bradley Gardens	7:30 am - 9:00 am	2:30 pm - 4:00 pm
Steeplechase Ln & Country Club	Eisenhower	8:00 am - 9:30 am	3:15 pm - 4:45 pm
Farmer Rd & Steeplechase Ln	Eisenhower	8:00 am - 9:30 am	3:15 pm - 4:45 pm
Stony Brook Ln & Van Holten Path	Van Holten	7:30 am - 9:00 am	2:30 pm - 4:00 pm
Brown Rd & Sky Hill Dr	Hillside	8:00 am - 9:30 am	3:15 pm - 4:45 pm
Beach Ave & Pine St	Bradley Gardens	7:30 am - 9:00 am	2:30 pm - 4:00 pm
Substitute			

Table 7: Locations and hours of Bridgewater Township crossing guard posts.
(Source: Bridgewater Township)

School District Profile

Existing School Policies

School Day Policy (8220)

The Bridgewater-Raritan Regional Board of Education maintains a school day policy that outlines school hours based on school facilities limitations and State law requirements. According to the policy, students who walk are requested not to arrive at school until approximately ten minutes prior to school opening. Similarly, students who are transported by bus are not to be discharged at school earlier than ten minutes before the start of school.

The policy also holds that, excepting emergencies, no deviation from a student's regular routine for leaving school shall be authorized by school personnel without written permission from a parent or guardian.³⁵



Students boarding afternoon buses at Adamsville Primary School.

Transportation Policy (8600)

According to the Transportation Policy, the Board of Education provides transportation to and from school for students living beyond following distances from schools they attend:

- Primary: 1.25 miles
- Intermediate: 1.25 miles
- Middle: 2 miles
- High: 2.5 miles

AM Kindergarten students walk or take a bus with other students, but are transported home on a Kindergarten bus, while PM Kindergarten students take a Kindergarten bus to school, but walk home or are bussed home with other students at the end of the school day.³⁶ The policy also authorizes student transportation via bus to after-care facilities and jobs permitted certain conditions are met and no new bus routes or deviations need to be created.

School Wellness Policy (8505)

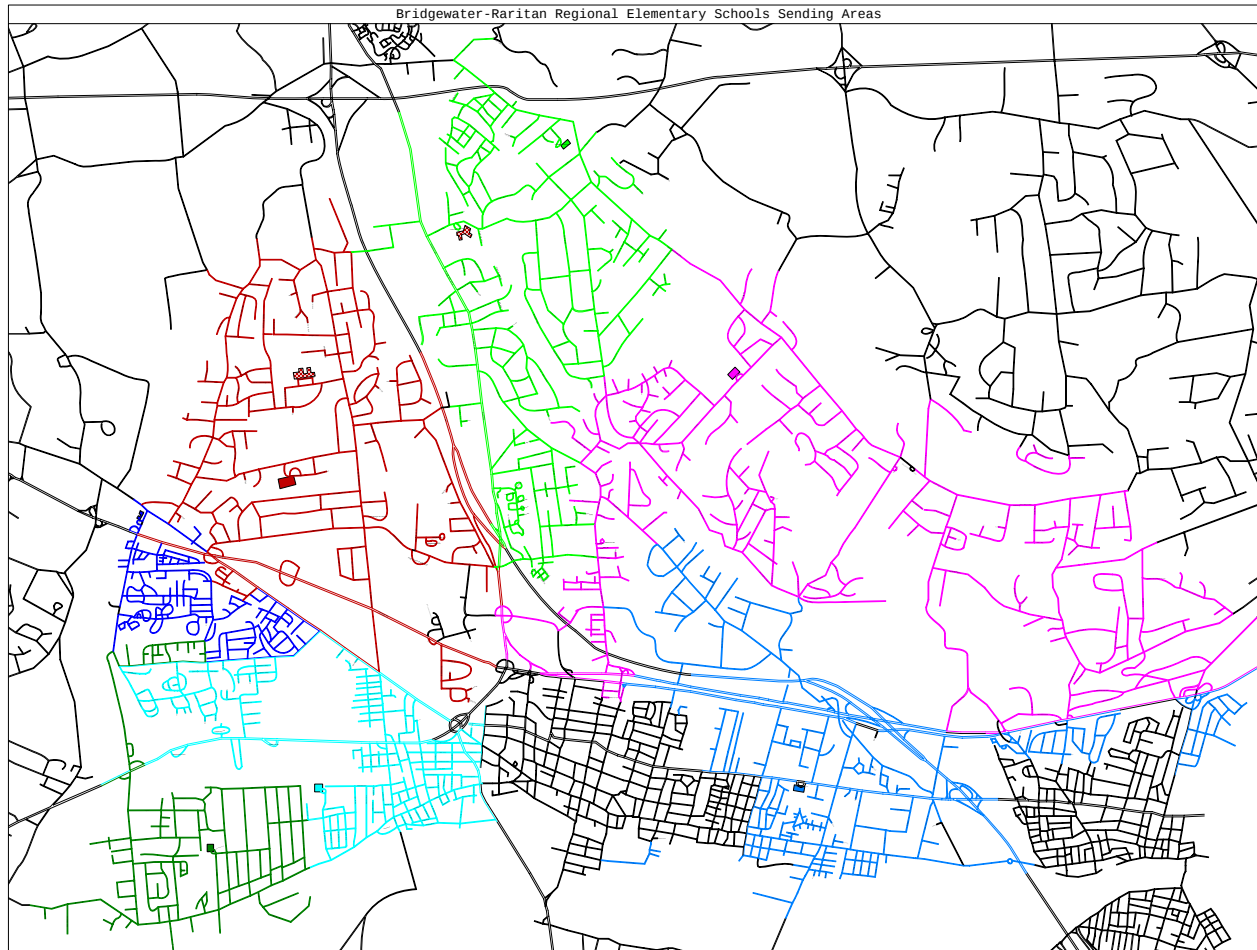
The Healthy, Hunger Free Kids Act of 2010 (HHFKA) funds child nutrition programs and sets nutrition standards for school breakfast and lunch programs. In accordance with the HHFKA, each school in the Bridgewater-Raritan School District is responsible for implementing the district-wide Wellness Policy, which establishes goals for nutrition promotion, nutrition education, and physical activity.³⁷

The Wellness Policy sets goals for physical activity that include the provision of in-school physical education, encouragement of physical activity during elementary school recess, support for intramural and interscholastic team activities, and support for clubs related to physical activity, such as walking clubs or exercise classes. The policy also proposes coordinated events, including a School Wellness Week with special activities that promote nutrition and physical activity, as well as fundraising activities such as walk-a-thons and student-teacher activity competitions.³⁸

While the Wellness Policy establishes goals for various forms of physical activity during and after school hours, it falls short of encouraging students to walk to and from school, and does not discuss bicycling at all.

School Attendance Areas

Attendance areas for schools in the Bridgewater-Raritan School District are shown below.



Legend for PDF Sending Area Map

Color	School	Grades
Blue	Adamsville	K – 4
Green	Bradley Gardens	K – 4
Pink	Crim	K – 4
Light Green	Hamilton	K – 4
Cyan	John F Kennedy	K – 4
Dark Blue	Milltown	K – 4
Brown	Van Holten	K – 4
Cyan, Green, Dark Blue, Brown	Eisenhower	5 – 6
Blue, Pink, Light Green	Hillside	5 – 6
All	Middle School	7 – 8
All	High School	9 – 12

Figure 9: Catchment areas for schools in the Bridgewater-Raritan School District.
(Source: Bridgewater-Raritan School District)

School District Profile

Principal Survey

In order to better understand student travel patterns and safety concerns, principals at all schools in the district were asked to complete a survey. Eight of the ten principals in Bridgewater responded. No survey was distributed to the principal at John F. Kennedy Primary School in Raritan.

As part of the survey, principals were asked to identify intersections near their schools that they believe need to be improved for students to be able to walk or bike to school safely.

When asked to estimate the percentage of students who travel to school by different modes of transportation, principals believed that 85% of students travel by bus, while 13% travel by car and 2% walk. Overall, Bridgewater principals estimated that less than 1% of students bicycle to school.

When asked about various factors related to walking and bicycling to school, most Bridgewater principals indicated the availability of sidewalks, the safety of intersections and crossings, the speed of traffic on roads, and the availability of crossing guards as being “very important.” Many principals also identified the availability of bike paths and trails, as well as the volume of road traffic, as being very important.

Some principals indicated that their schools currently implementing Safe Routes to School activities such as pedestrian and bicycle safety education and mileage clubs or contests. Principals of several schools noted that they were interested in expanding pedestrian and bicycle safety education and implementing additional SRTS programming, including regularly scheduled walking and bicycling events. Principals were generally not interested in walking school bus and bicycle train activities.

In comments, some principals noted concerns regarding the locations of their schools and the safety of students walking and biking, with several schools

School	Response by Principal	Intersections of Concern
<i>Adamsville Primary School</i>	Yes	Harry Road & Walter Street
<i>Bradley Gardens Primary School</i>	Yes	Pine Street & Brahma Avenue
		Pine Street & Beach Avenue
<i>Bridgewater-Raritan High School</i>	No	
<i>Bridgewater-Raritan Middle School</i>	Yes	Somerville Road & North Bridge Street
<i>Crim Primary School</i>	Yes	Crim Road & Southbrook Drive
<i>Eisenhower Intermediate School</i>	No	
<i>Hamilton Primary School</i>	Yes	Frohlín Drive & Washington Valley Road
		Frohlín Drive & Hamilton Lane
<i>Hillside Intermediate School</i>	Yes	
<i>Milltown Primary School</i>	Yes	
<i>Van Holten Primary School</i>	Yes	Van Holten Road & school entrance

Table 8: Responses to the survey by school, along with intersections of concern noted by principals.

situated near busy highways that lack sidewalks and safe crossings. Crim Road was specifically identified as a problem area. Though in a residential neighborhood, cars often speed down the hill near the school. The principal suggested a flashing yellow light that operates during school arrival and dismissal hours to help alleviate the problem with speeding.

Student Travel Tallies

Student arrival and departure tallies are a method of recording the number of students using various modes of transportation to travel to and from school, including walking and biking. Student travel tallies provide a greater understanding of traffic congestion and student travel patterns, and are required when applying for SRTS grants.³⁹

Two schools in the Bridgewater-Raritan School District completed student travel tallies: Bradley Gardens Primary School and Van Holten Primary School. The tallies at both schools were conducted from Tuesday, May 21, 2019 to Thursday, May 23, 2019.

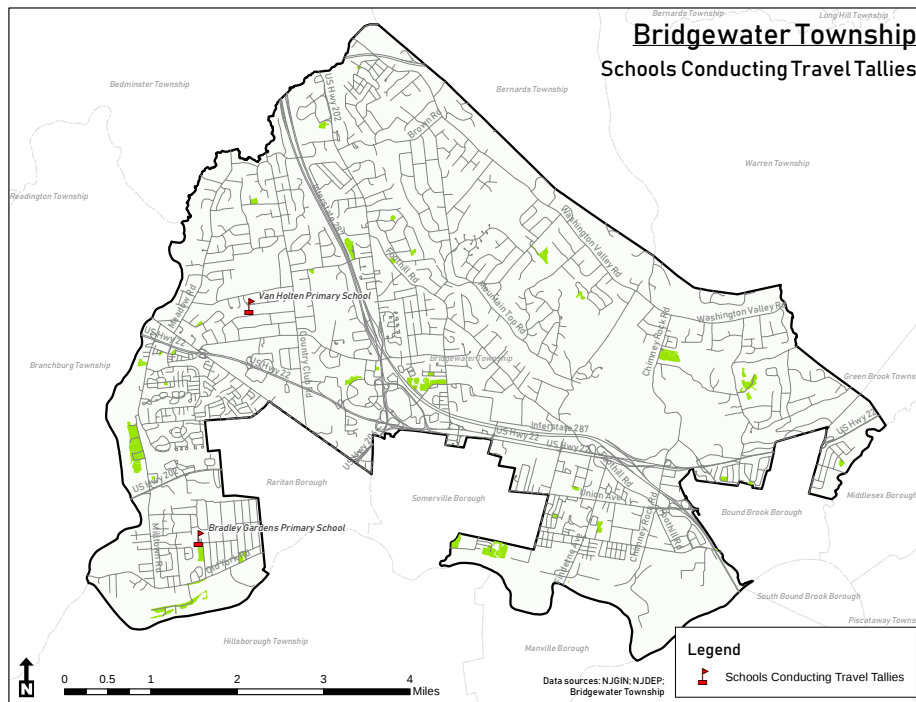


Figure 9: Two Bridgewater schools conducted student travel tallies in 2019: Bradley Gardens Primary and Van Holten Primary.
(Source: Bridgewater-Raritan School District)



Buses lined up to receive students at Milltown Primary School.



Parents and students walking home from Adamsville Primary School.

School District Profile

The results of the tallies show that most students travel by bus. At Bradley Gardens, about 51% of students took the bus to school in the morning and about 55% of students took the bus home in the afternoon. A significant number of students also used a private family vehicle, with 42% using this mode in the morning and 36% using it in the afternoon. Few students at Bradley Gardens walked during the week of the tally (only about 5-6%) and only one student was recorded biking to and from school.

Bussing was more common at Van Holten, with about 68% of students using this travel mode. A family vehicle was used for 31% of morning trips and 26% of afternoon trips. Walking and biking were extremely uncommon at Van Holten, with only a handful of students using this travel mode.

Based on the tallies from these two schools, bus and family vehicle appear to be the most common modes of travel to and from school in Bridgewater, with few students walking or biking. In order to develop a more comprehensive understanding of student travel behavior in Bridgewater, it is recommended that all schools in the district conduct travel tallies. While offering valuable information, the tallies from Bradley Gardens and Van Holten are limited by both relatively small datasets and the fact that the schools serve only grades PK-4, with older students lacking representation.

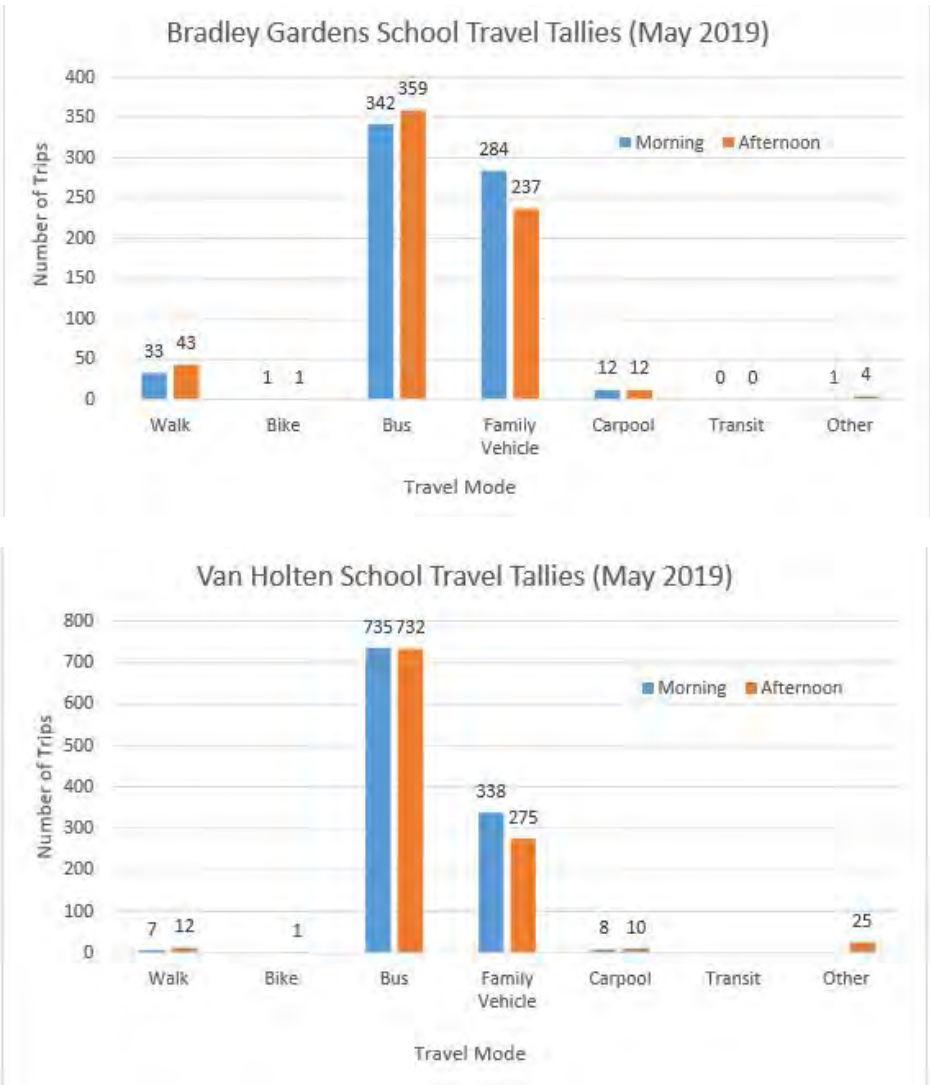


Figure 11: Travel tally results for Bradley Gardens Primary and Van Holten Primary show that most students either take the bus or use a family vehicle. (Source: Bridgewater-Raritan School District)

Best Practices



Sidewalks & Crossings

Sidewalks

Sidewalks are important to communities because they provide safe and convenient transportation and connections to neighbors. For children, sidewalks offer opportunities for independent mobility and communal recreation. Proper sidewalk design is important to ensure the safety and comfort of all users of all ages and abilities. The recommended width of a sidewalk depends largely on the number of pedestrians who are expected to use the facility at a given time, with higher-use sidewalks being wider than lower-use sidewalks. According to the Federal Highway Administration's (FHWA) Recommended Guidelines/Priorities for Sidewalks and Walkways, a minimum sidewalk width of five feet is necessary for two adults to comfortably walk side-by-side. In the vicinity of parks and schools, sidewalks should be eight to ten feet wide. Obstructions such as streetlights, utility poles, sign posts, fire hydrants, and bus benches should be located outside of the sidewalk whenever possible.⁴⁰

Buffer zones between the sidewalk and the street should be incorporated to ensure the safety and comfort of pedestrians. These buffers may include planting strips of grass or trees, bicycle lanes, parked cars, or street furniture. If the inclusion of a buffer is not possible, a wider sidewalk should be provided instead.⁴¹

Intersections should have two perpendicular, ADA-compliant curb ramps per corner or mid-block crossing. Proper ADA-design include installations that comply with slope elevation and tactile warning pad placement. Curb ramps and crosswalks should be clear of obstacles.⁴²



Unobstructed sidewalks with buffers and curb ramps improve pedestrian accessibility and mobility, especially along busy roadways.
(Source: SRTS Resource Center)

Street Crossings

In addition to properly designed sidewalks, high-visibility painted crosswalks provide an increased level of safety and comfort to pedestrians attempting to cross the street. Crosswalks exist at all legs of all intersections but not every crosswalk is marked with painted lines. Features of a high-visibility crossing include high-visibility street markings, curb extensions, improved lighting, in-street “stop” or “yield” signage, and signage and pavement markings 20 to 50 feet in advance of the crosswalk.⁴³ The minimum recommended width of a crosswalk is six feet, but crossings in school zones should be at least 10 to 15 feet wide.⁴⁴ The practice of discouraging pedestrian crossings by leaving uncontrolled crossings unmarked is not a valid safety measure. Instead, it encourages unsafe, risk-taking behavior and discourages walking.⁴⁵

Shortening crosswalks improves pedestrian safety by limiting the amount of time people who are walking across the street are exposed to vehicular traffic. This can be achieved by physically shortening the crossing using pedestrian refuge islands in the center of the roadway or curb bump-outs (extensions). Both treatments have the added benefit of slowing drivers. It is also important to tighten curb radii which shortens the crossing distance and decreases the number of crash conflicts by reducing the speed of turning vehicles. There is no need to design for the largest vehicle that might ever use a street, especially for residential streets within neighborhoods.

Midblock crossings can improve pedestrian safety by providing a designated location to cross the street where an intersection is not present, or when the closest intersections are over a 3 minute walk away. On roads where drivers are known to speed, it is important to consider factors including land use, sight distance, lighting and other devices used to alert drivers.⁴⁶

To help pedestrians and drivers better see each other, parking is not permitted within 50 feet of a stop sign or within 25 feet of a crosswalk, unless a curb extension exists at the crosswalk (N.J.S.A. 39:4-138). One way to enforce no parking areas is to add flexible delineators (bollards) to these areas around crosswalks.



Parking should be prohibited within at least 25 feet of a crossing to ensure pedestrian visibility is not impeded.

(Source: SRTS Resource Center)



This crossing on George Street in New Brunswick demonstrates several features of high-visibility crosswalks, including street markings, reflective signage, speed limit signs, speed radars, and lighting.

(Source: SRTS Resource Center)



The HAWK signals on George Street in New Brunswick allow pedestrians to safely cross at mid-block locations.

(Source: SRTS Resource Center)

Signals

Leading pedestrian intervals allow pedestrians to enter the crosswalk and begin crossing 3-7 seconds before parallel vehicular traffic is given a green light. This head start increases pedestrian visibility, reduces conflicts between pedestrians and vehicles, and increases the likelihood that a vehicle yields to a pedestrian.

Additionally, restricting right turns on red can improve pedestrian visibility. When drivers are less focused on looking for an opportunity to make a right turn, they are more likely to see pedestrians with the right of way crossing in front of them.

For midblock crossings, the FHWA recommends the use of pedestrian hybrid beacons, or HAWK signals. Under normal circumstances, the signal is unlit. When activated by a pedestrian, HAWK signals display flashing lights warning motorists to stop until the pedestrian has safely crossed. Because most pedestrian fatalities occur at non-intersection locations, HAWK signals have been shown to reduce pedestrian crashes by 69%.⁴⁷

Pedestrian refuge islands, leading pedestrian intervals, and HAWK signals are three of the Federal Highway Administration's (FHWA) Proven Safety Countermeasures, which are evidence-backed infrastructure-oriented strategies aimed at improving roadway safety for all users.⁴⁸ For more information on Proven Safety Countermeasures, see Appendix E.

School Zones

School zones may be defined narrowly as the streets and crossings in the immediate vicinity of a school, as they are in the New Jersey statutes, or broadly as the entire catchment area for a specific school. For the purposes of this report, school zones are considered to be the area surrounding a school that includes public rights of way that are most frequently used by students and others to access the school. This is also known as the “school walking zone.”⁴⁹

Designation of a school zone can be accomplished by local action and boundaries can be formalized by the municipality or the school board through the adoption of a School Travel Plan or by ordinance. Additionally, a municipality may designate certain crossings as school crossings on the basis of street geometry, traffic speed and volume, and the number of school children who use the crossing. Designated crossings may feature special signage, pavement markings, and a school crossing guard.⁵⁰

According to New Jersey statutes, the speed limit in school zones when children are arriving at or departing from school, or where the presence of children is clearly visible from the roadway, is 25 miles per hour. However, local authorities may raise or lower this number on streets within their jurisdiction if such a change is shown to be warranted by an engineering or traffic study.⁵¹

According to the federal Manual on Uniform Traffic Control Devices (MUTCD 2009), the reduced speed zone should begin at least 200 feet from the school grounds, school crossing, or other school-related activities. However, this should be adjusted based on the conditions of the area surrounding a specific school.⁵² The MUTCD also sets forth guidance for signs and pavement markings for use in school zones.

Turn restrictions in school zones can address pedestrian safety by influencing traffic patterns where students are present.⁵³ Restricting right turns on red can improve pedestrian visibility at intersections where pedestrians have the right of way.



Crossings within designated school zones may feature special signage (left), pavement markings, and crossing guards (below).

(Source: SRTS Resource Center)



Best Practices

Safe Routes to Parks

Safe Routes to Parks is a campaign by the National Recreation and Park Association (NRPA) to implement programs and policies that encourage safe and equitable access to parks.⁵⁴ Safe Routes to Parks are defined as ten-minute walks or bike rides to parks that are:

- Accessible by several modes of transportation that can be used by people of all ages and abilities
- Located within close proximity (about a half-mile) of where people live
- Safe and free of vehicular traffic
- Comfortable and attractive places to spend time
- Well-maintained and programmed⁵⁵

Safe Routes to Parks are especially important to children and the elderly--who may not be able to drive--as well as those without cars.⁵⁶ Just like Safe Routes to School, the Safe Routes to Parks initiative recognizes the virtues of walking and biking and seeks to build on the benefits of physical activity by increasing active travel and accessibility to places of recreation. Community engagement and equity are both critical aspects of the planning and implementation process, and to a large extent the two go hand-in-hand. Thoughtful and well-executed engagement can help ensure that the voices of all community members are heard, with special attention paid to those who are traditionally excluded from the planning process. The result is a project or plan that addresses the needs of all, regardless of age, socioeconomic status, race, or ability. The NRPA website offers fact sheets and toolkits to help guide community members through the Safe Routes to Parks process.⁵⁷



ACTION FRAMEWORK



The Safe Routes to Parks Action Framework provides local governments with step-by-step guidance on engaging communities to implement safe and equitable access to parks.

(Source: National Recreation and Park Association)

10-Minute Walk Campaign

The Trust for Public Land is a national nonprofit focused on creating and protecting parks and public land for people. Recognizing the role of open space in the promotion of mentally and physically healthy communities, the Trust for Public Land is leading a campaign to ensure that every person in America has access to a park within a 10-minute walk from where they live.⁵⁸

Generally, the distance a person can walk in 10 minutes is about a half-mile. Figure 12 shows the areas of Bridgewater that fall within a half-mile radius of parks and open space. While it appears that much of the Township is proximate to a park, it is important to consider that many barriers can impede access, such as circuitous street patterns, gaps in the sidewalk network, and controlled-access highways that cannot be crossed on foot. Additionally, the size and quality of the park may vary, regardless of how easy it is to access.

The areas of Bridgewater that lack accessible parks are evident, including the neighborhood surrounding Van Holten Primary School, the areas near Washington Valley Road and Hamilton Primary School, and the residential areas surrounding Mountain Top Road and Foothill Road.

Bridgewater Township covers 32 square miles, or about 20,480 acres. Approximately 572 acres are considered public parks, meaning 2.8% of Bridgewater's land area is dedicated to parks. With a total population of 45,336, there exist 79.3 Bridgewater residents for each acre of parkland.

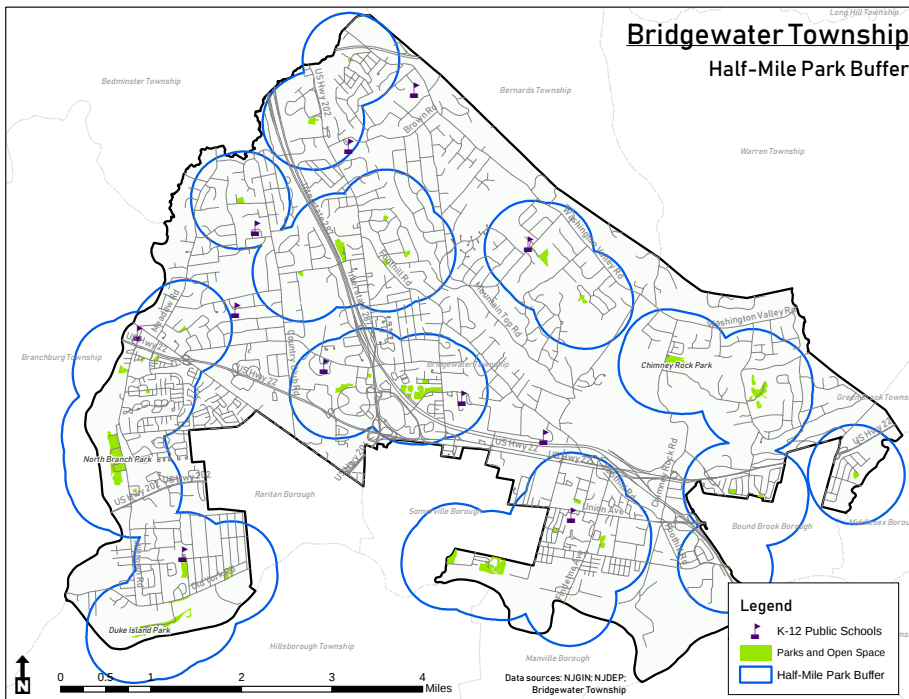
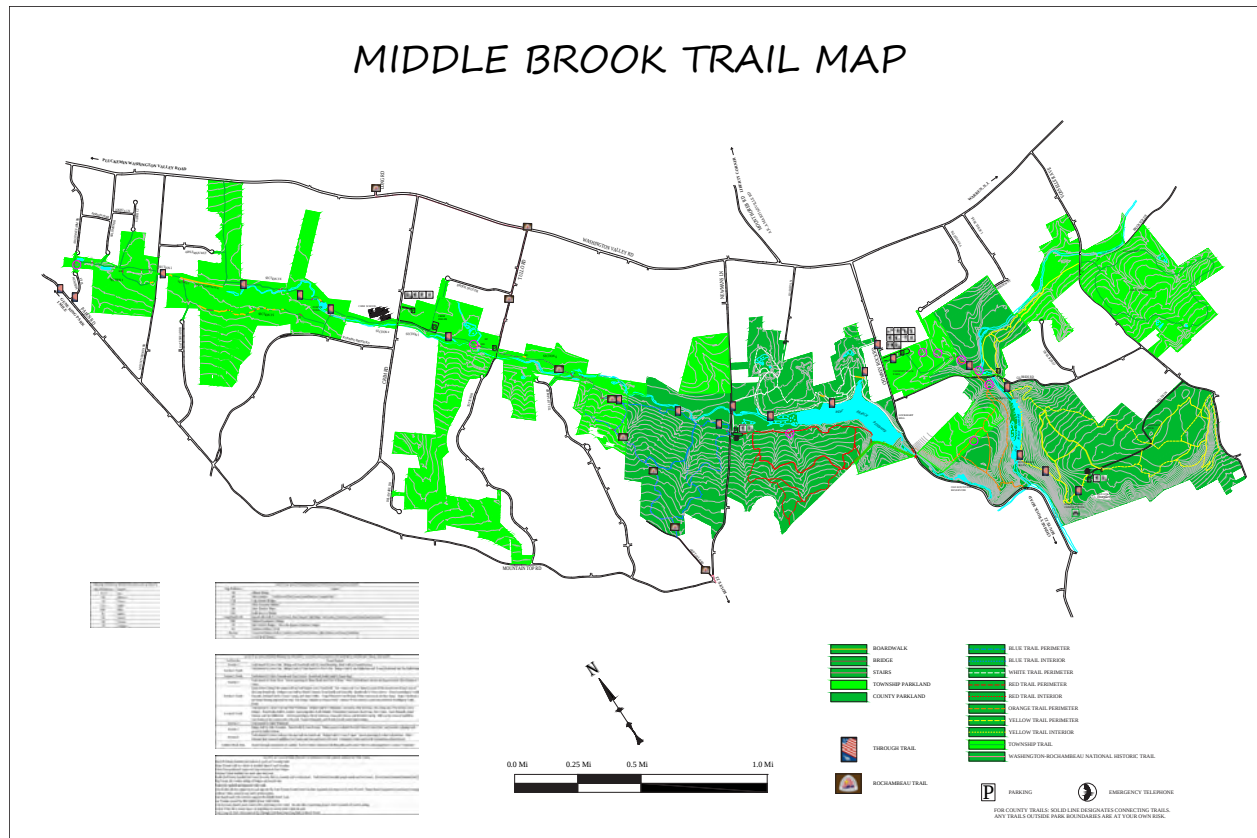


Figure 12: Much of Bridgewater falls within a half-mile radius of a park, but many areas do not, including the areas around Van Holten Primary School and Hamilton Primary School. Additionally, obstacles such as highways or gaps in the sidewalk network may impede park access even in locations within the buffer areas.
(Source: Bridgewater Township)

Trails

Trails are an important part of Bridgewater's circulation network since many parts of the Township are wooded or lightly developed and distances between community facilities such as schools and parks can be significant. The Middle Brook Trail runs through the northeastern part of the Township, roughly parallel to Washington Valley Road, and connects streets, parks, and schools. Additional trails run along the Raritan River and Duke Island Park. These trails present numerous opportunities to expand Bridgewater's transportation network, strengthening connections between various parts of municipality and increasing accessibility for non-motorized forms of transport.



The Somerset County Walk, Bike, Hike Plan, released in 2019, proposes additional trails and shared-use paths to supplement existing infrastructure.⁵⁹ Among the plan's recommendations is a proposal for a trail through land that has already been cleared for high-tension power lines, which would effectively connect the Middle Brook Trail to the western parts of Bridgewater.⁶⁰

A comprehensive trails plan, similar to the one created for Randolph Township, would offer guidance on creating an integrated trails system, implementing effective wayfinding, and maintaining trails infrastructure.⁶¹ In order to forward some of the recommendations set forth in the Walk, Bike, Hike Plan, as well as support efforts to build out the Township's trails network, it is recommended that Bridgewater pursue the creation of a comprehensive trails plan.

Figure 13: Map of the Middle Brook Trail in Bridgewater. (Source: Bridgewater Township)

Access to Retail & Industry

The report *A Millennial Perspective on the future of Somerset County*, prepared in 2015 for the Somerset County Business Partnership, presents findings from market studies aimed at determining Somerset County's appeal to Millennials as a place to live and work.⁶² Among other topics, the report highlights the importance of the ability to access places of retail and industry for employers, employees, and consumers.

One method of increasing access discussed in the report is the provision of a variety of transportation mode choices. In addition to public transit connections, including bus and rail, there should be opportunities to walk and bike to and from retail centers, as well as within those commercial areas. Sidewalks and crossings should be designed and constructed in accordance with best practices to ensure that access is both safe and convenient. Linkages between different modes of transportation are also encouraged as a means to further improve access.

According to a 2014 American Planning Association report titled *Investing in Place*, 56% of Millennials and 46% of active Boomers prefer to live in walkable communities, regardless of whether those places are urban, suburban, or rural.⁶³ As Bridgewater seeks to attract talented employees in the pharmaceutical and technology industries, it is important to consider the popularity of walking and biking amongst all age groups. Expanding bicycle and pedestrian networks to include retail and industrial centers will serve to increase Bridgewater's appeal as a location for commercial development.



Incorporating bicycle and pedestrian facilities, including sidewalks and crosswalks, into Bridgewater's existing industrial parks will help attract future commercial development. (Source: Google Maps)

Walk Audits



Walk audits are tools to help schools, students, parents, and the community identify barriers that may make it inconvenient or dangerous for children to walk or bike to school. These assessments evaluate the sidewalk, road, and neighborhood conditions around the school, and identify key safety improvements that can make walking and biking a safer and easier way to get to school.

Members of the Steering Committee conducted three walk audits on June 10, 11, and 12, 2019 in the areas of Milltown Primary School, the Somerset County Library, and Adamsville Primary School respectively. During the walks, participants recorded their observations of the pedestrian and bicycling environment with photographs and written notes.

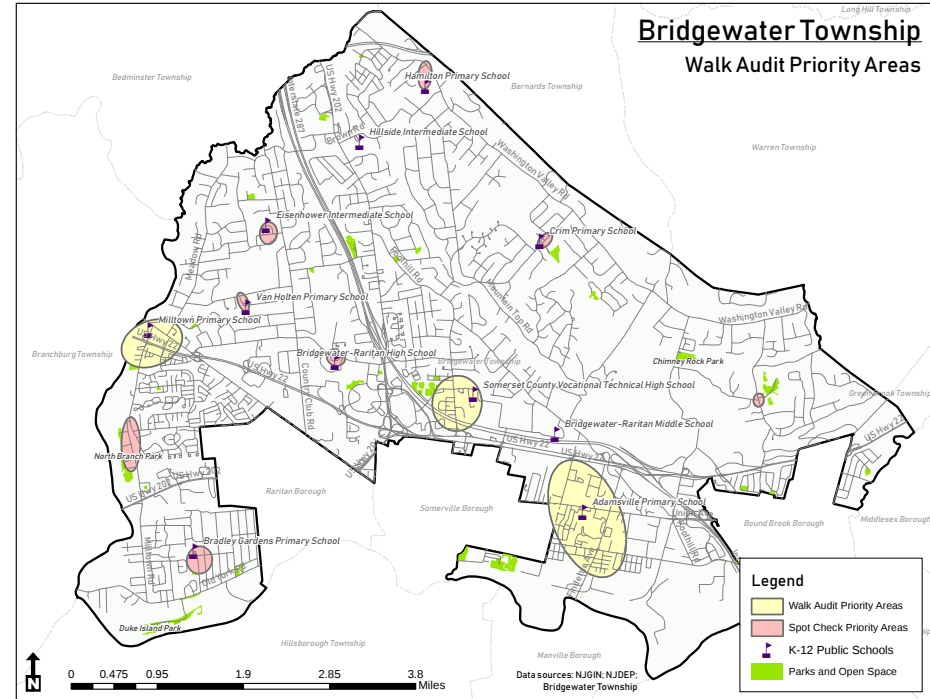


Figure 14: Priority areas for walk audits (yellow) and spot checks (red) identified by the Steering Committee.
(Source: Bridgewater Township)

Methodology

In determining priority areas for walkability audits, the Project Team first mapped the locations of schools, parks, and bicycle and pedestrian crashes in Bridgewater. This was then combined with demographic data displaying the percentage of families in poverty by census tract. This information, along with areas of concern identified through the principal surveys, was presented to municipal and county officials at the May 30th steering committee meeting. During the meeting, steering committee members discussed the findings and identified additional areas of concern. Using this information, the Project Team was able to determine priority areas for walkability audits at three locations: Milltown Primary School, Somerset County Library, and Adamsville Primary School. Eight additional locations were selected for “spot checks,” which focused on more specific sites and intersections. The walk audit routes were mapped to be approximately one mile in length, and were designed to include areas surrounding schools and parks.

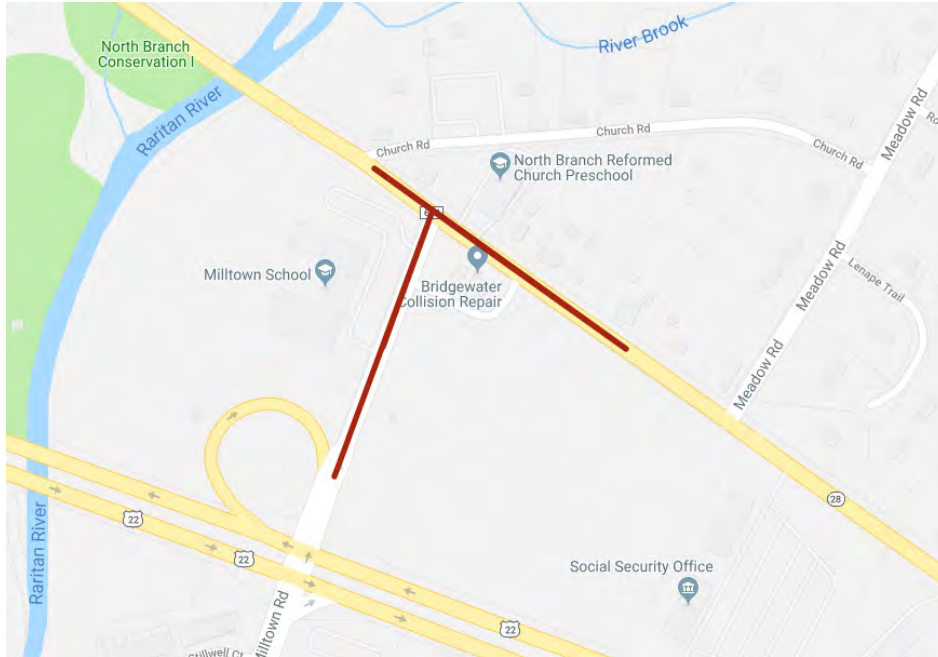
During the May 30th meeting, Bradley Gardens Primary School was identified as a priority area. However, because a standalone walkability assessment was conducted for the school in July 2018, Bradley Gardens was selected for a spot check to be supplemented by findings from the 2018 walk assessment.

Date	Time	Location	Participants
Monday, June 10	2 pm - 4 pm	Milltown Primary School	Leigh Ann Von Hagen - VTC
			Sean Meehan - VTC
			Sam Rosenthal - VTC
			Jon Dugan - RideWise
			Andras Holtzmann, PP/AICP - Senior Planner Somerset County
			Kristen Schiro - Director of Health & Human Services, Bridgewater Township
			Jodi Zangari Schneider - Finance Dept., Bridgewater Township
Tuesday, June 11	3 pm - 4:30 pm	Somerset County Library	Tyson Murdoch - Dept. of Public Works, Bridgewater Township
			(Same as above)
Wednesday, June 12	2 pm - 4 pm	Adamsville Primary School	Leigh Ann Von Hagen
			Sean Meehan
			Sam Rosenthal
			Jon Dugan
			Andras Holtzmann
			Kristen Schiro
			Jodi Zangari Schneider
			Sarah Sahili - VTC
			James Singagliese - Principal, Adamsville School

Table 9: Walk audit dates, locations, and participants.

Walk Audits

Milltown Primary School



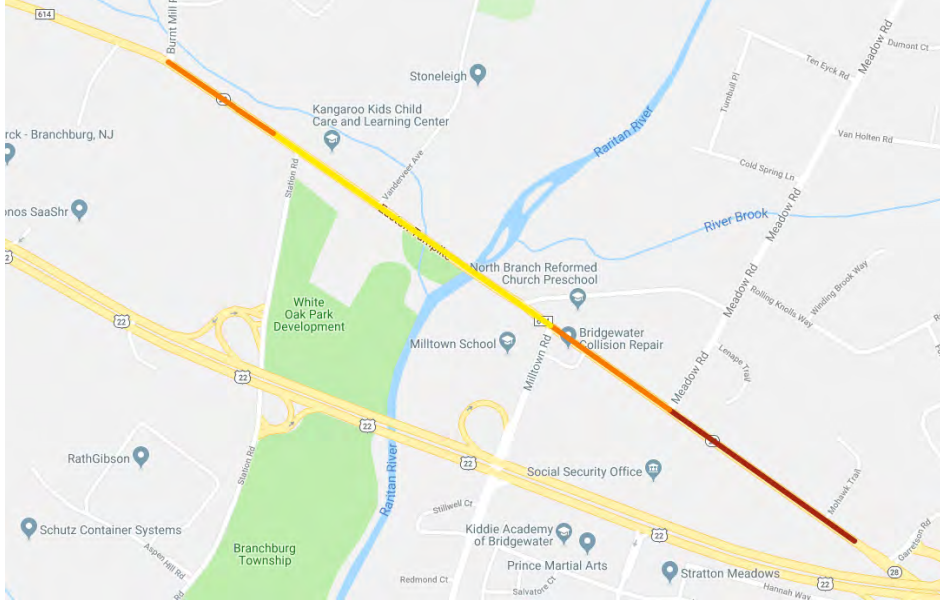
Milltown Walk Assessment Route

Concerns:

- High vehicle speeds along Easton Turnpike (despite a posted 25 mph speed limit)
- Lack of sidewalks in areas outside school property
- Lack of shoulder on Milltown Road
- Busy intersection of Milltown Road and US Route 22



Crosswalk at intersection of Easton Turnpike (County Road 614) and Milltown Road



Speed limits along Easton Turnpike between Burnt Mill Road and Route 22 (Red = 45 mph, Orange = 35 mph, Yellow = 25 mph)



Despite posted speed limits of 25-35 mph, the long straightaway of Easton Turnpike encourages cars to travel through the school zone at high speeds.



The sidewalk along Easton Turnpike ends at its intersection with Milltown Road, and does not continue eastward toward Meadow Road.



A runner along Easton Turnpike is forced to use shoulder.

Walk Audits



There is no sidewalk south of the school, and pedestrians must cross the turnaround ramp at the intersection of Route 22 and Milltown Road.



Without a shoulder, a young cyclist on Milltown Road is forced to bike in the roadway.



The busy intersection of Milltown Road and Route 22 includes just one crosswalk, located on the west side, that is not connected to any sidewalk.

Despite the issues noted in the neighborhood surrounding the Milltown School, the dismissal process for the school itself was safe and efficient. Pre-K and special needs students are dismissed through the school's front entrance, while K-4 students are dismissed through the school's side entrance. In the parking lot to the south of the school, buses line up in an orderly fashion and older students in safety vests direct younger students to their correct buses. An adult supervisor is also present.



Older students wearing reflective sashes help younger students board in an orderly fashion.

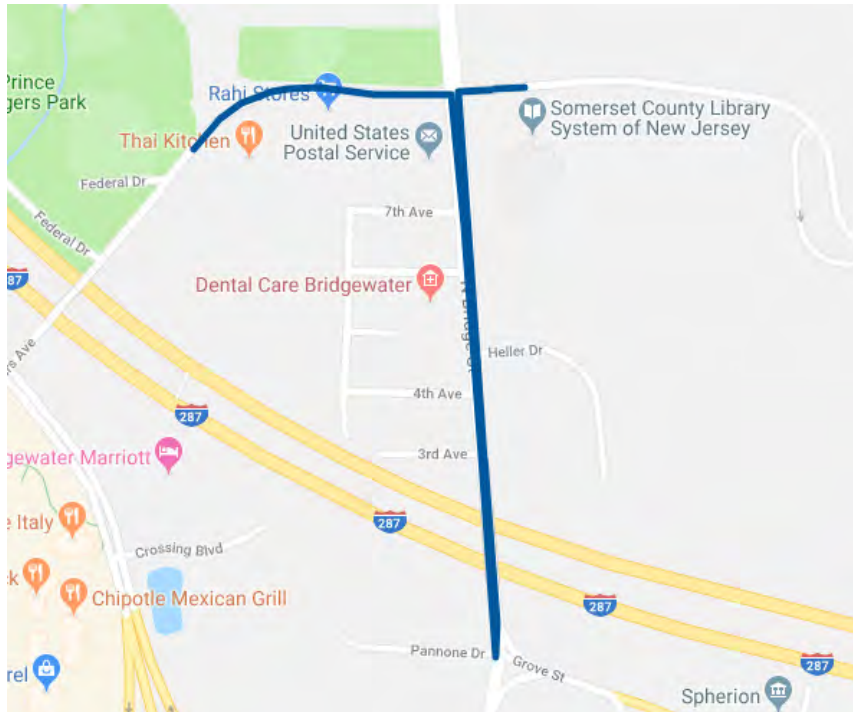
Opportunities for Improvement

1	High vehicle speeds despite a posted 25 mph speed limit	Easton Turnpike near intersection with Milltown Road
2	Lack of sidewalks outside school property	Milltown School/Milltown Road
3	Lack of roadway shoulder	Milltown Road near Milltown School
4	High levels of traffic	Intersection of Milltown Road and US 22



Walk Audits

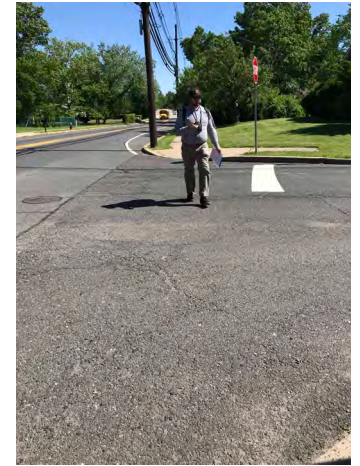
Somerset County Library



Library Walk Assessment Route

Concerns:

- Lack of marked crosswalks along North Bridge Street
- Plant overgrowth and utility poles that impede pedestrian movement and safety
- Discontinuous sidewalk networks
- Sidewalk deterioration and misaligned warning pads that reduce accessibility
- Long crossings at the intersection of North Bridge Street and Prince Rodgers Avenue/Vogt Drive



Unmarked crossings along North Bridge Street at Heller Drive (left) and 4th Avenue (right)



Sidewalk adjacent to fast-moving traffic on North Bridge Street overpass over I-287 (posted speed limit is 40 mph)



Overgrown bushes, poison ivy, and weeds on North Bridge Road impede movement and view of oncoming traffic near the I-287 overpass (above and right)



Sidewalk on North Bridge Street interrupted by utility poles, reducing safety and accessibility

Walk Audits

Plant overgrowth and utility poles restrict sidewalk space (right)



Vehicles navigate the corner of North Bridge Street and Grove Street at high speeds (left)



The sidewalk on the east side of North Bridge Street ends abruptly and without a marked crosswalk (left)



Raised sidewalk warning pad at the intersection of North Bridge Street and 7th Avenue is not aligned with the crossing, instead pointing pedestrians into the busy roadway and potentially endangering the sight-impaired (right)

Deteriorating sidewalks and plant growth has resulted in inaccessible crossings along North Bridge Street (near 3rd Avenue)



Walk Audits



Five lanes of travel on Prince Rodgers Ave at its intersection with North Bridge St, resulting in a 70-foot crosswalk (above)

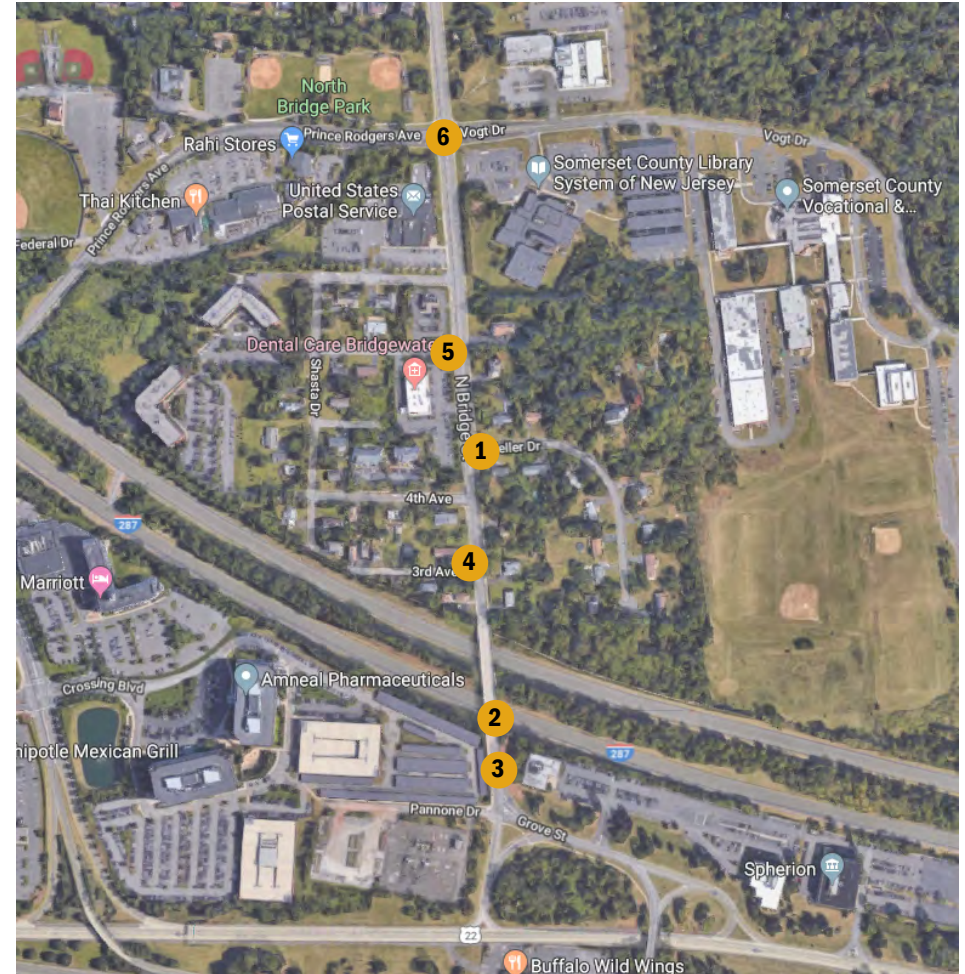
70-foot crosswalk across Prince Rodgers Ave and North Bridge St (top left)



Young cyclist waiting to cross North Bridge Street at Prince Rodgers Ave (bottom left)

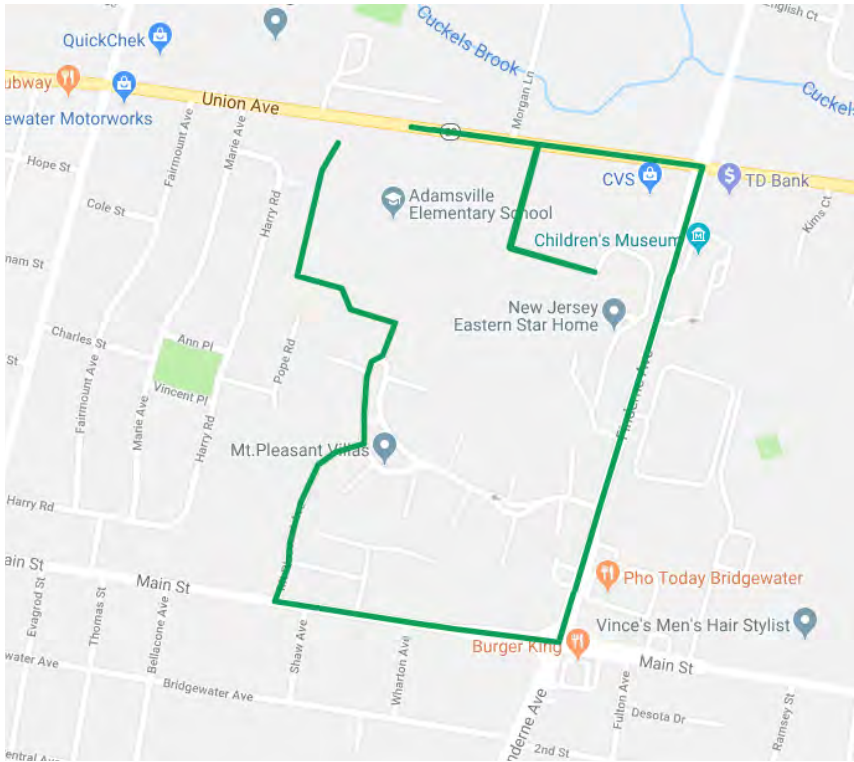
Opportunities for Improvement

1	Lack of marked crosswalks	North Bridge Street near Prince Rodgers Ave
2	Plant overgrowth and utility poles that impede pedestrian movement and safety	North Bridge Street overpass on I-287
3	Discontinuous sidewalk networks	North Bridge Street between Prince Rodgers Ave and US 22
4	Sidewalk deterioration that reduces accessibility	North Bridge Street between Prince Rodgers Ave and US 22
5	Misaligned warning pads that reduce accessibility	North Bridge Street between Prince Rodgers Ave and US 22
6	Excessively long pedestrian crossings	Intersection of North Bridge Street and Prince Rodgers Avenue/Vogt Drive

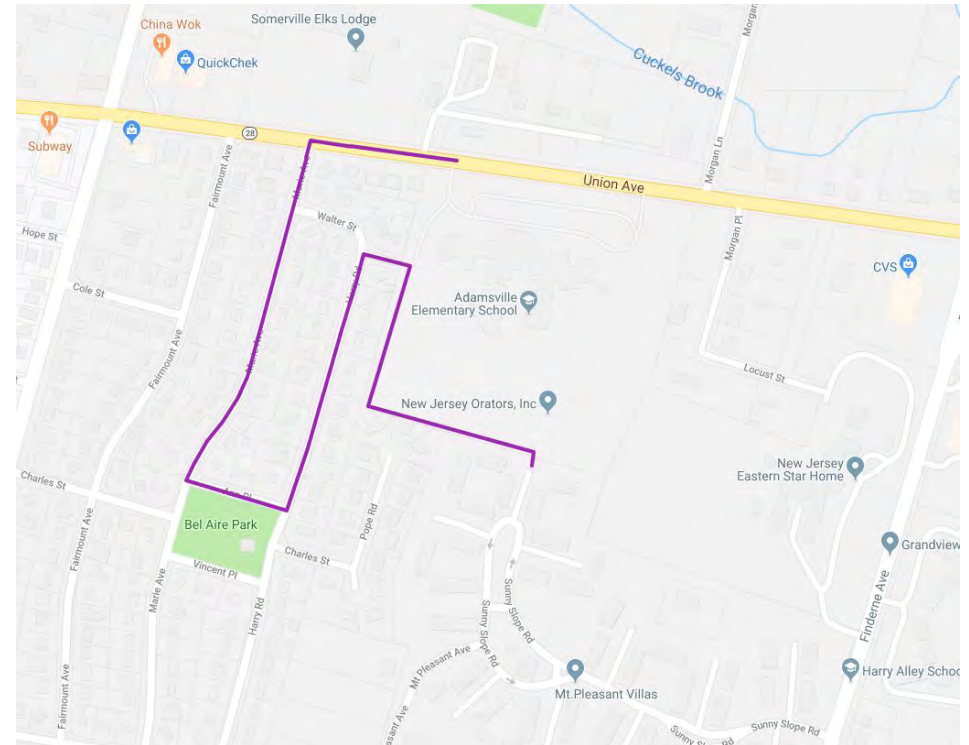


Walk Audits

Adamsville Primary School



Adamsville Walk Assessment Route #1



Adamsville Walk Assessment Route #2

Concerns:

- High vehicle speeds and a lack of crosswalks along Union Avenue in front of the school that make crossing difficult
- Lack of sidewalks in the vicinity of the school
- Lack of clear and effective signage indicating the school zone
- Deteriorating, dangerous, and inaccessible sidewalks along Finderne Avenue
- Chaotic personal vehicle pickup arrangement that makes walking difficult and somewhat dangerous



There are no sidewalks along Union Avenue west of Adamsville School. Wide vehicle entrances and sweeping curves encourage high turning speeds and make pedestrian access difficult and unsafe. The entrance to the School is pictured above.



Cyclist along Union Avenue



A school bus dropping off a student who lives directly across the street from Adamsville School. A lack of crosswalks makes it difficult to walk to and from the school, even for those who live in close proximity.



The crosswalk at Union Avenue and Morgan Lane is faded and low-visibility. Vehicles travel at high speeds and do not stop for pedestrians. There is an NJ Transit bus stop located at this intersection, meaning the crosswalk is used frequently by pedestrians. A HAWK signal is recommended for this crossing.

Walk Audits

A flashing signal indicating the 25 mph school zone speed limit was not activated during our walk assessment, even during dismissal hours.



From the roadway, the sign is obscured by a utility pole.



While the first sign indicates a 25 mph speed limit when signal is flashing, this sign indicates a 25 mph limit when children are present. Inconsistencies in signage may confuse drivers and result in noncompliance with posted speed limits. The straight roadway in front of Adamsville School likely encourages speeding as well.



A pedestrian crossing sign at the intersection of Union Ave and Finderne Ave is placed too high to be easily seen.



A crosswalk at the intersection of Union Ave and Finderne Ave is fading and difficult for drivers to see. This particular crossing is about 85 feet long.



Sidewalk deterioration along Finderne Ave (left) and Union Ave (right) reduces accessibility.



The sidewalk along Main Street ends, forcing pedestrians to use the narrow shoulder along a 40 mph road.



A concrete island at a parking lot entrance along Finderne Ave is not wheelchair accessible, forcing pedestrians into the high-speed roadway.

Walk Audits

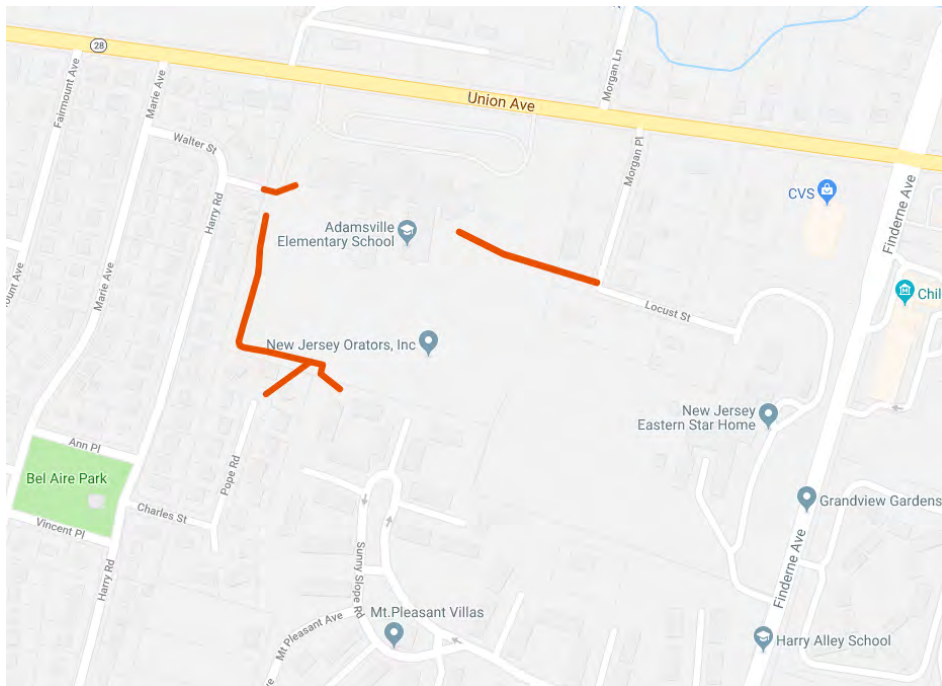


Buses, cars, and people all try to navigate the rear parking lot at Adamsville School at the same time during dismissal.



Cars entering and exiting the parking lot conflict with pedestrians using the Walter Street path, resulting in a potentially dangerous situation.

In addition to the issues noted in the neighborhood surrounding the Adamsville School, some advantages were also identified by walk assessment participants. Despite the lack of sidewalks and crossings on Union Avenue, there are paths that connect the school to neighborhoods to the east, south, and west, making it easier and safer for students to walk and bike to school from certain locations. Additionally, the Adamsville School enforces a no idling policy for buses waiting to pick up students, which improves air quality in the area around the school during dismissal hours.



Existing paths leading from Adamsville School to surrounding neighborhoods.



Pre-K buses line up behind Adamsville School. A no idling policy is enforced.

Walk Audits



Crosswalk leading to Walter Street, where many walking students enter and exit. At dismissal, a school staff member escorts students to the crosswalk and releases them from there.



A back path connects Adamsville School with residential communities to the south.



A back path connects Adamsville School with residential communities to the south.



A path connects Adamsville School to Morgan Place and Locust Street, a dead-end road to the east of the school.



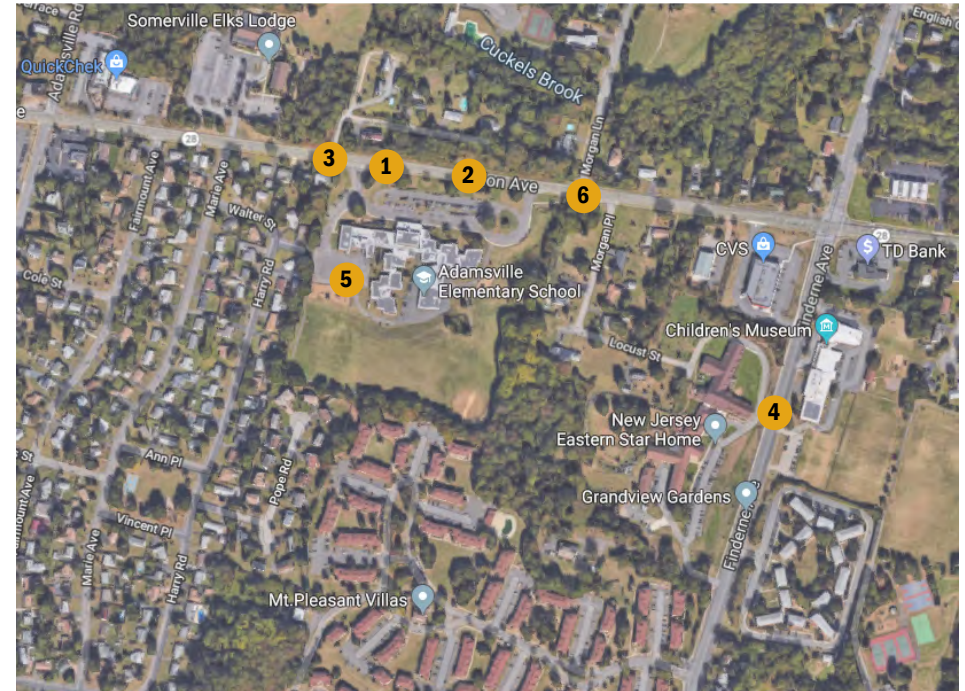
A back path connects Adamsville School with residential communities to the south.



A back path connects Adamsville School with residential communities to the south.

Opportunities for Improvement

1	High vehicle speeds and a lack of crosswalks that make crossing difficult	Union Avenue in front of Adamsville School
2	Lack of sidewalks	Union Avenue in vicinity of Adamsville School
3	Lack of clear, operational, and effective signage indicating the school zone	Union Avenue in vicinity of Adamsville School
4	Deteriorating, dangerous, and inaccessible sidewalks	Finderne Avenue between Union Avenue and Main Street
5	Back of school, student pick-up via personal vehicle results in a chaotic situation that makes walking difficult and somewhat dangerous	Adamsville School (back)
6	Install high-visibility HAWK signal at Morgan Lane crosswalk and bus stop	Intersection of Union Avenue and Morgan Lane



Walk Audits

Spot Checks

Spot checks involve examination of one or two critical intersections at a given location and, while not as thorough as a full walk assessment, can identify issues that make it difficult or dangerous for children to walk or bike to schools or parks. On July 16, 2019, VTC and RideWise conducted spot checks at nine locations in the Township, addressing areas of concern that were mentioned in the principal survey and during the May 30 Steering Committee meeting.

Spot check locations:

- Bradley Gardens Primary School
- North Branch Park
- Eisenhower Intermediate School
- Van Holten Primary School
- Bridgewater-Raritan High School
- Hamilton Primary School
- Crim Primary School
- Chimney Rock Park / Camp Cromwell

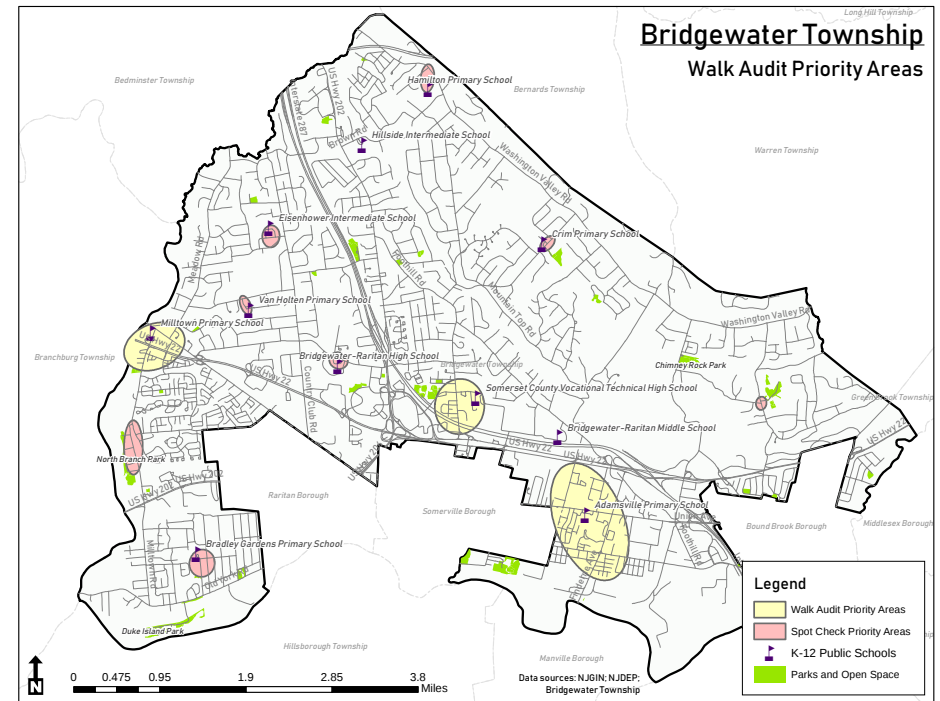


Figure 14: Priority areas for walk audits (yellow) and spot checks (red) identified by the Steering Committee.

(Source: Bridgewater Township)

Bradley Gardens Primary School

In July 2018, the Voorhees Transportation Center from Rutgers University led a training class for Safe Routes to School coordinators representing every county in New Jersey. The course was hosted by RideWise Inc. The training class assessed areas around Bradley Gardens School including routes to the school for vehicles, pedestrians, and cyclists. The assessment covered sidewalks, crosswalks, traffic volume, and maintenance issues. In July 2019, staff from the Voorhees Transportation Center and RideWise conducted a spot check to confirm the findings from the year before. The spot check was motivated in part by responses to the 2019 principal survey, which noted concerns with two intersections near Bradley Gardens: Pine Street and Brahma Avenue, and Pine Street and Beach Avenue. Additionally, a crash involving a bicyclist had occurred at the intersection of Duval Street and Old York Road within the past few years. The following section combines the findings from both visits.

The 2018 walk assessment identified the presence of bicycle racks as a positive step toward encouraging more biking to school, but recommended that bike parking facilities be moved to a location on the school property that provides higher visibility from within the school building. The 2018 audit also identified the school entrance as a problem area, which was confirmed during the 2019 spot check. The single narrow entrance is used both by buses and personal vehicles, potentially creating congestion and making it difficult or dangerous for children attempting to walk or bike in that area. Faded crosswalks and wide turn radii that encourage drivers to navigate corners at high speeds also reduce safety.

The 2018 walk assessment noted the presence of walking and biking paths connecting the school with surrounding neighborhoods as an asset allowing pedestrians and cyclists access to the school separate from vehicular traffic. However, some paths are in need of considerable maintenance to ensure user safety, including repairing cracks and cutting back plant growth.



Bike parking at Bradley Gardens School is heavily used during the summer by children biking to camp.



The narrow entrance to Bradley Gardens School creates congestion and poses challenges to students walking and biking.

Walk Audits

The 2018 walk audit identified Alfred S. Brown Park, which is located just south of the Bradley Gardens School, as a community asset that should be maintained to ensure the continued use and enjoyment of this facility. The 2019 Project Team concurred and viewed the park as an opportunity to link bicycle and pedestrian improvements to both the park and the school.



Alfred S. Brown Park is located adjacent to Bradley Gardens Primary School.



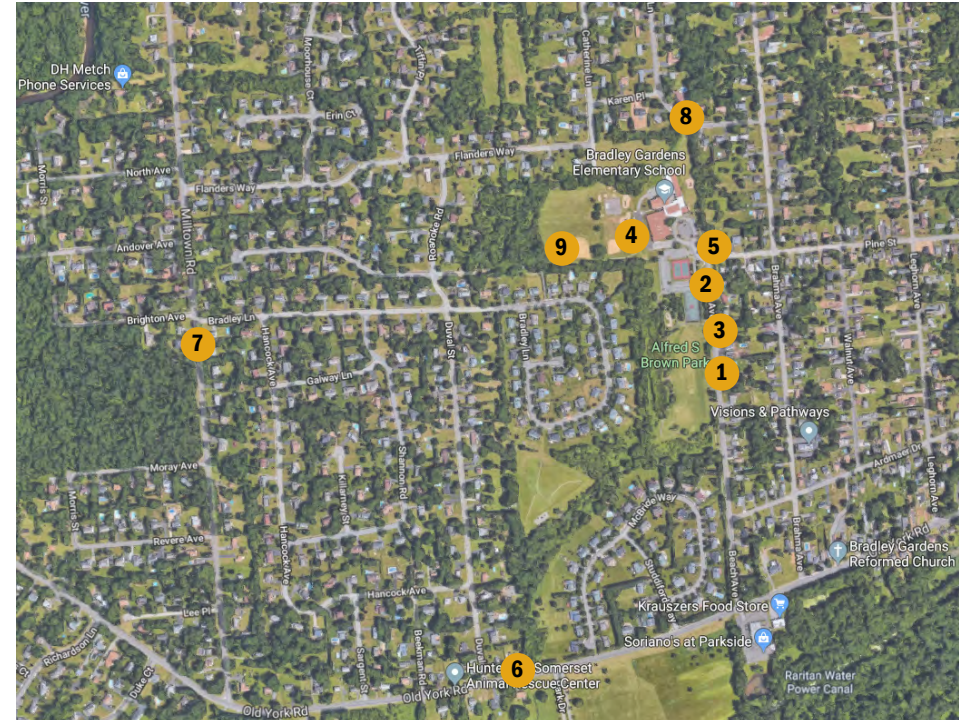
Bike parking at Alfred S. Brown Park should be improved.



The existing path leading to both Alfred S. Brown Park and Bradley Gardens School can be widened and repaved to accommodate multiple uses.

Opportunities for Improvement

1	Widen sidewalk along Beach Avenue into a multi-use path	Beach Avenue south of Bradley Gardens School
2	Install radar feedback signs	Beach Avenue south of Bradley Gardens School
3	Paint 25 MPH speed limit on roadway	Beach Avenue south of Bradley Gardens School
4	Upgrade bike parking at Bradley Gardens School and move racks closer to school building	Bradley Gardens School
5	Upgrade curb cuts to be ADA accessible and reduce curb radii to slow vehicle turning speeds	Around Bradley Gardens School
6	Create a slow-down zone near the entrance of Duke Island Park marked by clear signage	Intersection of Duval Street and Old York Road
7	Lower the speed limit on Milltown Road (currently 40 mph)	Milltown Road between US 202 and Old York Road
8	Install HAWK signal at Ivy Lane mid-block crosswalk that connects to the back of the school	Ivy Lane crosswalk
9	Repair cracked sidewalks and sections displaced by tree roots	Paths behind school



Walk Audits

North Branch Park

At the May 30 Steering Committee meeting, concerns were raised regarding bicycle and pedestrian safety in the area surrounding North Branch Park. Milltown Road, which is the main road used to access the park, lacks a sidewalk on either side and the road's wide travel lanes (about 11 feet) encourage speeding. (Posted speed limit is 40 mph.) The road features narrow shoulders (only about 1-foot wide), forcing pedestrians and cyclists into close proximity with cars traveling at high speeds. Just north of the park, Milltown Road crosses under railroad tracks and narrows into a single lane. A sharp bend in the road at this point results in low visibility for drivers and poses a danger to bicyclists and pedestrians. Two bicycle crashes in the past five years were recorded in this area: one on Milltown Road at the entrance of the park, and the other at the intersection of Milltown Road and US Route 202, south of the park.



Milltown Road narrows to one lane under the railroad tracks. The sharp bend in the road causes low visibility for drivers.

(Source: Google Maps)



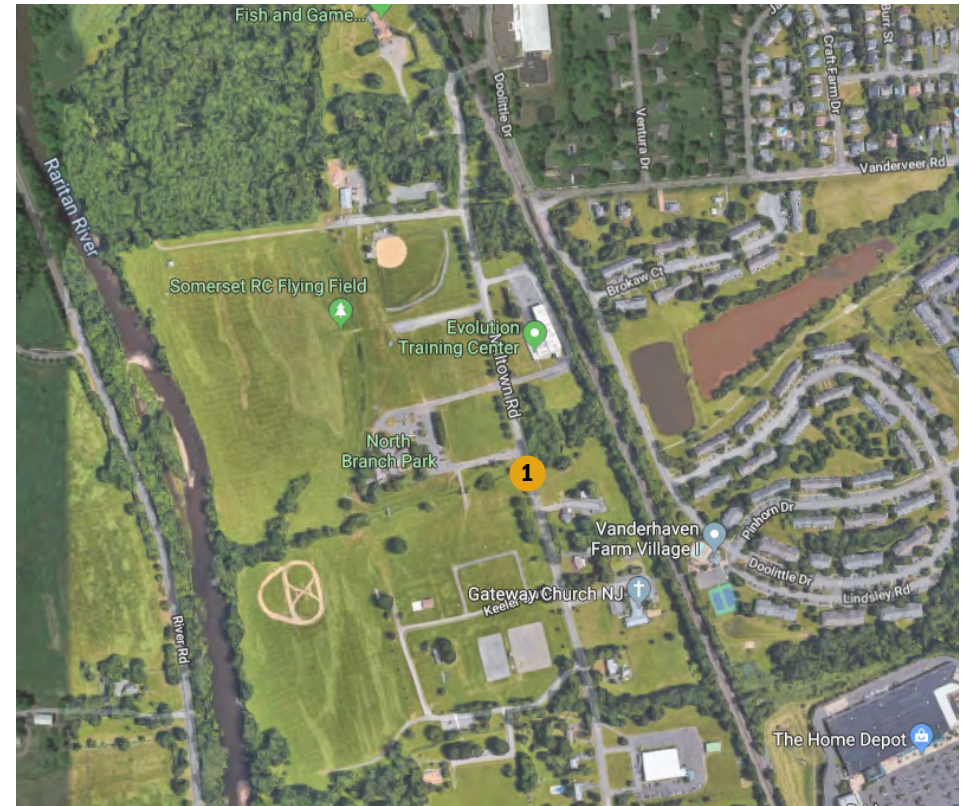
Narrow shoulders and wide travel lanes on Milltown Road near North Branch Park encourage speeding and pose a risk for bicyclists and pedestrians.



Opportunity for a multi-use path along the west side of Milltown Road.

Opportunities for Improvement

1	Create a multi-use path along the west side of Milltown Road to increase safe access to North Branch Park	Milltown Road near North Branch Park
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Walk Audits

Eisenhower Intermediate School

At the May 30 Steering Committee meeting, concerns were raised about bicycle and pedestrian safety in the vicinity of the Eisenhower Intermediate School. During the spot check, the Project Team noted faded and inaccessible crosswalks on Farmer Road and Steeplechase Lane in the area around the school. The Project Team also identified opportunities to expand and improve bike parking at the school.



A faded crosswalk on Steeplechase Lane leads directly into a utility pole and does not connect with the sidewalk.



Curb cut and ramp are misaligned and too steep.



Duplicated curb cuts and warning pads make crossing confusing and dangerous. (Intersection of Farmer and Steeplechase)



Discontinuous sidewalks leading to Eisenhower School.



Current bike parking at Eisenhower School is outdated and difficult to access. Bicycle racks should be moved closer to the school entrance.

Walk Audits

Opportunities for Improvement

1	Upgrade bike parking and move it closer to the school entrance	Eisenhower Intermediate School
2	Upgrade crosswalks and curb ramps in the vicinity of the school	Eisenhower Intermediate School



Van Holten Primary School

At the May 30 Steering Committee meeting, concerns were raised about bicycle and pedestrian safety in the area around Van Holten Primary School. Additionally, the principal survey listed the intersection of Van Holten Road and the school entrance as an area of concern. During the spot check, the Project Team noted a lack of bike racks at the school and was informed that students are not allowed to ride their bikes to school.

One positive thing the Project Team noted was the existence of a path and marked crosswalk leading from Van Holten Road to the school building.



Path leading from Van Holten Road to the Van Holten School building.

Opportunities for Improvement

1	Install bike parking and allow children to bike to school	Van Holten School
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Walk Audits

Bridgewater-Raritan High School

At the May 30 Steering Committee meeting, concerns were raised about bicycle and pedestrian safety in the area around Bridgewater-Raritan High School. Additionally, three pedestrian crashes were reported along Garretson Road in front of the school in the past five years. The Project Team noted the high speed of cars traveling along Garretson Road as an issue. During the spot check, a new sidewalk was being installed along Garretson Road in front of the school, which should improve pedestrian access and safety.



New sidewalks and curb ramps being installed along Garretson Road in front of the high school.



Opportunities for Improvement

1	Install a HAWK signal and a mid-block crossing connecting the High School with the YMCA (HAWK signals are an FHWA proven safety countermeasure)	Garretson Road in front of the High School
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Hamilton Primary School

The principal survey listed safety concerns in the vicinity of Hamilton Primary School, particularly at the intersections of Frohlin Drive and Washington Valley Road, and Frohlin Drive and Hamilton Lane. The Project Team noted the wide, sweeping curve at the intersection of Frohlin and Washington Valley as a hazard, encouraging cars to take the corner at high speeds. Sidewalks in this area are also lacking, especially along Washington Valley Road. The Project Team noted that parking restrictions along Hamilton Lane have the potential to cause congestion during pick-up and drop-off hours.

Gene G. King Park, a small park situated about a half-mile from the school, may serve as an opportunity to link bicycle and pedestrian improvements to both the park and the school.



Gene G. King Park on Frohlin Drive.



Sweeping curve at the intersection of Frohlin Drive and Washington Valley Road. Sidewalks in this area are lacking.

Walk Audits

Crim Primary School

The principal survey revealed concerns about the intersection of Crim Road and Southbrook Drive. At the May 30 Steering Committee meeting, concerns were raised about cars speeding on Crim Road and the possible installation of a flashing signal near the school was suggested. During the spot check, the project team identified the potential to install a HAWK signal and a mid-block crossing connecting the Crim Road soccer fields and the Middle Brook Trail to the school. The school's location allows it to provide overflow parking for the sports fields and the trail. Currently, the nearest crossing is about 650 feet south on Crim Road or a 5-6 min walk at an adult pace. However, this crosswalk does not connect to a sidewalk on the eastern side of Crim Road, making access to the soccer fields and trail difficult and dangerous.



Current bike parking facilities at Crim School are outdated and should be upgraded and moved to a more convenient location.



Crosswalks in the Crim School parking lot are not accessible.

Opportunities for Improvement

1	Install a HAWK signal and a mid-block crossing connecting the Crim Road soccer fields and the Middle Brook Trail to Crim School (HAWK signals are an FHWA proven safety countermeasure)	Crim School
2	Upgrade bike parking facilities at the school	Crim School



Camp Cromwell

During the May 30 Steering Committee meeting, the upcoming renovation of Camp Cromwell was discussed. The disused Boy Scouts camp will be renovated into a municipal park. There is a plan to link the Middle Brook Trail to the new park from the west, opening up the possibility of increased connectivity with Chimney Rock Park and other facilities along the trail, including Crim Primary School.



Entrance to Camp Cromwell and the future site of a new park.

Opportunities for Improvement

1	Link renovations at Camp Cromwell with Middle Brook Trail	Camp Cromwell
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State Road Crossings

During public engagement events, several people mentioned the difficulty crossing state highways including the Route 202/206/28 traffic circle. The nearest safe pedestrian crossing is about a half-mile north of the circle at the pedestrian bridge by the Route 22 ramps. However, access to this crossing is restricted to the west by a sidewalk that ends abruptly about 800 feet south of the bridge. From the east, the bridge can only be accessed by a sidewalk that begins on Mountain Avenue and runs for about 1,000 feet before reaching the bridge.

Bridgewater and the New Jersey Department of Transportation should meet to discuss ways to improve pedestrian and bicycle access along and crossing all state highways that traverse the Township.



The pedestrian bridge is located 0.5 miles north of the Route 202/206/28 traffic circle. However, access to the bridge is restricted to both the east and the west.

Public Engagement



Recommendations



Recommendations

Engineering							
Issue	Action	Location	Timeframe	Cost	Priority	Design Guidance	Responsible Agency
Many parts of the Township lack sidewalks on one or both sides of the street	Install sidewalks in priority areas around schools and parks	Township-wide	Long-term	High	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Many parts of the Township have gaps in the sidewalk network	Install sidewalks in areas where gaps in the sidewalk network need to be filled	Township-wide	Long-term	High	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Many parts of the Township lack painted, high visibility, crosswalks that safely connect sidewalks on either side of the street	Install painted crosswalks in areas where connections between sidewalks are poor	Township-wide	Medium-Term	Medium	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Many crosswalk markings are faded	Update Crosswalk Markings with high-visibility design	Township-wide	Short-term	Low	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Some intersections are not ADA compliant	Update curb ramps and truncated domes as required	Township-wide	Short-term	Medium	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Many intersections have wide curb radii that encourage high speeds for vehicles turning.	Install curb extensions/shorten curb radii - consider installing plastic delinator bollards as first step	Township-wide	Long-term	Medium	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
At many schools there was not secure bicycle parking available. Many bicycle racks at the schools were old and rusted. Bike racks are lacking or not adequate at many parks as well.	Improve bicycle parking facilities at schools and parks and throughout the Township	Township-wide	Medium-Term	Low	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Vehicles travel at high speeds through school zones and there is a lack of clear, operational, and effective signage indicating school zones.	Install pavement markings "School Zone Ahead 25 MPH", flashing beacons that activate during school arrival and dismissal times, Radar feedback signs, traffic calming measures	Township-wide	Medium-Term	Low	High	NJ School Zone Design Guide	Municipality

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$10,000), medium (\$10,001 to \$50,000), and high (\$50,000 +)

Engineering (continued)							
Issue	Action	Location	Timeframe	Cost	Priority	Design Guidance	Responsible Agency
Right turns on red can be dangerous for pedestrians	Explore adding no right turn on red at locations where younger and elderly pedestrians and/or people with disabilities cross streets including schools, library, parks, group homes, and senior centers/living areas.	Township-wide	Short-term	Low	Medium	NJ School Zone Design Guide	Municipality
Stormwater management	Explore installation of green infrastructure such as rain gardens near schools	Township-wide	Medium-Term	Medium	Low	Rutgers Green Infrastructure Guide, NACTO Urban Street Stormwater Guide	Municipality
Many crosswalks are very long	Install curb extensions through paintings or raised curb bump-outs or provide median refuge islands for pedestrians	Township-wide	Long-term	Medium	High	FHWA Proven Safety Countermeasure with a safety benefit of 46-56% reduction in pedestrian-vehicle crashes, https://safety.fhwa.dot.gov/provencountermeasures/ped_medians/	Municipality
Some roadways are excessively wide and encourage drivers to speed	Implement road diets to narrow excessively wide roads that encourage speeding, including restriping narrower lanes, installing bike lanes, and adding medians to slow traffic.	Township-wide	Medium-term	High	Medium	FHWA Proven Safety Countermeasure with a safety benefit of 19-47% reduction in pedestrian-vehicle crashes, https://safety.fhwa.dot.gov/provencountermeasures/road_diets/	Municipality
People bike on roads without bicycle-compatible shoulders or designated bike lanes that offer more protection from motor vehicles.	Assess possible locations for separated bike lanes, bike lanes, and bicycle-compatible shoulders. Bicycle facilities should be designed for youth to cycle safely.	Township-wide	Medium-term	Low	Medium	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Many streets have wide travel lanes where speeding is common.	Narrow vehicle travel lanes to 10.5 foot to reduce speeding and potentially add more room for people walking and bicycling on the roads.	Township-wide	Medium-term	Medium	High	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality
Right-turn only lanes at intersections make very long crossing distances for people on foot and often not warranted with current traffic volumes.	Remove right-turn only lanes and shorten crossing distances	Township-wide	Long-term	High	Medium	NJ School Zone Design Guide, NJ Complete Streets Design Guide, NACTO Urban Street Design Guide	Municipality

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$10,000), medium (\$10,001 to \$50,000), and high (\$50,000 +)

Recommendations

Engineering (continued)							
Issue	Action	Location	Timeframe	Cost	Priority	Design Guidance	Responsible Agency
Many pedestrians, especially elderly, children and people with disabilities, have inadequate time to cross intersections.	Install leading pedestrian interval (LPI) at signalized intersections that give pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication. With this head start, pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn left. LPIs provide the following benefits: Increased visibility of crossing pedestrians. Reduced conflicts between pedestrians and vehicles. Increased likelihood of motorists yielding to pedestrians. Enhanced safety for pedestrians who may be slower to start into the intersection.	Township-wide	short-term	Medium	High	FHWA Proven Safety Countermeasure with a safety benefit of 60% reduction in pedestrian-vehicle crashes, https://safety.fhwa.dot.gov/provencountermeasures/lead_ped_int/	Municipality
Lack of speed limit signs	Install speed limit signage including "25 mph" pavement marking throughout Township, prioritizing school zones, parks, trail crossings, group homes and senior residential areas.	Township-wide	Short-term	Medium	High	NJ School Zone Design Guide	Municipality
Difficult pedestrian crossings at unsignalized and midblock crosswalks.	Explore areas with crosswalks at midblock crossings and uncontrolled (non-signalized) intersections where pedestrian hybrid beacons and/or Rectangular Rapid Flashing Beacons can be installed. Prioritize school zones, trail crossings, parks, group homes and senior residential areas.	Township-wide	Medium-term	Medium	High	FHWA Proven Safety Countermeasure with a safety benefit of 69% reduction in pedestrian-vehicle crashes, https://safety.fhwa.dot.gov/provencountermeasures/ped_hybrid_beacon/	Municipality

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$10,000), medium (\$10,001 to \$50,000), and high (\$50,000 +)

Parks and Trails					
Issue	Action	Location	Timeframe	Cost	Responsible Agency
Assess current trails network	Conduct a township-wide trails survey, including assessment of existing infrastructure, accessibility, and community use of trails	Township-wide	Short-term	Low	Municipality
Develop a plan to improve and expand upon Bridgewater's existing trails network.	Develop and adopt a comprehensive trails plan that includes maps of Bridgewater's current trail network, trail maintenance procedures, wayfinding design standards, and strategies for expanding the trail network and improving trail connectivity across the Township.	Township-wide	Medium-term	Medium	Municipality
Ensure that trails are family-friendly and meet the needs of diverse users of all ages and abilities.	Ensure that trails are ADA-compliant; accessible to seniors, children, and families; and available to pedestrian, cyclists, and other potential users.	Township-wide	Medium-term	Medium	Municipality
Ensure that trails are family-friendly and meet the needs of diverse users of all ages and abilities.	Develop design standards for trails and trail crossings on roads, including cross-sections and templates. Trail crossings should ensure safety for pedestrians and bicyclists, and should meet ADA standards.	Township-wide	Short-term	Low	Municipality
Maps of trail locations are not available online or on paper.	Create and make available online and paper a trail maps. Trail information should include level of difficulty and be posted at trail heads on kiosks.	Township-wide	Short-term	Low	Municipality
Location of trail heads and paths within trails are not always apparent.	Install wayfinding signage in parks, libraries, schools and other locations to identify where to find trails and trail heads. Make sure trails in wooded areas are well-marked from end to end.	Township-wide	Medium-term	Low	Municipality
Trash receptacles & dog waste bags	Add trash and recycling receptacles and signage with dog waste bags to trail heads, parks, and parking areas	Township-wide	Short-term	Low	Municipality

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$10,000), medium (\$10,001 to \$50,000), and high (\$50,000 +)

Recommendations

Enforcement					
Issue	Action	Location	Timeframe	Cost	Responsible Agency
Parents idle their vehicles as they wait to drop off and pick up students at school each day	Increase enforcement of anti-idling laws in school zones.	Township-wide, prioritize school zones	Ongoing	Medium	Bridgewater Police Department
Drivers speed and disregard pedestrians and crossing guards in the school zones.	Increase enforcement of speed limits, especially in school zones, trail crossings, parks, group home and senior residential areas	Township-wide, prioritize school zones, trail crossings, parks, group home and senior residential areas	Ongoing	Medium	Bridgewater Police Department
Drivers disregard pedestrians and crossing guards in the school zones.	Increase enforcement of distracted driving laws, especially in school zones, trail crossings, parks, group home and senior residential areas	Township-wide, prioritize school zones, trail crossings, parks, group home and senior residential areas	Ongoing	Medium	Bridgewater Police Department
Drivers park their vehicles too close to corners and too close to crosswalks, seriously impairing sightlines.	Increase enforcement of no parking in school zone areas during the school day.	Township-wide, prioritize school zones	Ongoing	Medium	Bridgewater Police Department
Drivers disregard pedestrians and crossing guards in the school zones.	Conduct periodic stop and stay stopped enforcement campaigns to educate drivers about crosswalk laws and pedestrian right-of-way	Township-wide, prioritize school zones, trail crossings, parks, group home and senior residential areas	Short term	Medium	Bridgewater Police Department
Using a hand-held cell phone or texting while driving is illegal but common-place in New Jersey. A Distracted driving enforcement campaign can be a high-visibility enforcement program that can target compliance in school zones.	Prioritize enforcement of New Jersey's "U Drive, U Text, U Pay" enforcement campaign in school zones, trail crossings, parks, group home and senior residential areas	Township-wide, prioritize school zones, trail crossings, parks, group home and senior residential areas	Short term	Medium	Bridgewater Police Department
Residents block sidewalks with garbage cans, gates, and motor vehicles, causing pedestrians to leave the sidewalk and put themselves in less-safe conditions.	Educate residents about the importance of not blocking sidewalks with temporary obstructions including yard and tree clippings, garbage cans, and motor vehicles. If necessary, enforce sidewalk obstruction codes.	Township-wide, prioritize school zones	Ongoing	Medium	Bridgewater Police Department
Helmets and lights contribute toward safer bicycling.	Provide helmet and lights give-aways or other bike/walk encouragement programs for K-8 students.	Township-wide	Ongoing	Short	Bridgewater Police Department with RideWise TMA.
Adult school crossing guards keep children safe on their way to and from school each day and require up to date training to do their job effectively.	Recruit and train additional crossing guards for schools that do not currently have them.	Township-wide	Short term/Ongoing	Low	Municipality, VTC
Adult school crossing guards keep children safe on their way to and from school each day and require up to date training to do their job effectively.	Update the adult crossing guard training program and hold annual training sessions with current and new guards.	Township-wide	Short term/Ongoing	Low	Municipality, VTC

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$2,000), medium (\$2,000 to \$10,000), and high (\$10,000 +)

Education					
Issue	Action	Location	Timeframe	Cost	Responsible Agency
Motorists do not stop for pedestrians in crosswalks and park vehicles in unsafe and illegal locations.	Leverage school and municipal websites/social media to spread awareness of school zone issues and enforcement activities, including information on the "Stop & Stay Stopped" crosswalk law, stopping for and obeying crossing guards, and the NJ anti-idling law.	Township-wide	Short term/Ongoing	Low	Schools/Municipality
Parents leave parked vehicles idling for an extended period of time, greatly contributing to air pollution issues near schools.	Provide periodic reminders about no-idling to parents as part of school email/website/paper information.	Township-wide	Ongoing	Low	Schools/RideWise TMA
Safe bicycling should be encouraged	Work with RideWise TMA to organize bike rodeo programs and other on-bicycle education opportunities for students.	Township-wide	Medium term	Low	Schools/ RideWise TMA
Bicycling is a life skill that can enhance the life of all students in Bridgewater.	Teach learn to ride programs for all K-1st grade students to meet the NJ Student Learning Standards for Health and Physical Education. The primary focus of the standards is on the development of knowledge and skills that influence life-long healthy behaviors within the context of self, family, school and the local and global communities.	Township-wide	Medium term	Low	Schools, VTC, RideWise TMA
Bicycling is a life skill that can enhance the life of all students in Bridgewater.	Train all Physical Education Teachers on in-school, on-bike education to meet the NJ Student Learning Standards for Health and Physical Education. The primary focus of the standards is on the development of knowledge and skills that influence life-long healthy behaviors within the context of self, family, school and the local and global communities. E.g. the NJ Bike School Program.	Township-wide	Short to medium term	Low	School/District PE Department, VTC
Walking School Bus and Bike Train programs organize and promote walking and bicycling to school groups.	Work with RideWise TMA to organize a regular walking school bus and bike trains.	Township-wide	Ongoing	Low	Schools/ RideWise TMA
To effectively navigate their neighborhoods on foot or on bike students need to develop safe walking and bicycling skills.	Work with RideWise TMA to provide pedestrian and bicycling safety education programming in schools in all grades.	Township-wide	Ongoing	Low	Schools/ RideWise TMA
Overgrown shrubbery can block sidewalks, forcing students into unsafe walking locations.	Educate residents and property owners about the importance of maintaining shrubbery that encroaches on sidewalks and/or blocks drivers view of intersections.	Township-wide	Ongoing	Low	Municipality/Schools
Using a hand-held cell phone or texting while driving is illegal but common-place in New Jersey. A distracted driving education campaign targeted towards parents and school personnel can improve compliance.	Educate parents and school personnel with periodic reminders about dangerous distracted driving behaviors such as talking on a hand-held cell phone and sending a text message while driving, especially when children and crossing guards are crossing streets.	Township-wide	Short term/Ongoing	Low	Municipality

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$2,000), medium (\$2,000 to \$10,000), and high (\$10,000 +)

Recommendations

Encouragement					
Issue	Action	Location	Timeframe	Cost	Responsible Agency
Residents often do not realize how close they are to points of interest and how easy they can be reached on foot.	Install wayfinding signs for downtown and park areas. Include walking distance in minutes.	Township-wide	Medium term	Medium	Municipal government
Creative approaches should be sought to slow traffic and promote community engagement.	Encourage and provide information about how residents can approach the municipality about creating street art and murals.	Township-wide	Medium term	Low	Municipal governments, Non-Profits
Students need to be encouraged to learn and understand the benefits of walking and bicycling	Work with RideWise TMA to sponsor student poster contest(s), walking mileage clubs, golden sneaker awards or other events and contests centered on walking and bicycling to school.	Township-wide	Short term	Low	Schools/ RideWise TMA
To encourage more walking and bicycling, fun events can demonstrate how easy it is to walk and bike to school.	Work with RideWise TMA to host Bike/Walk to School Days throughout the school year, participating in International Walk to School Day in October as well as New Jersey Walk and Bike to School Month in May.	Township-wide	Short term	Low	Schools/ RideWise TMA
Placemaking activities should be implemented to strengthen the connection between people and the places they share and improving the safety of streets by implementing projects that encourage people to walk, bike, shop, meet, and play alongside vehicles without being dominated by them.	Work with residents and community groups to explore tactical urbanism opportunities for placemaking and traffic calming including murals, street art, parklets, and pop-up bike lanes and crosswalks. Many techniques have been designed to lessen the impact of motor vehicle traffic by slowing it down and developing interesting human-scaled places providing a friendly and inviting environment to those who are walking or biking.	Township-wide	Short term	Low	Municipal Government, Schools, Non-profits
Encouraging youth to participate in decision-making is important. Bridgewater has several youth-oriented groups and organizations who could be better aligned and supported to have a more direct tie to Safe Routes to School and Vision Zero efforts.	Work with youth-oriented groups to identify ways youth can participate in decisions about areas of concern, types of improvements and support for changes.	Township-wide	Short term	Low-Med	Municipal Government, Schools, Non-profits
Coordinating safety efforts between the municipality, school district, youth and families is difficult. Engaging youth is a key component of Safe Routes to School and Vision Zero.	Dedicating authority and/or funding to a Safe Routes to School liaison or manager is a way to maximize communication between the municipality, school district, and regional Safe Routes to School Coordinator in order to coordinate program initiatives and provide technical assistance, training and outreach to increase walking, bicycling and transit use with a focus on underserved communities.	Township-wide	Medium term	High	Municipal Government, Schools, Non-profits

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$2,000), medium (\$2,000 to \$10,000), and high (\$10,000 +)

Evaluation					
Issue	Action	Location	Timeframe	Cost	Responsible Agency
It is important to report clear progress for constituents and allow for agencies to track progress, make necessary adjustments, and maintain transparency and accountability.	Collect and monitor data and, to the extent possible, aggregate by location of communities of concern. Benchmark data includes but is not limited to: - Mileage of new and existing bicycle infrastructure (e.g., bicycle lanes, bike parking, paths, and boulevards) - Linear feet (or mileage) of new and existing pedestrian infrastructure (e.g., sidewalks, trails, transit amenities) - Number of new and existing ADA-compliant infrastructure (e.g., curb ramps, pedestrian buttons) - Number of new street trees - Number of green street practices (e.g., rain gardens, bioswales, permeable pavement) - Number of pedestrian and bicycle lighting improvements. - Bicycle and pedestrian counts - Commute mode percentages (e.g., drive alone, carpool, transit, bicycle, walk) - The number and percentage of designated transit stops accessible via sidewalks and curb ramps - The number, locations, and causes of collisions, injuries, and fatalities by each mode of transportation	Township-wide, prioritizing school zones, trail crossings, parks, group home and senior residential areas	Ongoing	Low	Schools, Municipal Government, County Government, RideWise TMA
Conditions related to walking and bicycling should be monitored and tracked and new issues should be recorded moving forward.	Conduct periodic Walk & Bike Assessments which include taking photos or video to document the good and challenging conditions related to walking and bicycling. Staff should conduct bicycle assessments on bike and include members of the community who frequently bicycle for daily activities. People with disabilities who use sidewalks and roadways should be included in assessments.	Township-wide, prioritizing school zones, trail crossings, parks, group home and senior residential areas	Ongoing	Low	Schools, Municipal Government, County Government, RideWise TMA
Student travel modes should be tracked to see how they change over time.	Complete Student Arrival and Departure Tallies at all schools in the district, which will help when applying to SRTS grants, and continue to periodically conduct Travel Tallies to track how student travel modes change over time.	Township-wide	Ongoing	Low	Schools, RideWise TMA, VTC
The impacts of improvements should be monitored in an effort to replicate success.	Conduct crash analysis before and after implementation of infrastructure improvements to monitor impact of changes.	Township-wide, prioritizing school zones, trail crossings, parks, group home and senior residential areas	Short term	Low to medium	Municipal government, County government, State government
The impacts of improvements should be monitored in an effort to replicate success.	Conduct speed studies before and after implementation of infrastructure and policy improvements.	Township-wide, prioritizing school zones, trail crossings, parks, group home and senior residential areas	Short term	Low	Municipal government, County government, State government
Strive for engagement with community and partner organizations	Municipal staff and engineering consultants should work with individuals within the community especially people with disabilities, carless households, children and the elderly and with organizations that represent these groups to identify barriers to mobility.	Township-wide	Short term	Low	Municipal government, County government, State government

*Time frame: short-term (6 months to 1 year), medium-term (1 to 5 years), and long-term (5 years +)

*Cost: low (under \$2,000), medium (\$2,000 to \$10,000), and high (\$10,000 +)

Recommendations

Municipal Policy		
Issue	Action	Responsible Agency
Bridgewater adopted a Complete Streets policy in 2017, however with improved best practice in model language, Vision Zero, and implementation checklists, considerations should be made toward updating the current policy with health, stormwater management, equity and implementation elements.	Update the Bridgewater Complete Streets policy to include health, green streets, equity, implementation plans and connections to Vision Zero, ensuring it meets requirements for Sustainable Jersey certification.	Municipality
School Crossing Guard policy that outlines school crossing guard duties and codify the procedures for hiring, training, assessing, and supervising crossing guards.	Adopt a comprehensive Crossing Guard policy. See model municipal school crossing guard policy at http://www.njcrossingguards.org/?p=213	Bridgewater Police Department
School Crossing Guard Job Description about duties, physical requirements, pay structure, etc.	Update municipal school crossing guard job description. See model crossing guard job description at http://www.njcrossingguards.org/?p=491	Bridgewater Police Department
Motorists frequently disregard pedestrians and bicyclists. Vulnerable Road User laws increase protection for bicyclists and other road users who are not in cars.	Adopt a vulnerable road user law that increases penalties for a motorist that injures or kills a bicyclist or pedestrian	Municipality
Adopt an ordinance to require drivers to give cyclists at least 3 to 4-feet of clearance when passing and to give the right-of-way to cyclists turning in front of them.	Adopt a 4-foot bicycle passing ordinance	Municipality
Evaluate requirements for bicycle off-street parking spaces and work with the school district to install bike racks at schools	Evaluate off-street bike parking requirements, including bike parking needs at parks, schools, housing, office parks, and retail areas.	Municipality/ School District
Expand on Bridgewater's policy of incorporating bike racks in multi-family areas and areas of service and recreation.	Include language in the municipal code that requires covered bike racks at schools and parks, as well as other bicycle facilities such as bike repair stations.	
Bridgewater has a good snow removal policy. Recommend including language about clearing sidewalk curb cuts/ramps and space around firehydrants.	Including language about clearing sidewalk curb cuts/ramps and space around firehydrants in snow removal policy	Municipality
Bridgewater has a large number of pedestrian and bicycle fatalities.	Explore creating and adopting a Vision Zero Action Plan which outlines specific, data-driven steps to create a transportation system that prioritizes safety, efficiency, and accessibility for all users and sets a goal of reaching zero traffic fatalities in the future.	Municipality
Township ordinances do not include specific information on bicycle storage.	Update Township ordinances regarding bicycle storage to include bike rack design standards and the provision of indoor storage facilities. Bicycle storage and changing/shower facilities should be required in office parks, retail areas, and multi-family housing.	Municipality
Township ordinances for trails do not address overall trail network connectivity.	Update Township ordinances regarding trails to address connectivity, referencing the goals of Bridgewater's Master Plan Circulation Element.	Municipality

Municipal Policy		
Issue	Action	Responsible Agency
Township ordinances for sidewalks lack specific information regarding sidewalk design.	Update Township ordinances regarding sidewalk design, incorporating optimum standards for sidewalk width of 5 to 6 feet. ADA standards specify a minimum 5-foot clear path width to accommodate two wheelchairs passing each other. This can be modeled off of Bridgewater's existing bikeway ordinance, which includes minimum and optimum bike lane widths. Updated ordinances regarding sidewalk design should reference ADA standards for accessible design. Sidewalks should include a planted buffer zone between the sidewalk and the road of 2.5 feet.	Municipality
Township ordinances for sidewalks do not meet ADA requirements.	If a pedestrian zone is 4 feet wide, additional space should be provided to allow passing at intervals no greater than 200 feet. ADA standards specify a minimum 5-foot clear path width to accommodate two wheelchairs passing each other.	Municipality
Township ordinances for sidewalk maintenance can be improved.	Update Township ordinances regarding sidewalk maintenance, placing the responsibility of sidewalk maintenance and repair on the adjacent landowner. See the Highland Park sidewalk maintenance ordinance for an example of a high-quality ordinance. The updated ordinance should emphasize safety and accessibility, and should reference ADA standards for accessible design.	Municipality
Township ordinances regarding blocked sidewalks can be improved.	Update Township ordinances to include prohibitions on blocking sidewalk access with vehicles or other objects.	Municipality
Township ordinances for parking lack information about pedestrian and bicyclist safety.	Update Township ordinances regarding parking to include language about pedestrian and bicycle access and safety.	Municipality
Training opportunities to enhance local knowledge	Staff and municipal engineering consultants should attend training that covers complete streets, traffic calming, trails, bicycle & pedestrian infrastructure, ADA standards, green infrastructure (green streets) and FHWA Proven Safety Countermeasures	Municipality
NJ Residential Site Improvement Standards requires sidewalks for developments that meet certain conditions.	Update Township ordinances to include RSIS sidewalk requirements. (Appendix E)	Municipality

Recommendations

School District Policy (BOE)		
Issue	Action	Responsible Agency
Adopting an active transportation to school policy standardizes the transportation safety rules for the school district and can help lay the groundwork for better and safer behaviors for students who walk, bike, scooter, etc.	Adopt a comprehensive and supportive walking, bicycling and active travel to school policy that lists the benefits of active transportation, identifies NJ law that students under age 17 must wear a helmet for all human-powered wheeled vehicles (bikes, scooters, etc.) and information on storing equipment like helmets and locking wheeled devices (bikes, scooters, etc.)	BOE
A comprehensive school wellness policy should create supportive school nutrition and physical activity environments before-, during-, and after-school.	Update the District School Wellness Policy to include additional language to support physical activity and, specifically, for Safe Routes to School. The Wellness Policy should address physical activity in before and after school programs, active travel to and from schools and use of school facilities outside school hours with joint use agreements with municipal or parks and recreation services. Model policy language is available from the Alliance for a Healthier Generation	District School Wellness Team/BOE
Sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. A District Sustainability Policy identifies ways the district can incorporate sustainable practices into school policies and operations in ways that makes immediate impacts on student health, academic performance and teacher retention.	District Sustainability Policies can address promoting physical activity including recess, physical activity breaks, physical activity in before and after school programs, active travel to and from schools and use of school facilities outside school hours with joint use agreements with municipal or parks and recreation services.	School District/BOE
The Bridgewater Student Code of Conduct handbook is an excellent resource for informing students and parents about behavior expectations.	The Student Code of Conduct handbook should clarify transportation options and behavior expectations about school buses, walking, bicycling or wheeled sport travel to and from school. Bicycle information should including bike parking areas, helmet storage, bringing and using bicycle locks and penalties for students who interfere with any bikes, helmets or other equipment (steal, unlock quick releases, bounce helmets, etc.).	School District/BOE

Crossing Guard Best Practices

Crossing guards play a vital role in the lives of children who walk or bike to school each day. At the same time, the position of crossing guard is one of the most dangerous of municipal jobs due to slips, trips, and falls, and crashes involving motor vehicles. Crossing guards often face daily near-miss situations with drivers who fail to follow the laws. According to New Jersey law, every adult school crossing guard shall be trained a minimum of two hours of classroom instruction and a minimum of 20 hours of field training in which the trainee shall be supervised by an experienced adult school crossing guard or a regular police officer.

It is recommended that all crossing guards attend refresher training annually before the beginning of the school year. With funding from the New Jersey Department of Transportation and New Jersey Division of Highway Traffic Safety, staff at the NJ Safe Routes Resource Center conduct Crossing Guard supervisor training and provide numerous resources to crossing guards and their supervisors. The NJ Safe Routes Crossing Guard Supervisor Training is designed to help crossing guards perform their duties more effectively and safely with videos that reinforce the main themes covered in the training by demonstrating proper technique and visualizing challenging situations on real streets. Training program dates, updated videos, guidance, and other resources can be found at njcrossingguards.org.

Staff from the Bridgewater Police Department most recently attended the NJ Crossing Guard Supervisor Training in 2014. It is recommended that officers attend another training in the near future to ensure that Police Department staff are kept up to date on available resources.

Like many municipalities, Bridgewater has experienced difficulty in attracting applicants to open crossing guard positions. Creating a flyer explaining the openings can help raise awareness about available crossing guard positions. Flyers should be posted at libraries, senior centers, municipal buildings, banks, houses of worship, or anywhere people gather. Posting flyers at public information kiosks is also recommended. Bridgewater representatives should



(Source: SRTS Resource Center)

also post to social media outlets and attend community events such as farmers' markets or National Night Out to spread information about open positions.

The job description itself is also important, and should clearly express what the crossing guard position entails. Language should emphasize the valuable role crossing guards play in the lives of children who walk to school. Examples of crossing guard job descriptions are available on the NJ Crossing Guard website.

Once positions are filled, steps should be taken to ensure crossing guard retention. Crossing guard appreciation events such as breakfasts attended by the mayor and council members acknowledge the important role crossing guards play in the community. The Township can also work with schools to have students create thank you cards for their guards. Responding to crossing guards' concerns can also help ensure retention. Police officers should address issues at crossing guard posts when they arise. Some municipalities also offer bonuses to guards with perfect attendance to incentivize work during inclement weather.

Recommendations

Sustainable Jersey for Municipalities		
Action	Points	Needs for Implementation
Bicycle and/or Pedestrian Audit	5	Eligible
Complete & Green Streets Policy (Variable Points Action)	Up to 25	Update policy based on recommendations in Appendix C
Anti-Idling Education & Enforcement Program	10	Targeted education and enforcement
Safe Routes to School	10	Resolution of support for SRTS programs and assist at 6 or more events or crossing guard training and post evaluation.
Sustainable Jersey for Schools		
Action	Points	Needs for Implementation
Anti-Idling Education & Enforcement (Either District or School)	10	Pass a resolution and implement 2 programs
Programs to Promote Physical Activity (School only)	10	Initiatives to increase opportunities for students to engage in physical activity before, during, and after the school day
Policies to Promote Physical Activity (District only)	10	Adopt policy promoting a comprehensive school-based physical activity program
Safe Routes to School District Policy (District only)	10	Adopt support policies for walking and bicycling
Pedestrian and Bicycle Safety and Promotion Initiatives (School only)	10	Host 2 walk/bike programs and active transportation best practices
School Travel Plan for Walking and Biking (School only)	10	Eligible

Table 10: It is recommended that Bridgewater pursue these Sustainable Jersey for Municipalities and Schools actions.

Sustainable Jersey

Sustainable Jersey is a certification program for both New Jersey municipalities and public schools that want to go green, conserve resources, and take steps to create a sustainable community. By enrolling and certifying through the Sustainable Jersey program, schools and communities have access to tools, training, financial incentives, and grants for support toward becoming more sustainable, including reducing waste, cutting greenhouse gas emissions, and improve environmental equity.

Bridgewater is currently enrolled in the Sustainable Jersey program and has achieved Bronze status. With the completion of this plan, Bridgewater Township will be eligible to receive 5 points for the “Bicycle and/or Pedestrian Audit” action under Transportation and Land Use. The Township can also work toward the municipal “Safe Routes to School” action. In order to receive points, the municipality must write a letter of support plus lead or assist with walk or bike to school events or evaluate five or more crossing guard posts and hold annual training. Many of the recommendations in this plan also coincide with other Sustainable Jersey Actions. These actions include “Complete and Green Streets For All Policy,” and “Anti-Idling Education & Enforcement Program.” If implemented, the recommendations could earn additional Sustainable Jersey points for Bridgewater. See Appendix C for recommendations on updating the Township’s policy.

The Bridgewater-Raritan School District and individual schools can participate in the Sustainable Jersey for Schools program. With the completion of this plan, each school in Bridgewater is eligible to receive 10 points for the “School Travel Plan for Walking and Bicycling” action. Additionally, any schools that have a history of working with RideWise TMA on Safe Routes to School projects will have already completed the necessary programs to achieve 10 points under the “Pedestrian and Bicycle Safety and Promotion Initiatives” action. Like with the Municipal program, many of the recommendations in this plan line up with Sustainable Jersey for Schools actions. If the recommendations are implemented, Bridgewater schools could earn additional points for the “Anti-Idling Education & Enforcement,” “Programs to Promote Physical Activity,” “Policies to Promote Physical Activity,” and “Safe Routes to School District Policy” actions.

Funding & Technical Assistance



Funding & Technical Assistance

There are many ways to support projects aimed at increasing walking and bicycling through funding and technical assistance. Some of these programs are listed in the table below. All grant and technical assistance programs listed are competitive and application requirements should be read carefully.

Program Name	Program Description	Eligibility	Source	Details
Bicycle and Pedestrian Planning Assistance	NJDOT has retained the services of several consultants with expertise in local bicycle and pedestrian planning. The services of these consultants are provided at no cost to counties and municipalities that demonstrate a need and desire to undertake planning activities that will lead to capital improvements to benefit non-motorized transportation modes.	Municipalities	NJDOT	Office of Bicycle & Pedestrian Programs New Jersey Department of Transportation 1035 Parkway Avenue PO Box 600 Trenton, NJ 08625-0300 Email: BIKEPED@dot.nj.gov
State Municipal Aid Program	The Municipal Aid Program provides municipalities with transportation-based grants within one of the following categories: bikeway, bridge preservation, mobility, pedestrian safety, quality of life, roadway preservation, and roadway safety.	Municipalities	NJDOT	https://www.state.nj.us/transportation/business/localaid/municaid.shtm
NJDOT Bikeway Grant Program	The Bikeway Grant Program provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation through the construction of dedicated bike paths. Special consideration will be given to bikeways physically separated from vehicle traffic, but on-road bike lanes or other bike routes are also eligible for funding.	Municipalities, Counties	NJDOT	https://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm
Safe Streets to Transit	The Safe Streets to Transit Program funds projects that improve the accessibility and safety of transit stations and encourage commuters to walk or bike to transit.	Municipalities	NJDOT	https://www.state.nj.us/transportation/business/localaid/safe.shtm
Safe Routes to School	The Safe Routes to School Program provides federal highway funds for infrastructure projects that enable and encourage children in grades K-8, including those with disabilities, to safely walk and bicycle to school.	Municipalities	NJDOT	https://www.state.nj.us/transportation/business/localaid/srts.shtm
Transportation Alternatives Program	The Transportation Alternatives Program provides federal funds for community based "non-traditional" projects designed to strengthen the cultural, aesthetic and environmental aspects of the nation's intermodal system.	Municipalities	NJDOT	https://www.state.nj.us/transportation/business/localaid/alternatives.shtm
National Recreational Trails Program	The National Recreational Trails Program provides funding to help develop and maintain trails and trail facilities.	Municipalities, Counties, Non-profit	NJDEP	https://www.nj.gov/dep/grantandloanprograms/nhr_nrtp.htm
Safe Routes to Parks Activating Communities Program	The Safe Routes to Parks Activating Communities Program provides tailored technical assistance for eleven communities to develop Safe Routes to Parks action plans and awards \$12,500 to each community to begin implementation of those plans.	Non-profit	Safe Routes to Parks Partnership	https://www.saferoutespartnership.org/healthy-communities/saferoutestoparks/2019

Funding & Technical Assistance

Program Name	Program Description	Eligibility	Source	Details
Green Acres Grants and Loans	The Green Acres Grants and Loans Program provides funding and technical assistance to municipal and county governments and nonprofit conservation organizations to acquire land for recreation and conservation purposes and to develop outdoor recreational facilities. These lands become part of the statewide system of parks, forests, wildlife management areas, and preserves.	Municipalities, Counties, Non-profit	NJDEP	https://www.state.nj.us/dep/greenacres/staff.html
Land and Water Conservation Fund	The Land and Water Conservation Fund was established by Congress in 1964 to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans.	State, Counties, Municipalities	National Park Service	https://www.nps.gov/subjects/lwcf/index.htm
People for Bikes Community Grants	The People For Bikes Community Grant Program provides funding for projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives.	Municipalities	People for Bikes	https://peopleforbikes.org/our-work/community-grants/
Rivers, Trails, and Conservation Assistance Program	The Rivers, Trails, and Conservation Assistance Program supports community-led natural resource conservation and outdoor recreation projects across the nation. Our national network of conservation and recreation planning professionals partners with community groups, nonprofits, tribes, and state and local governments to design trails and parks, conserve and improve access to rivers, protect special places, and create recreation opportunities.	State, Counties, Municipalities, Non-profit	National Park Service	https://www.nps.gov/orgs/rtca/index.htm
Sustainable Jersey Grants Program	Sustainable Jersey grants are intended to help local governments make progress toward a sustainable future in general, and specifically toward Sustainable Jersey certification, addressing issues from renewable energy and green building design, waste reduction, a sustainable master plan, water conservation, natural resources management, energy management, and transportation issues. Most projects also include public outreach campaigns and many have involved school children and community organizations.	Municipalities	Sustainable Jersey	http://www.sustainablejersey.com/grants-resources/sustainable-jersey-grants-program/

Funding & Technical Assistance

Program Name	Program Description	Eligibility	Source	Details
Sustainable Jersey For Schools Grants Program	Sustainable Jersey for Schools grants are intended to help local governments make progress toward a sustainable future in general, and specifically toward Sustainable Jersey certification, addressing issues from renewable energy and green building design, waste reduction, a sustainable master plan, water conservation, natural resources management, energy management, and transportation issues. Most projects also include public outreach campaigns and many have involved school children and community organizations.	Municipalities	Sustainable Jersey for Schools	http://www.sustainablejerseyschools.com/grants-resources/sustainable-jersey-for-schools-grants-program/
New Jersey Healthy Communities Network Community Grant Program	The New Jersey Healthy Communities Network is a partnership of grantees, funders, and advocate organizations who seek to have collective impact on community well-being to support healthy eating and active living. The Community Grant Program provides opportunities to develop healthy environments for people to live, work, learn, and play by funding policies, projects and programs that support walking and bicycling.	Municipalities	New Jersey Healthy Communities Network	http://www.njhcn.org/
New Jersey Infrastructure Bank - Transportation Bank	A unique partnership between the New Jersey Infrastructure Bank (I-Bank) and the NJDOT to make available low interest loans for local transportation infrastructure projects with a mission of reducing the cost of financing for New Jersey counties' and municipalities' critical transportation projects. These loans are available for capital projects for public highways, approach roadways and other necessary land-side improvements, ramps, signal systems, roadbeds, transit lanes or rights of way, pedestrian walkways and bridges connecting to passenger stations and servicing facilities, bridges, and grade crossings.	Municipalities, counties, and regional authorities	Independent State Financing Authority	https://www.njib.gov/

Tools & Resources

The following list contains a variety of tools and resources that can help guide the implementation of strategies aimed at improving bicycle and pedestrian transportation and safety.

Federal Resources

- [Government Alliance on Race and Equity](#)
 - [Racial Equity Toolkit, An Opportunity to Operationalize Equity, 2016](#)
- [Institute of Transportation Engineers \(ITE\)](#)
 - [Curbside Management Practitioner's Guide, 2018](#)
- [National Association of City Transportation Officials \(NACTO\)](#)
 - The following NACTO guides are available from their website:
 - [Transit Street Design Guide, 2016](#)
 - [Urban Bikeway Design Guide, 2011](#)
 - [Urban Street Design Guide, 2013](#)
 - [Urban Street Stormwater Guide, 2017](#)
- [National Complete Streets Coalition](#)
 - [Dangerous By Design, 2019](#)
- [U.S. Department of Transportation, Federal Highway Administration \(FHWA\)](#)
 - [Bicycle Safety Guide and Countermeasure Selection System, 2014](#)
 - [Incorporating On-Road Bicycle Networks into Resurfacing Projects, 2015](#)
 - [Manual on Uniform Traffic Control Devices for Streets and Highways \(MUTCD\) 2009 Edition](#)
 - [Proven Safety Countermeasures, 2017](#)
 - [Separated Bike Lane Planning and Design Guide, 2015](#)
- [U.S. Department of Justice](#)
 - [ADA Standards for Accessible Design, 2010](#)

State Resources

- [New Jersey Department of Transportation \(NJDOT\)](#)
 - [Bicycle & Pedestrian Master Plan, 2016](#)
 - [Bicycle Safety Action Plan & Toolbox, 2016](#)
 - [Complete Streets Design Guide, 2017](#)
 - [Guide to Creating a Complete Streets Implementation Plan, 2012](#)
 - [Making Complete Streets a Reality: A Guide to Policy Development, 2011](#)
 - [Pedestrian Safety Action Plan & Toolbox, 2014](#)
 - [Roadway Design Manual, 2015](#)
 - [School Zone Design Guide, 2014](#)
 - [Smart Transportation Guidebook, 2008](#)
- [New Jersey Department of Environmental Protection](#)
 - [Stormwater Best Management Practices](#)
- [New Jersey Future](#)
 - [Green Infrastructure Municipal Toolkit, 2018](#)
 - [Developers' Green Infrastructure Guide, 2017](#)
- [North Jersey Transportation Planning Authority \(NJTPA\)](#)
 - [Public Engagement Toolkit](#)
- [Rutgers University](#)
 - [Green Infrastructure Guidance Manual, 2015](#)
- [Tri-State Transportation Campaign \(TSTC\)](#)
 - [New Jersey Complete Streets Liability Primer](#)

National Park and Recreation Association Fact Sheets

- [Safe Routes to Parks Action Framework](#)
- [Safe Routes to Parks Resources and Guides](#)
- [Safe Routes to Parks Equity Guides](#)
- [Safe Routes to Parks Community Engagement Fact Sheet](#)

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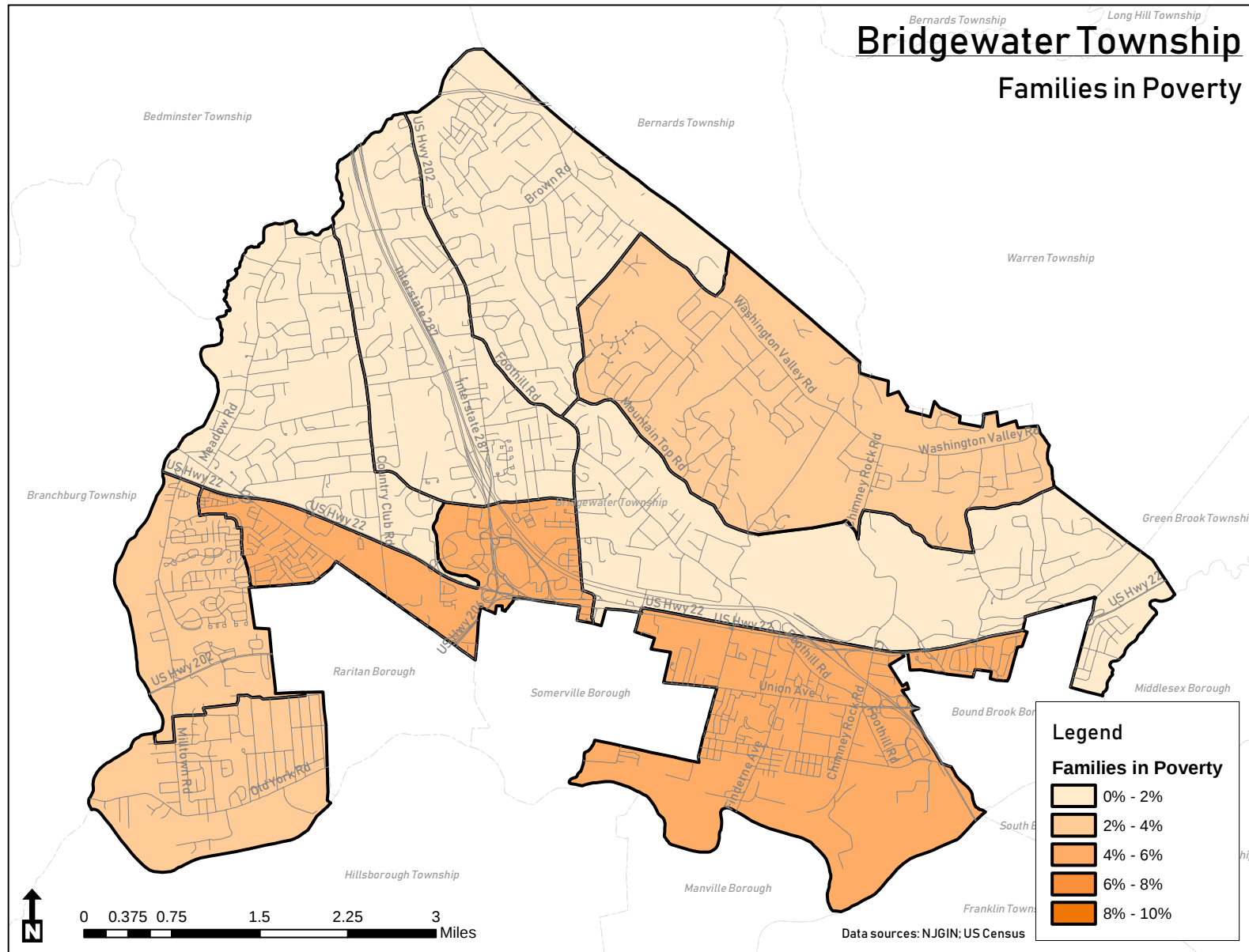
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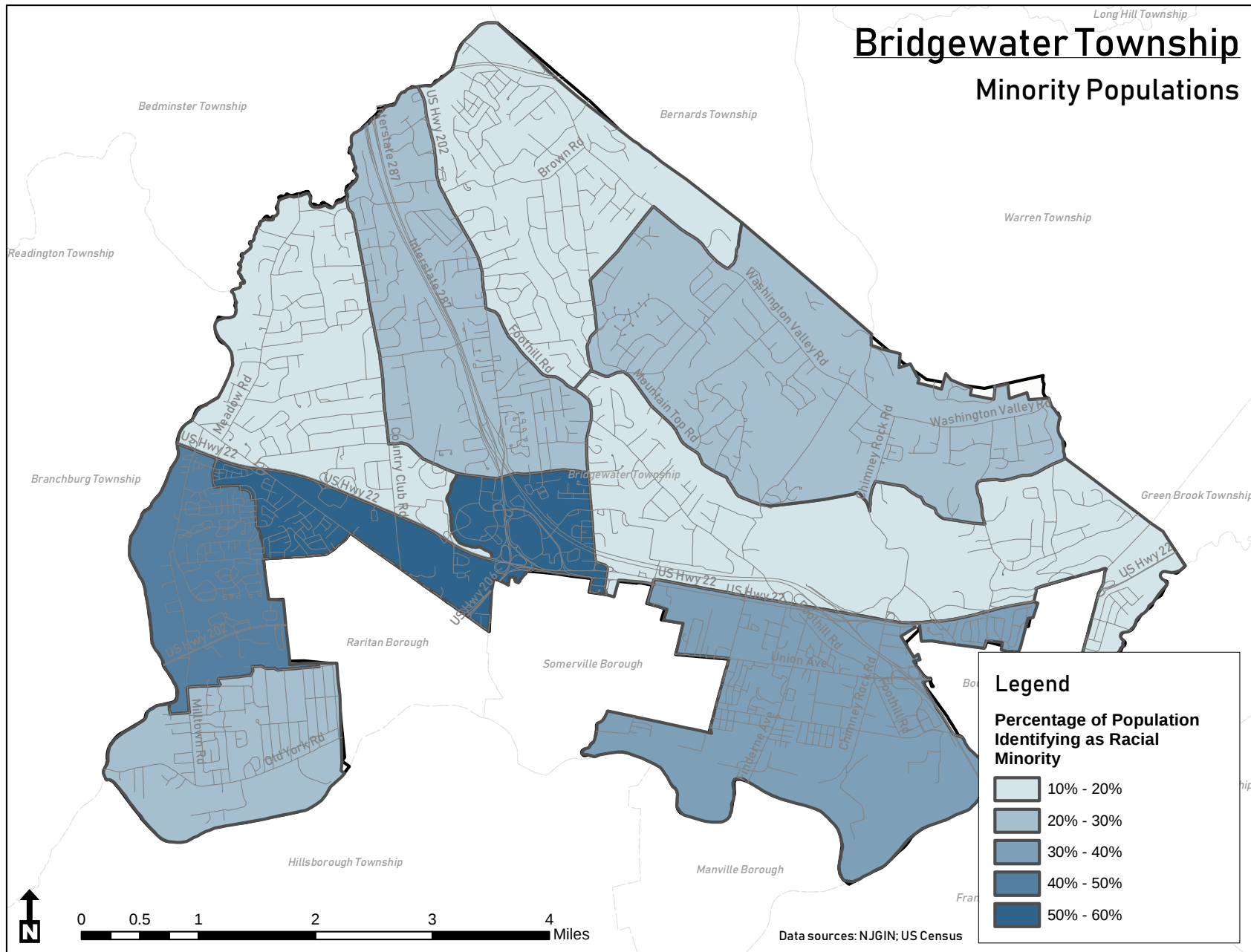
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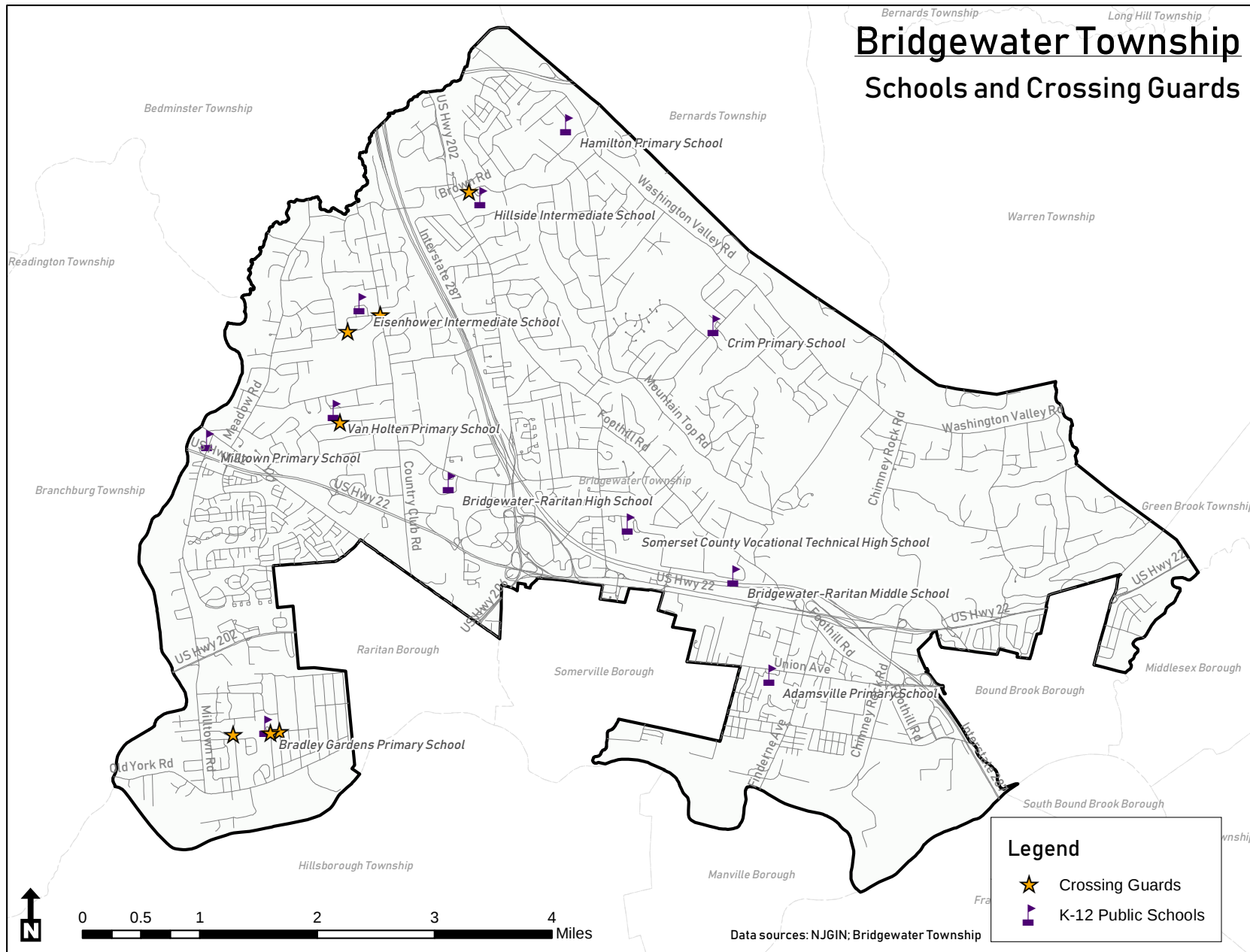
Appendices

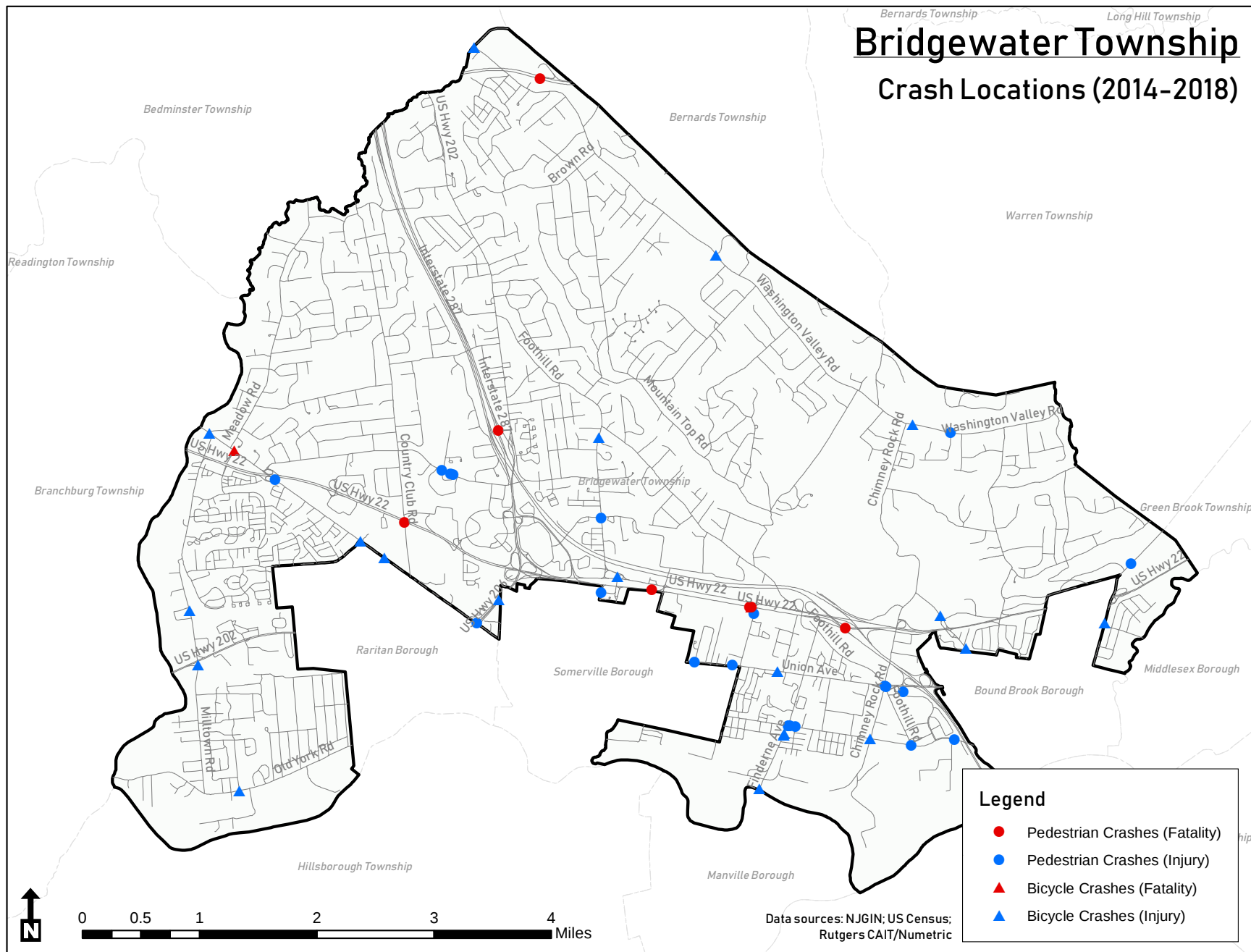


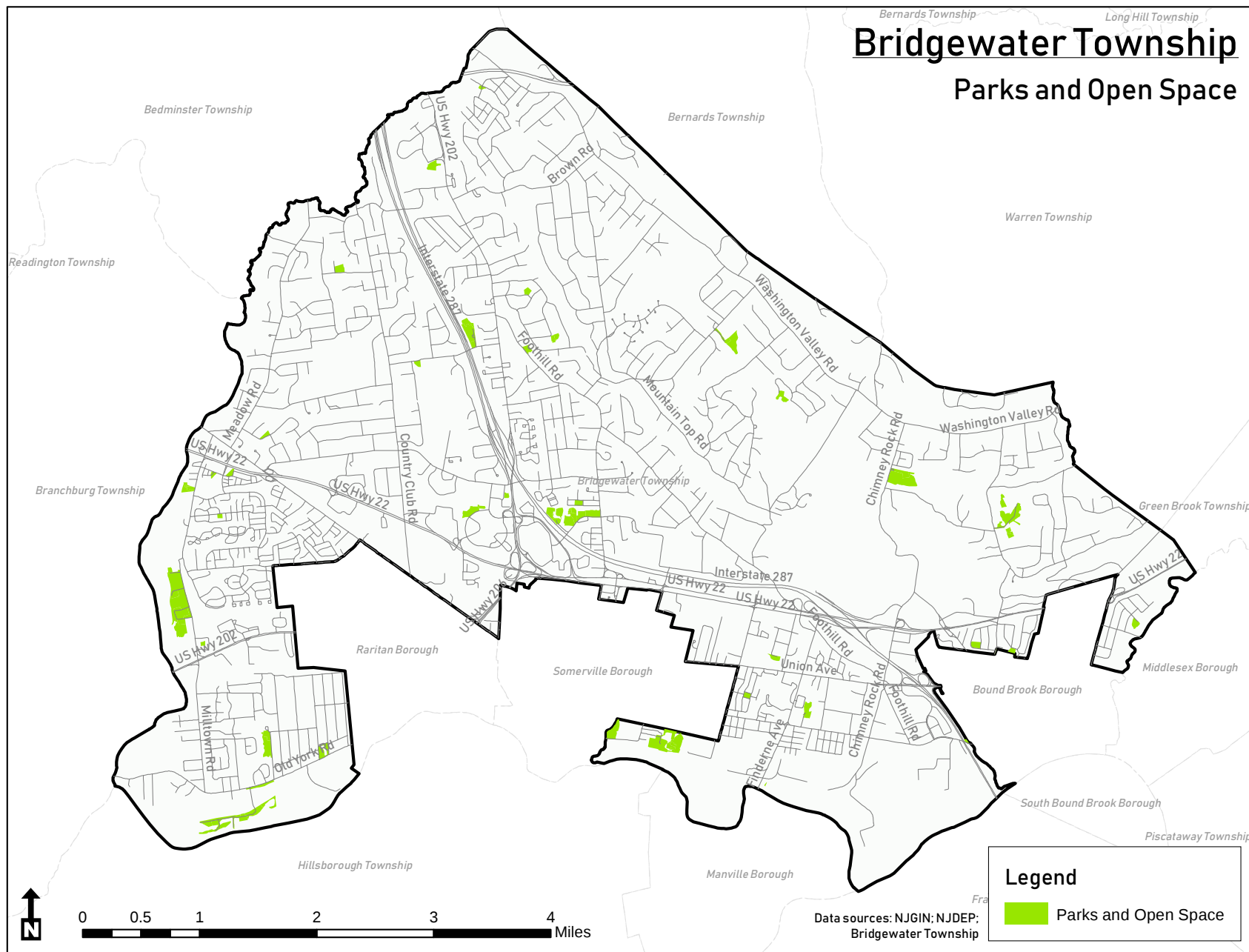
A. Maps

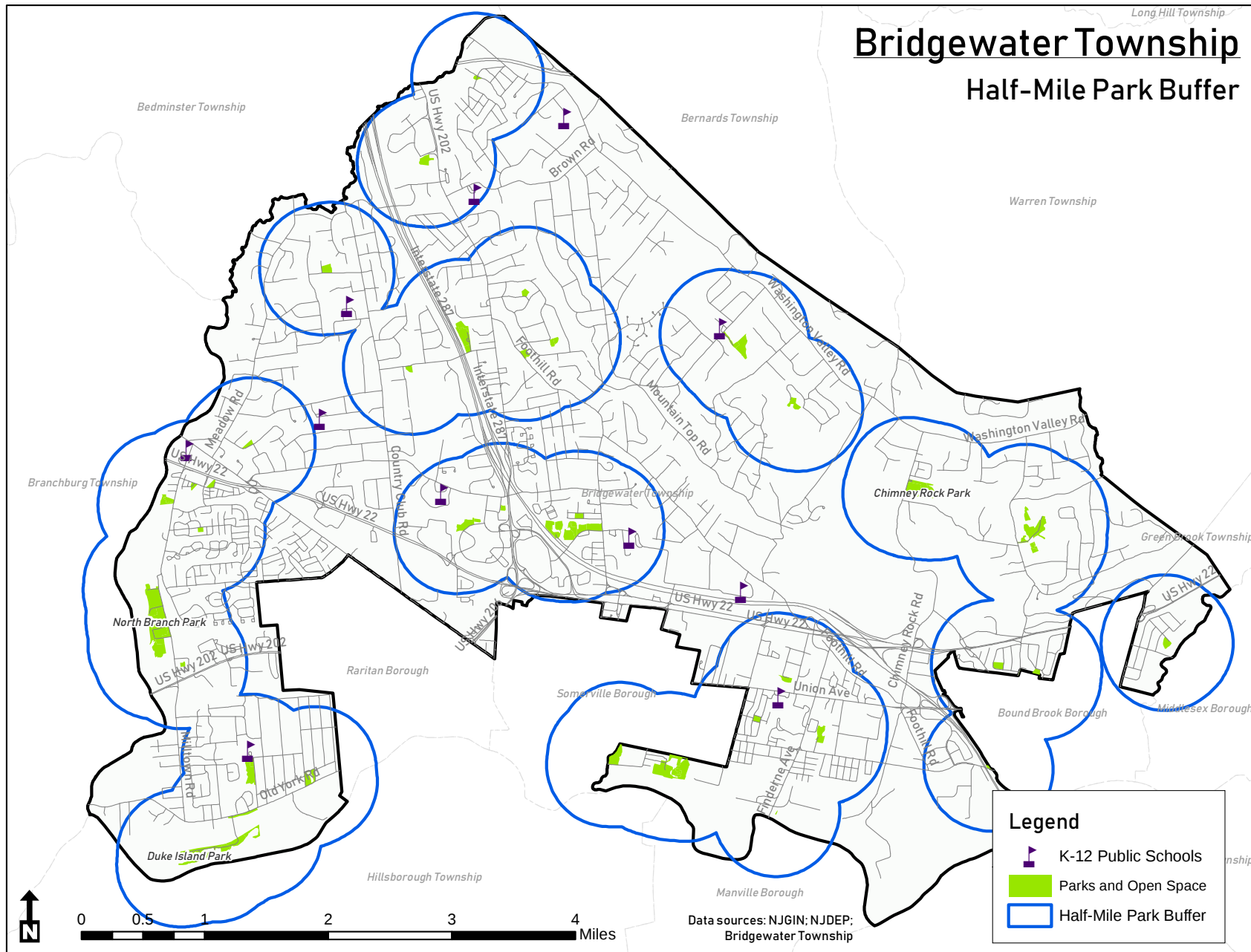


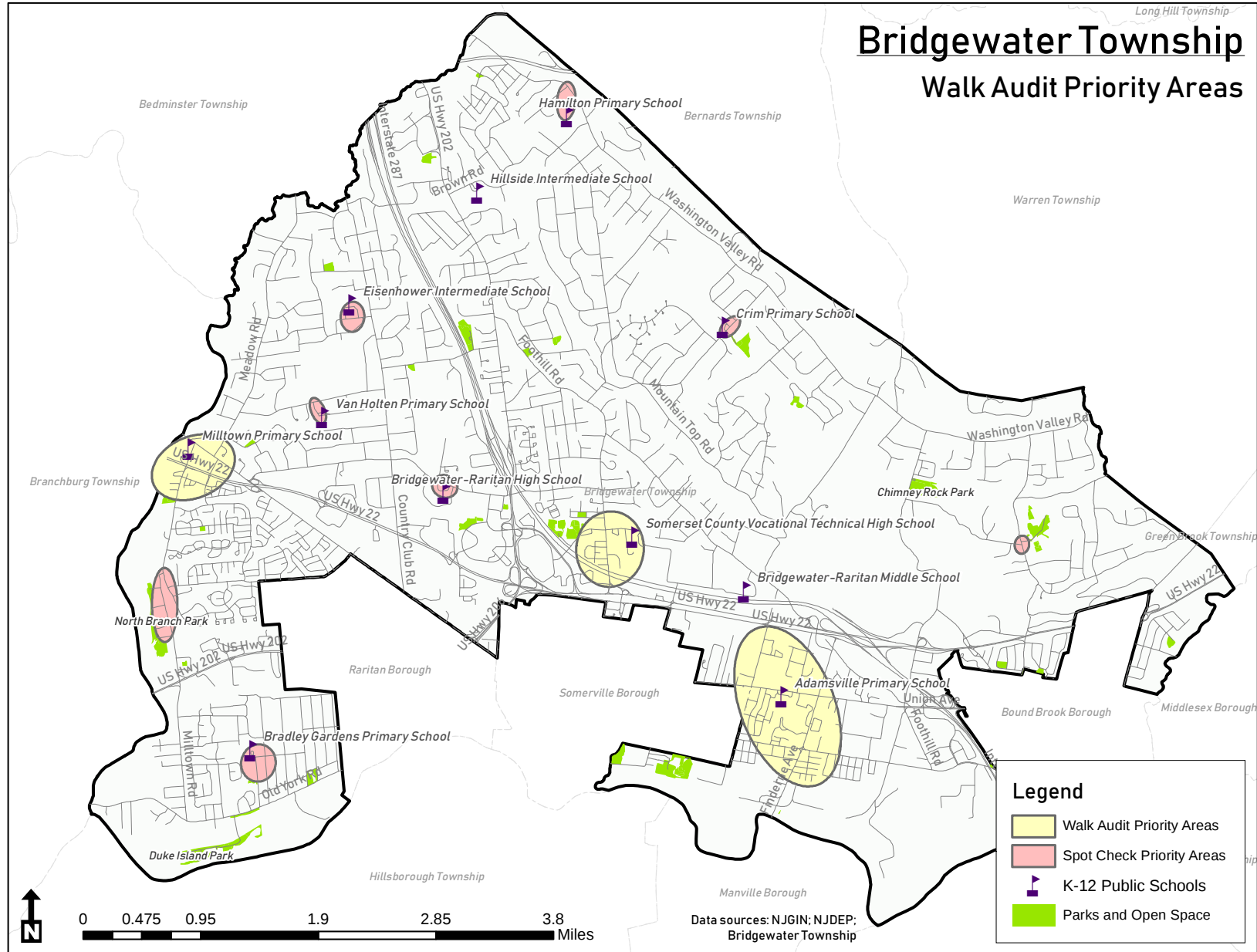












Appendices

B. Meeting Agendas

May 30, 2019 Meeting Agenda & Notes

Bridgewater Pedestrian & Bicycle Plan Steering Committee Meeting

Thursday May 30, 2019

10:00 AM - 12:00 PM

100 Commons Way

Bridgewater Township, NJ 08807



Purpose: To review findings from data collection and mapping and next steps for conducting walkability/bikeability assessments

I. Welcome & Introductions

The members of the VTC/RideWise Team and the project steering committee introduced themselves to the group [see sign-in sheet].

II. About the Project

Leigh Ann Von Hagen from VTC introduced the project, providing an overview of the Safe Routes to School initiative and a timeline for the completion of the Bridgewater Bicycle and Pedestrian Travel Plan, including site audits and preparation of a final report.

III. Background Data & Information

Leigh Ann presented findings from initial background research. Bridgewater-Raritan District school principals completed a survey about school travel. Results showed that a majority of students travel to school by bus (about 85%) while a substantial number arrive by car (about 13%). According to school principals, very few students walk or bike to school. The school principals also identified the the top two intersections in need of improvements to make them safer for students to walk and bike, including the intersection of Washington Valley Road and Frohlin Drive. Speeding on Crim Road was identified as a significant issue, and the placement of a speed radar along that road was discussed.

A crash analysis showed that 75 bicycle and pedestrian crashes occurred between 2014 and 2018, including 8 fatalities. Many of these crashes occurred between 2 and 4 pm, indicating that afterschool hours are important time period to focus enforcement efforts. Of the 75 crashes, 57% involved people walking and 43% involved people on bicycles. Of the 48 crashes that could be mapped, most were located in the southern part of town, with many crashes near the Adamsville Primary School.

IV. Selecting priority routes to analyze – Group Discussion

As a group, the steering committee members discussed priority areas for walkability and bikeability assessments. Based on the data gathered and the discussions, four areas for site audits were identified:

1. Area surrounding Adamsville Primary School
2. Area surrounding Milltown Primary School
3. Area surrounding North Bridge ballfields and Somerset County Vo-Tech School, including the Public Library
4. Area surrounding Van Holten Primary School and Eisenhower Intermediate School

In addition, three areas for potential “spot checks” were identified:

1. Area surrounding Hamilton Primary School
2. Area surrounding Crim Primary School
3. Area surrounding North Branch Park
4. Area surrounding Bridgewater-Raritan High School

The VTC/RideWise Team will contact steering committee members with options for dates for conducting site assessments.

V. Next Steps

- a. Data and Public Input needs
 - i. Student Travel Mode Tallies
 - ii. Health data
 - iii. Municipal & School Policies
 - iv. Public input options
- b. Sustainable Jersey/ SJ for Schools Actions
- c. Review process

The VTC/RideWise Team Contacts:

Leigh Ann Von Hagen, VTC – (848) 932-2854 lavh@ejb.rutgers.edu

Sean Meehan, VTC – (848) 932-2860 smeehan@ejb.rutgers.edu

Jon Dugan, RideWise - (908) 704-1011 ext. 11 jon@ridewise.org

October 8, 2019 Meeting Agenda

Bridgewater Pedestrian & Bicycle Plan Steering Committee Meeting

Tuesday October 8, 2019

2:00pm

100 Commons Way

Bridgewater Township, NJ 08807



Purpose: To review findings from walkability/bikeability assessments and discuss initial recommendations and next steps.

- I. Welcome & Introductions
- II. About the Project & Refresher
 - a. Report outline highlighting other sections (TOC)
 - b. Refresher on background
- III. Walk Audits
 - a. Audits & Spot Checks
- IV. Bridgewater National Night Out
 - a. Posters
 - b. Top Concerns
- V. Recommendations
 - i. Education, Encouragement, Evaluation & Enforcement
 - ii. Engineering & Parks & Trails
 - iii. Municipal & School Policy
- VI. Next Steps

Contacts:

Leigh Ann Von Hagen, VTC – (848) 932-2854 lavh@ejb.rutgers.edu

Sean Meehan, VTC – (848) 932-2860 smeehan@ejb.rutgers.edu

Jon Dugan, RideWise - (908) 704-1011 ext. 11 jon@ridewise.org

C. Bridgewater Complete Streets Resolution vs. Sustainable Jersey Requirements

Sustainable Jersey Action Title: Complete and Green Streets for All – Municipal Submission worksheet

Complete this worksheet to ensure your municipal submission meets the requirements of the Sustainable Jersey Complete and Green Streets for All action. Check the boxes that apply and upload this worksheet as part of your submission. This action is based on NJ Department of Transportation's Complete and Green Streets for All Model Policy and Guide. To download visit www.state.nj.us/transportation/eng/completestreets/resources.shtm The requirements under this action are new as of January 2020.

Municipal adoption of the Policy in its entirety (all three tiers outlined below) (25 points)

Tier 1: Adopt a Complete and Green Streets Policy through Resolution or Ordinance (10 points)

Tier 2: Adopt a better Complete and Green Streets Policy through Resolution or Ordinance - which includes checklists, advisory body, training, list of plans to update (10 points)

Tier 3: Adopt the best Complete and Green Streets Policy through Resolution or Ordinance - which contains Benchmarks in your policy (5 points)

This action is worth a maximum of **25 points**. Municipalities can achieve 10 points for Tier 1, 10 points for Tier 2, and 5 points for Tier 3.

Notes:

1. ***Municipalities that adopt the model policy through resolution or ordinance in its entirety will be eligible for 25 Sustainable Jersey points and it is equivalent to achieving Tier 3 of this action.***
2. Municipalities that have undertaken and completed a project that uses a Complete Streets approach should submit under the action - "Bike and Pedestrian Improvement".
3. Municipalities that are ***interested in updating an existing policy*** in order to apply for Sustainable Jersey points should review the worksheets for each of the Tiers - shown below - to evaluate their existing policy and identify areas that would need to be revised to meet the action requirements. The worksheets below outline in detail the requirements for each of the Tiers 1 - 3, of the Complete and Green Streets for All action. The worksheets provide information that a municipality can use to determine how far along the continuum towards a comprehensive approach they are ready to undertake.
4. If you would like ***review of your draft*** Complete and Green Streets policy ***prior*** to formal adoption in order to make sure it meets Sustainable Jersey requirements, please contact:
New Jersey Safe Routes to School Resource Center
Edward J. Bloustein School of Planning and Public Policy
Rutgers, The State University of New Jersey
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The Center is supported by the New Jersey Department of Transportation through funds provided by the Federal Highway Administration.

For Municipalities that modified the Model Complete and Green Streets Policy and adopted it via Resolution or Ordinance - use worksheets for each tier that applies to your municipality.

These worksheet are for municipalities that modified the model policy and/or resolution. The completed worksheet will assist in ascertaining if the policy adopted either by resolution or ordinance meets the action requirements.

Municipality Name: Bridgewater Township		County: Somerset County
Review/Submission Date: January 30, 2020		Completed by: Leigh Ann Von Hagen
Tier 1 - Adopt a Complete and Green Streets Policy via Resolution 10 Points	Yes	Comments
On the Sustainable Jersey website for this action please submit:		
Description of Implementation (300-word narrative) For Tier 1 Submissions: On the Sustainable Jersey website please Include in the description of implementation box, how and what modifications your municipality made to the model policy.	☐	n/a
Upload a signed copy of the municipally adopted Complete Streets Policy via Resolution or Ordinance NOTE: Use the worksheet checkboxes below to review the policy and resolution to ensure it meets the requirements. Again, this worksheet is for municipalities that have not used the entirety of the model policy and resolution. When reviewing your policy, items a) - k) are often included in the Complete Streets Resolution while items 1)-8) are often included in the Complete Streets Policy. The worksheet outlines the minimum required statements for the policy adopted via resolution.	☐	n/a
Complete Streets Resolution: To receive points for the resolution - the resolution is required to include language to address each of the following check box topics :	✓	Resolution adopted Oct. 2, 2017
a) A definition of Complete Streets and a statement that a Complete Streets approach is a priority for your municipality (by name); and <i>(policies that weaken language with phrases such as “when feasible, if possible, if reasonable, etc. will not receive SJ points.)</i>	☐	Policies that include statements such as “Whenever it is reasonable and feasible to do so” will not receive SJ points.
b) States a commitment to create a comprehensive, integrated, connected and equitable multi-modal transportation network within the community that supports the goals of the Master Plan and supporting elements; and	✓	
c) States an intent to plan, design, construct, maintain and operate new, resurfacing projects, reconstruction, and retrofit transportation facilities to meet the needs of all users of all ages and abilities along the entire right-of-way; and <i>(Policies that exclude maintenance will not receive SJ points).</i>	☐	Policies that exclude maintenance will not receive SJ points.

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c) Specifies the definition of “all users” which should include motorists, bicyclists, pedestrians, public transportation vehicles and their passengers, delivery trucks and movers of commercial goods, persons with disabilities, older adults, and residents of Priority Communities; and <i>(See priority community definition in model policy guide - use NJDOT website citation)</i>	☐	All users is well-defined in the current policy, however priority communities of underserved or marginalized populations should also be defined (e.g. low-income concentrations, carless households, minority concentrations, etc.) and included in the policy.
d) Identifies the purpose of the policy which should include: to allow for safe, accessible, and convenient travel, reduce serious injuries and fatalities for all users of the roadway, streets allow for multiple modes of travel, aside from personal automobiles, so that those who are unable to drive, who cannot afford a car, or choose to reduce their car usage may travel by transit, by bicycle, or on foot safely; and	☐	The current policy includes “creating a comprehensive, integrated, connected street network”
e) The municipality (named) affirms that traffic crashes are preventable and the only acceptable number of traffic deaths for is zero; and	☐	Not in current policy
f) Addresses how Complete Streets that utilize Green Infrastructure, traffic calming, shade trees, and recycled materials, can protect and create a healthier natural and social environment by improving air and water quality and reduction of local flooding; and	☐	Not in current policy
g) Addresses how Complete Streets enhances access to local businesses, encourages reinvestment, increases property values and employment, and stimulates private investment, especially in retail districts, downtowns, and tourist areas; and	☐	Not in current policy
h) States how Complete Streets encourage an active lifestyle through increased physical activity, social connectivity, and sense of community belonging, thereby lowering risk of obesity, reducing chronic disease, improving mental health, and promoting wellness; and	☐	Not in current policy
i) Provides for procedures that ensure fair treatment, equitable funding and resource distribution, and meaningful involvement of all communities in all phases from selections, planning, and design to construction and long-term maintenance; and	☐	Not in current policy
j) States how low-and moderate-income areas, whether in rural, urban, or suburban communities, are typically the least safe for pedestrians and bicyclists, especially children walking and biking to school, due to an existing road network that contains higher concentrations of streets with faster-moving and higher-volume traffic; and	☐	Not in current policy
k) Includes the Statement: NOW THEREFORE, BE IT RESOLVED, by the [municipality], the [municipality] adopts the Complete Streets Policy attached, and made a part of this Resolution;	☐	No policy included with the

[illegible]

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3. Define how the municipality and its professionals (planners and engineers) shall routinely work in coordination with each other and adjacent jurisdictions, and any relevant advisory committees/teams, to create Complete and Green Streets and to ensure consistency with the <i>[Municipal/County]</i> Master Plan and Elements and any other existing Pedestrian/Bicycle/Multimodal Plans, Stormwater Management Plans, Pollution Prevention Plans, and Historic Preservation Plans.	☐	Not in current policy
4. Pledge that within two years of the effective date of this Policy, the [planners and/or engineers or municipally designated group] shall inventory and audit procedures, policies, plans, documents, training programs, performance measures and other guidance documents to be consistent with this policy. The purpose of this audit is to identify areas where tenets of this policy will need to be incorporated. This includes, but is not limited to, funding, planning, designing, operating, and maintaining transportation infrastructure. The [planners and/or engineers or municipally designated group] will use this audit to incorporate this policy as updates to its procedures, plans, policies, etc. as they are scheduled.	☐	Not in current policy
5. State that Transportation projects and Master and Capital Improvement Plans shall include, when appropriate, sustainable design elements, including, but not limited to: a. Green stormwater infrastructure practices b. Traffic Calming c. Shade trees and other vegetation d. Rain gardens e. Bioswales f. Permeable pavements — including those made from recycled materials such as rubber, concrete, glass, and plastic.	☐	Not in current policy
6. State that Transportation projects and Master and Capital Plans shall include, where appropriate, pedestrian and bicycle design elements and transit amenities, including but not limited to: curb extensions, sidewalks, radar feedback signs, pedestrian countdown signals, pedestrian refuge islands, road diets, lane width reductions, chicanes, roundabouts, bike lanes, protected bike lanes, bike parking, lighting, wayfinding, seating, trash receptacles, transit amenities, etc.	☐	Not in current policy
7. State that the <i>[governing body]</i> shall utilize the most current editions of guides, manuals, and best practices on street design, historic preservation, construction, operations, and maintenance that apply to bicycle, pedestrian, transit, stormwater and highway facilities. All manuals, standards, and guidelines shall be made publicly available online.	☐	Not in current policy
8. State that the <i>[person to be identified by the governing body]</i> shall lead the implementation of this Policy and formally coordinate with <i>[planner, engineer, economic development, public works, health, etc.]</i> with advice and input from <i>[Planning Board, Complete Streets advisory committee, Land Use Committee, Green Team, etc.]</i> to set measurable goals to ensure the successful implementation of the Complete Streets Policy in Priority Communities.	☐	Not in current policy
9. Define Exceptions - Exceptions to the policy needs to be contingent upon the presence of specific safety concerns and set a clear procedure that requires high-level approval prior to granting exceptions, in	☐	There are several exemption statements in the current policy,

writing. For example an exceptions statement such as: Exceptions: 1. A transportation project may not be required to accommodate the needs of a particular user group if the <i>[person to be identified by the governing body]</i> determines in writing that: a. The use of the transportation facility by the particular user group is prohibited by law; b. Regulatory compliance requirements preclude accommodations. c. There is a demonstrated absence of both a current and future need to accommodate the category of user (absence of future need may be shown via demographic, school, employment, and public transportation route data that demonstrate, for example, a low likelihood of bicycle, pedestrian, or transit activity in an area over the next 20 years); and d. The adverse impacts of implementing this Complete Streets Policy significantly outweigh the benefits. However, every effort to work within the flexibility allowed should be made, including Design Exceptions for roadway projects. 3. An exception shall be granted only if: a. Request for an exception is submitted in writing, with supporting documentation, and made publicly available with a minimum of 30 days allowed for public input; and b. The exception is approved in writing to the <i>[governing body]</i>, and the written approval is made publicly available.		however there is no process listed that defines a clear procedure and/or high-level approval process in writing.
10. Effective Date: Stating when the Complete Streets checklist shall take effect. For example: The Complete Streets Policy shall take effect on <i>[date]</i>, provided that it shall not apply to any transportation project for which a preliminary design has been completed on or before <i>[date]</i>.	☐	Not in current policy
Upload this Worksheet - completed	☐	n/a

NOTE: This worksheet details the requirements for Tier 1 of the Complete and Green Streets for All Sustainable Jersey action. To view the requirements for Tiers 2 and 3 of this action, visit the Actions & Certification page at Sustainable Jersey, sustainablejersey.com/actions-certification/

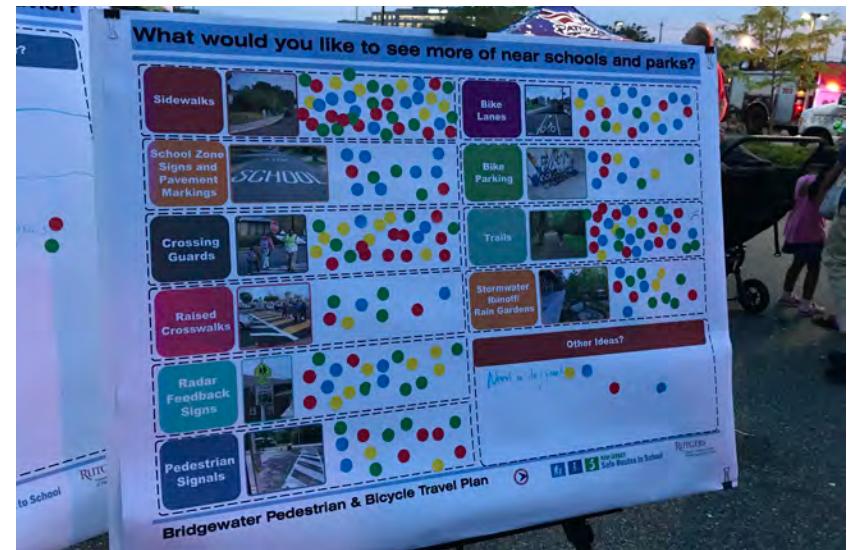
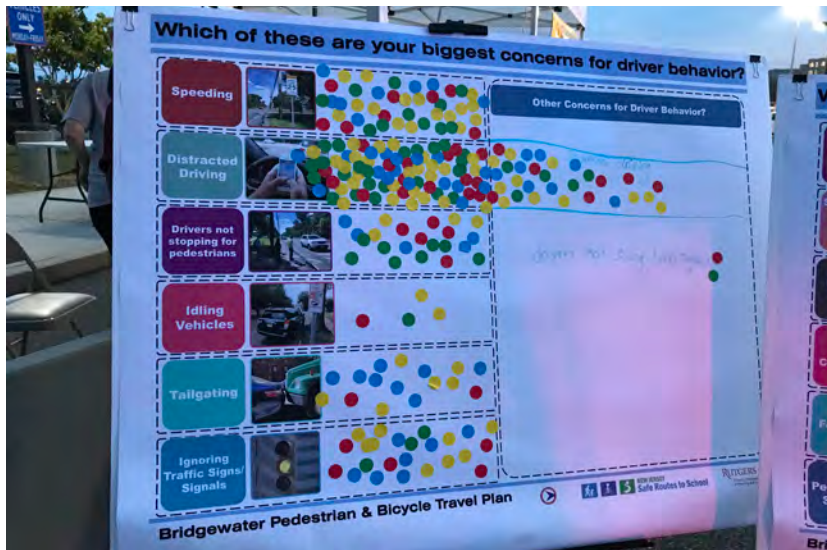
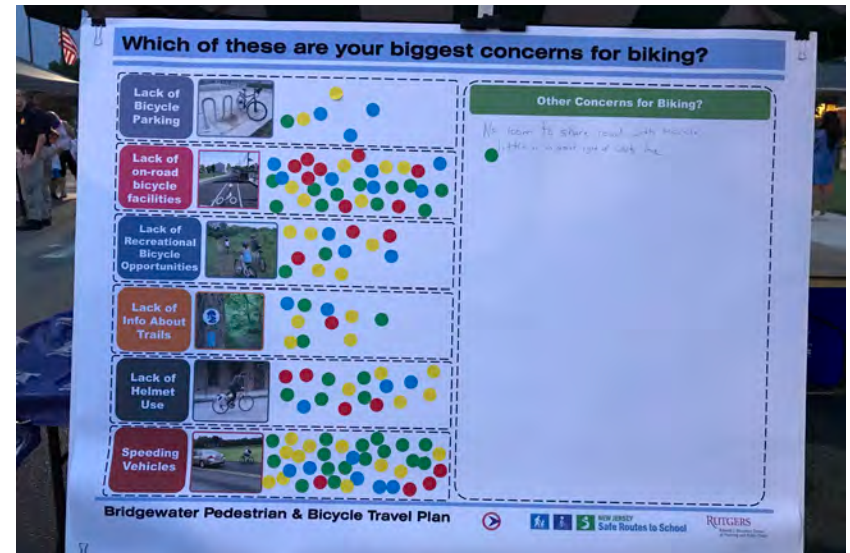
Tier 2: Adopt a better Complete and Green Streets Policy through Resolution or Ordinance - which includes checklists, advisory body, training, and list of plans to update (10 points)

Tier 3: Adopt the best Complete and Green Streets Policy through Resolution or Ordinance - which contains Benchmarks in your policy (5 points)

Appendices

D. Public Engagement Dot Board Results

August 6, 2019 - National Night Out



E. Model Policies & Best Practices

Model School Wellness and Active Transportation Policies

A school wellness policy outlines a school or district's goals for nutrition promotion, nutrition education, and physical activity. The Alliance for a Healthier Generation offers a step-by-step process for updating a school wellness policy, including a Model Wellness Policy based on evidence-backed best practices and supported by the New Jersey Department of Health. Information can be found at <https://www.healthiergeneration.org/take-action/schools/wellness-topics/policy-environment/local-school-wellness-policy/refresh-your>.

Active transportation policies outline goals and activities that support active transportation to and from school. The NJ Safe Routes to School Resource Center provides a model Safe Routes to School Active Transportation Policy for New Jersey School Districts, which can be found here: <http://www.saferoutesnj.org/resources/tools-tips-and-more-2/>.

Complete & Green Streets for All: Model Complete Streets Policy & Guide

This guide, published by NJDOT in 2019, serves as a resource for New Jersey municipalities, counties, and agencies interested in implementing Complete Streets in their communities. The guide provides a Model Complete Streets Resolution, which cites and officially adopts the policy, as well as a Model Complete Streets Policy, which describes how the policy will be implemented. The Model Policy incorporates best practices and meets Sustainable Jersey's high standards for adopting and implementing Complete Streets.⁶⁴ The Model Policy also includes mechanisms for public participation in the planning process, as well as procedures for tracking implementation progress. The guide can be found here: https://www.state.nj.us/transportation/eng/completestreets/pdf/CS_Model_Policy_2019.pdf.

FHWA Proven Safety Countermeasures

In 2008, the Federal Highway Administration (FHWA) began promoting certain evidence-backed infrastructure-oriented safety strategies and treatments to reduce serious injuries and fatalities on American highways, known as Proven Safety Countermeasures. Updated in 2012 and 2017, the list now includes 20 strategies and treatments that address roadway safety for motorists, pedestrians, and cyclists. Detailed information on Proven Safety Countermeasures, including design recommendations and safety benefits, can be found at <https://safety.fhwa.dot.gov/provencountermeasures/>.

New Jersey Residential Site Improvement Standards

The New Jersey Residential Site Improvement Standards (RSIS) establish Statewide requirements for improvements made in connection with residential development, including streets and parking, water supply, sanitary sewers and stormwater management. (N.J.A.C. 5:21-4.5 New Jersey Register, Vol. 49 No. 12, June 19, 2017).

The Standards require that sidewalks are provided for developments where the minimum lot size is less than one acre and the project is located within 2,500 feet of a train station, public or school bus route, or existing recreational, business or retail use. Sidewalks are also required for developments where the minimum lot size is less than two acres and the project is located within two miles of a school. The complete RSIS can be found here: https://www.state.nj.us/dca/divisions/codes/codereg/pdf_regs/njac_5_21.pdf. Requirements for sidewalks are found in Section 5:21-4.5.

