Safe Routes to School Program

Thurgood Marshall Elementary School Travel Plan

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DISCLAIMER

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Executive Summary

A Safe Routes to School (SRTS) Travel Plan is a resource to encourage and increase the number of students walking or bicycling to school. It provides directions for schools, students, families and the city to build a safer walking and biking environment for residents.

School Travel Plans are site specific and describe the needs of each particular school being studied. The plan includes observations, ideas and an action plan to address issues and problem areas. The Plan covers five aspects of the Safe Routes to School program – Education, Encouragement, Enforcement, Evaluation, and Engineering.

The School Travel Plan outlines the timeframe and funding priorities to support a coordinated schedule of streetscape improvements. In fact, the New Jersey Safe Routes to School (SRTS) infrastructure funding program strongly recommends applicants to have an approved School Travel Plan in order to apply for a grant.

1. Goals

The goals of the Thurgood Marshall Elementary School Travel Plan are:

a. Identify any issues that impact safety on the key routes used by students
b. Provide suggestions to improve the safety of the travel environment around school
c. Identify ways to reduce traffic congestion
d. Prioritize the suggestions in terms of cost and time needed to make improvements
e. Implement solutions to improve safety and encourage more students to walk and bike to school

2. Task Force

This School Travel Plan is the product of a productive partnership. The Thurgood Marshall Elementary School SRTS Task Force came together out of the School Health Council's discussion about a child who was robbed while walking home from school and a concern regarding safety due to drop off and pickup procedures and traffic concerns. The involvement of local stakeholders is an important part of ensuring the sustainability of the SRTS initiative and the Action Plan.

3. Community Barriers to Health

According to the Community Health Needs Assessment Survey conducted 2011-2015 by Meridian Health, many residents in Monmouth County do not meet federal standards for healthy eating and physical activity. Weight issues indicate that more exercise is a need. Top concerns identified include:

a. Physical fitness is limited and needs to be encouraged and increased
b. The current percentage of children who are overweight or obese is in Monmouth County 24.6%.
c. The current percent of overweight adults in Monmouth County is 67.1%

4. School Travel Data

In February 2016, the Thurgood Marshall Elementary School teachers conducted a School Travel Tally to determine how students travel to and from school. Approximately 52 percent of the children walk to school, 3 percent carpool to school, 19 percent rode the school bus, 22 percent are driven in family vehicles to school, one percent rode their bicycles to school, and less than one percent took public transit to school. The study shows that 55 percent of students walk home, 21 percent rode the school bus home, 20 percent were driven home, less than a percent took public transit home, three percent carpooled home, and less than a percent rode their bikes home.

5. Barriers and Opportunities Identified for Safer Walking & Biking

The Safe Routes to School Task Force, and Community Partners from the City of Asbury Park, conducted a walkability assessment of the road conditions around Thurgood Marshall School on May 19, 2016. The major intersections near Thurgood Marshall Elementary School include:

1. Monroe Ave. & Bond St., Monroe Ave. & Emory St. and Monroe Ave. & Grand Ave.
2. Main St. & Monroe Ave., Bond St./Main St. & Asbury Ave., Bond St. & Sewall Ave.
3. Summerfield Ave. & Bond St. and Summerfield & Emory St.

Key opportunities for bicycle and pedestrian infrastructure safety improvement around Thurgood Marshall Elementary School include: restriping lines, stop bars and crosswalks so they are visible to drivers and pedestrians, adding traffic calming measures such as speed limit and school zone signs, SLOW SCHOOL ZONE pavement markings, and flashing stop signs, and installing pedestrian countdown or traffic signal heads to help walkers cross safely. There is a charter school on Monroe & Grand and these improvements will also benefit their students who walk/bike.

6. Action Plan

The Safe Routes to School program categorizes the Action Plan into the "Five E's:" Education, Encouragement, Enforcement, Evaluation and Engineering. This is a useful tool because it helps the school prioritize next steps. In a particular community, some of the action plan elements may be more urgently needed than others. While some elements will be prioritized, there will be short-term actions that can take place quickly under each E. This School Travel Plan recommends a number of improvements that can be made to encourage safe walking and biking. The action plan can be used to support SRTS and other Federal or State grant applications to fund bicycle and pedestrian infrastructure improvements.

<u>Key Actions/Recommendations in Action Plan include:</u>

- Install pedestrian countdown/traffic signal heads and push buttons to existing signals at Main & Monroe, Main & Asbury, Main & Bangs, and Main & Cookman. Same on Memorial Dr. to help walkers cross railroad tracks safely.
- Slow traffic by installing flashing stop signs and SLOW SCHOOL ZONE pavement markings on Monroe Ave., Bond St., Summerfield Ave. and Emory St. near school.
- Install high visibility crosswalks and restripe faded crosswalks and stop sign bars
- Install bike lanes, sharrow markings or signs to alert drivers that students are biking
- Revise District plan for drop off/pickup as safety issues observed with car congestion. Promoting walking/biking will reduce traffic congestion and improve student health.

1. Walking and Cycling to Health

1.1 The Challenge

Over the past few decades, a number of societal and environmental changes have limited children's access to safe places where they can walk, bike and play. For example, increased traffic, neighborhoods that lack sidewalks and urban sprawl have contributed to a sharp decline in the number of students who walk or bike to school. Nationally, while 42 percent of children walked or biked to school in 1969, only 13 percent of children did so in 2001. Additionally, the popularity of television and video games as a means to entertain children has contributed to a more sedentary lifestyle. As a result, children and adolescents are less physically active than they were several generations ago.

The decrease in walking and biking to school and less physical forms of play has resulted in an alarming increase in childhood obesity. During the past four decades, the obesity rate for children ages 6 to 11 has more than quadrupled (from 4.2 to 17 percent), and the obesity rate for adolescents ages 12 to 19 has more than tripled (from 4.6 to 17.6 percent) in the United states.

Developing policies and practices to address these environmental and social barriers to daily physical activity are critical to reducing and preventing obesity among children. Supporting "active transport" (or walking and bicycling) to school presents an excellent opportunity to increase daily physical activity among youth.[1]

1.2. The Program

Safe Routes to School (SRTS) is a federal program that encourages, teaches and enables children to safely bicycle and walk to school. The program aims to help children be more physically active with the intent to reduce chronic disease and prevent and reduce obesity. SRTS focuses on increasing the number of children walking and bicycling to school by building and repairing infrastructure such as sidewalks, crosswalks, and bicycle lanes. The program also encourages changes in travel behavior, supports increased enforcement of traffic laws around schools, and educates communities on the benefits and safety aspects of active transport. This report summarizes research on active transport to school, physical activity levels and health outcomes. It also explores the factors that influence walking and biking to school, including the impact of SRTS programs.

The SRTS Program is a collaborative effort of multiple stakeholders that include community members, elected officials, city planners, and police departments. SRTS brings a community closer together by implementing programs such as walking school buses, walkability assessments, bicycle rodeos and pedestrian safety presentations. The benefits of SRTS extend far beyond the schools into the community as a whole.

[1] Walking and Biking to School, Physical Activities and Health Outcomes, Robert Wood Johnson Foundation

In addition to keeping residents physically active and healthy, community spaces that promote walking can draw people together safely and provide more opportunities for people of all ages and abilities to stay socially connected and engaged. Local areas with good pedestrian networks can also have substantial economic and environmental benefits to a local area.

Towns and cities that develop recreational programming that encourages the use of pedestrian networks, infrastructure, trails, or walkable facilities can help revitalize a downtown, increase private investment, increase property values, promote tourism, and support the development of a good business climate. A growing body of research connects higher property values and economically sound communities to better walkability and closer proximity among certain neighborhood destinations, including houses, parks, schools, businesses, services, and social venues.[2] Main streets can benefit economically from good sidewalks and the ability to easily and safely peruse shops, restaurants, and local services.

An SRTS Walkability Assessment and School Travel Plan "maps out" specific ways to improve pedestrian and bicycle travel to increase the number of students who walk and bike to school and to improve safety. A School Travel Plan is a report about the Walkability Assessment and identifies the following:

- Where students currently walk and bike?
- Where students would walk and bike if they could?
- What changes need to be made so that students can and will walk and bike to school?

The School Travel Plan identifies short term solutions for immediate action and implementation as well as long term solutions that may require planning and additional funds. Benefits of developing a School Travel Plan include:

- Creating partnerships between the school and surrounding community
- Generating ideas and actions so walking and bicycling is safer
- Building community excitement and support
- Making an application for a SRTS grant more competitive by demonstrating a connection between goals, actions and targets.

1.3. The Team

The New Jersey Department of Transportation (NJDOT) funds and administers the SRTS program in New Jersey, and the Voorhees Transportation Center (VTC) at Rutgers' University provides technical and administrative support.

[2] Alfonso, Mariela. "*Walk This Way: The Economic Promise of Walkable Places in Metropolitan Washington D.C.*" May 25, 2012. Accessed June 2016. https://www.brookings.edu/research/walk-this-waythe-economic-promise-of-walkable-places-in-metropolitan-washington-d-c/.

The actual implementation of the SRTS program at Thurgood Marshall Elementary School was undertaken by a group of organizations – Meadowlink/EZ Ride, The School Health Council, the Asbury Park District and BOE, School Administration and staff, PTO, and the City of Asbury Park.

Meadowlink/EZ Ride and SRTS

In New Jersey, Transportation Management Associations (TMAs) have taken the lead in coordinating the implementation of the SRTS programs. TMAs are non-profit organizations whose mission is to implement transportation programs and services like carpools, vanpools, shuttles, biking and walking that reduce congestion and improve air quality. Meadowlink/EZ Ride is one of eight Transportation Management Associations (TMAs) in New Jersey and primarily serves Bergen, Essex, Monmouth, Passaic and Union counties.

The SRTS team at EZ Ride has been working with the elementary schools and community in Asbury Park for several years.

Walk to School days are held monthly at the elementary schools and EZ Ride has brought in other community partners including Meridian Health and Monmouth University to provide incentives for children who walk or bicycle to school.

More than 300 bike helmets have been provided to Asbury Park students at community and school events such as National Night Out, Community Health and Wellness Fairs. We have promoted biking safety, taught bike hand signals using bike bars, and encouraged the schools to purchase and install bike racks. Two of the schools have purchased a small rack to encourage biking.

SRTS Bike rodeos were held at Bradley Elementary School on 5/20/16, Thurgood Marshall Elementary School on 11/11/14, 5/29/15 and 4/29/16 and at Barack Obama School on 4/22/15 ad 5/20/16. Rodeos provide skills training for students regarding helmet fitting and use, stopping, scanning, signaling and yielding to traffic. The Police Department helped to block streets and reinforce safety skills and a local bike shop, Second Life Bikes, offers simple bike repairs to help students.

SRTS Pedestrian Safety Presentations (PSPs) were done at Bradley School on 6/9/14 for 80 students in grades K-3. PSPs were held at Thurgood Marshall School on 6/10/14 to grade K-3 and on 5/16/16 to 375 grade K-5 students (the entire school) to teach kids how to use crosswalks, to stop and look both ways before crossing, to understand signals, and how to dress to be seen/safe.

Students also participated in a SRTS bookmark art contest at Thurgood Marshall School in spring 2015. In May 2016, 117 children submitted walking safety posters as part of an SRTS contest about walking safety.

School Travel Tallies were completed in January 2016 at Bradley Elementary and Walkability Assessments were conducted 5/10/2016 and 5/11/2016. Tallies were collected at Thurgood Marshall Elementary School in February 2016 and a walkability assessment was done on 5/19/16.

Thurgood Marshall Elementary School Health Council

This effort to improve safety at Thurgood Marshall Elementary School was initiated by the members of the School Health Council aka the Alliance for a Healthier Asbury Park and EZ Ride's Safe Routes to School Coordinator.

School administration and staff, PTO, Parent Liaison, City and Complete Streets Coalition members were invited to conduct a walkability assessment and to consider applying for a SRTS infrastructure grant to make safety improvements. A meeting was held with the City Planner to discuss a strategy and a date was scheduled to do the walkability Assessment on May 19th.

A key element of the SRTS program is to engage community groups and local stakeholders to support and sustain the SRTS program after the travel plan is completed. Their role is to implement the School Travel Plan within the community. A Thurgood Marshall Elementary School Travel Plan Task Force was established out of several School Health Council discussions and one meeting was held to collect information and build support for the program.

A list of the members of the Task Force who have been involved with the SRTS program and School Health Council or who attended the Walkability Assessment and their roles are included in the table below.

Thurgood Marshall Elementary School Travel Plan Task Force

Organization	Role/Responsibility	Contact
Thurgood Marshall Elementary School	Program Activity and Implementation	Mark Gerbino *Principal* Thurgood Marshall Elementary School 600 Monroe Avenue Asbury Park, NJ 07712 GerbinoM@asburypark.k12.nj.us
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SRTS Champion	Program Activity and Implementation	Cynthia Lo Castro District Physical Therapist

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Asbury Park Complete Streets Coalition	Coordinator	Paula Schildge pollihs@gmail.com
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The City of Asbury Park	Enforcement	Anthony G. Salerno, Jr.

		Acting Chief of Police Asbury Park Police Department One Municipal Plaza Asbury Park, New Jersey 07712 (732) 502-5792 FAX (732) 775- 3627 anthony.salerno@cityofasburypark.com
The City of Asbury Park	Engineering Project Implementation	Joel Fiore Traffic Patrol City of Asbury Park One Municipal Plaza Asbury Park, New Jersey 07712 (732) 502-5792
Meadowlink - Transportation Management Association	SRTS Program Assistance, Community Resource, Safety Education	Lisa Lee *Safe Routes to School Coordinator* Meadowlink 144 Park Place East Wood-Ridge, NJ 07075 201-939-4242 llee@ezride.org

2. District & School Profile

A school profile for Thurgood Marshall Elementary School was developed using data from the School District website. Additional information was collected from city data, parent surveys, interviews and on-site visits.

Asbury Park Public Schools is a comprehensive community public school district headquartered in Asbury Park, NJ, United States, serving children in pre-K and Kindergarten through twelfth grade. The district is one of 31 former Abbott Districts statewide, which are now referred to as "SDA Districts" based on the requirement for the state to cover all costs for school building and renovation projects in these districts under the supervision of the New Jersey Schools Development Authority.

Mission Statement: Asbury Park School District provides all students with a comprehensive and progressive education where everyone possesses the skills and character to succeed in a diverse, evolving global society.

The Asbury Park School District will provide each and every student with a comprehensive academic foundation. The administration understands that this task cannot be completed without the collaboration of all staff, parents, and community members. In order to accomplish this goal, it is understood that children must be raised in a healthy and safe environment and will seek the cooperation of all available support services. The District believes that all students should have the opportunity to express themselves through athletics, the arts, and other vocational interests.

The Asbury Park School District is committed to laying the groundwork for producing well-rounded young men and women who will have many choices in the future. The Asbury Park School District understands that learning begins at birth; consequently, the District recognizes the importance of starting education early. As a result, an early childhood development program for 3 and 4 year old children are provided in addition to the regular K-12 educational programs. As students come from diverse backgrounds and heritages, the District provides Bilingual Education and programs for Limited English Proficient students and their families. Adults are welcomed to the Alternate Learning Center or Evening School. No students having handicaps of any nature will be prevented from receiving a fair and appropriate education.

Asbury Park School District consists of three PK-5 elementary schools, one middle school for grades 6-8, and one four-year high school. As of 2015-2016 there is a student population of 2,042. Student demographics are shown in Table 1 below. The different ethnicities, cultural backgrounds, language/learning abilities and challenging socio-economic and family situations

that many of the students have provide a diverse educational experience for pre-kindergarten to secondary school students as well as many challenges for its teaching staff.

A new Superintendent started in fall 2014 and has begun to restructure and refocus the district and plans. In his words, "Together we will rebuild our educational foundation that will be strong enough to support our students' academic needs. We will retool ourselves to ensure we have the capacity and the ability to produce students that are college and career ready. Lastly, we will begin to restore the community's faith and confidence in this educational system and restore the 'Blue Bishop pride' of this iconic city by the sea", Dr. Lamont Repollet [Excerpt from District website].

Table 1. Asbury Park School District– Student Demographics (2014-2015)

Ethnicity	
African-American	1185
Hispanic	436
Caucasian	343
Asian/Pacific Islander	5
Native American	0
Gender	
Male	1,018
Female	951
Primary (Pre-Kindergarten – Grade 4)	1099
Middle School (Grade 5 - 8)	523
High School (Grade 9 - 12)	355
Special Needs Students	188

Academic Performance

The Asbury Park School District has been classified by the NJ Department of Education as District Factor Group "A," at the very top of the listing indicating that Asbury Park is a disadvantaged and underserved community.

A District Factor Group (DFG) is an indicator of the socioeconomic status of citizens in school districts of New Jersey. DFGs were first developed by the New Jersey Department of Education in 1975 for the purpose of comparing student performance on statewide assessments across demographically similar school districts. This rating is based on neighborhood criteria such as poverty rate, incidence of crime and violence, and limited municipal resources due to low tax revenues. NJDOT has directed that SRTS programs in disadvantaged communities should be given high priority.

2.1. Asbury Park Health Profile – Monmouth County Community Health Assessment

According to the US Census 2009-2013 American Community Survey, in Asbury Park, 45% of those under age 18 and 26% of those over age 65 are living below the poverty line. Total annual household earnings are generally low with 44% earning less than $25 K, 25.4% earning $25 to 50K, and 30% earning over $50K. Of these annual earnings, 27% include Social Security, 25% received SNAP, and 6% received cash public assistance. Race and ethnicity in Asbury Park is 51% Black/African American, 25% Hispanic, 21% White, and 3% Multi-race.

In 2015, the Health Improvement Coalition of Monmouth County worked with Meridian Health to conduct a Community Health Assessment of Monmouth and Ocean Counties. The Coalition invited representatives of health care providers, local health departments, nonprofit organizations and community members to a meeting on September 17, 2015 to participate in conducting the Community Themes and Strengths Assessment. Discussion groups identified the following themes affecting the communities within Monmouth County where they live or work:

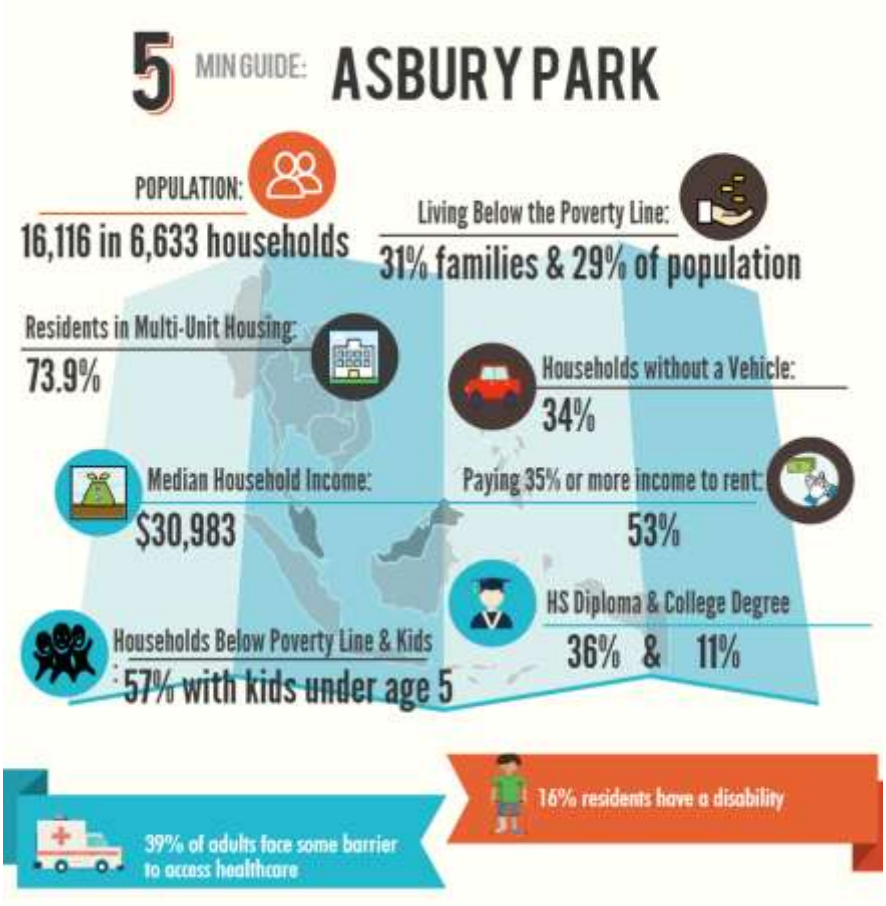
- Cost of living is high in Monmouth County. Some families struggle with paying for food, housing, caring for parents and lack of affordable insurance. This disparity is particularly pronounced with the undocumented population.
- There are distinct communities of “haves and have-nots”. For affluent communities in the county, access to healthcare is available and convenient. In socioeconomically-disadvantaged communities such as Asbury Park, health care may not be as accessible or available and is therefore viewed as less important as people may not be aware they have health issues.
- Each community should provide the proper health environment and promote policies that encourage health behaviors for its residents.
- Physical fitness is limited for some kids due to neighborhood safety, limited access to fitness activities, overuse of television and electronics, and concerned parents. For example, shootings in some areas on the West Side of Asbury Park may cause parents to limit kids from playing outdoors.

Though Monmouth County is ranked 6th in NJ for Health Outcomes according to the County Health Rankings & Roadmaps, the data shows that Monmouth County has fewer primary care physicians, mental health providers, and dentists per capita than is typical of New Jersey. As well, Asbury Park is a community that is divided by the railroad tracks into two groups of “haves and have nots.” There are some very affluent residents who live by the Ocean on the East Side, but there are many residents living in poverty on the West Side who do not fit the profile of many Monmouth County residents.

Additionally, there is a higher rate of diabetic monitoring which may indicate a higher incidence of disease. As per the 2015 Community Health Needs Assessment (CHNA) for Monmouth/Ocean Counties done by Meridian Health, almost 40% of adults in the County encountered some kind of barrier to healthcare. The CHNA also revealed that 62% of Asbury Park residents are overweight, 21% of adults had no leisure-time physical activity, and 15% of adults found it difficult to access fresh produce.

Six leading barriers to medical care are:

1. Inconvenient office hours	**4. Finding a doctor**
2. Getting a doctor's appointment	**5. Cost of a doctor's visit**
3. Cost of prescriptions	**6. Lack of transportation**

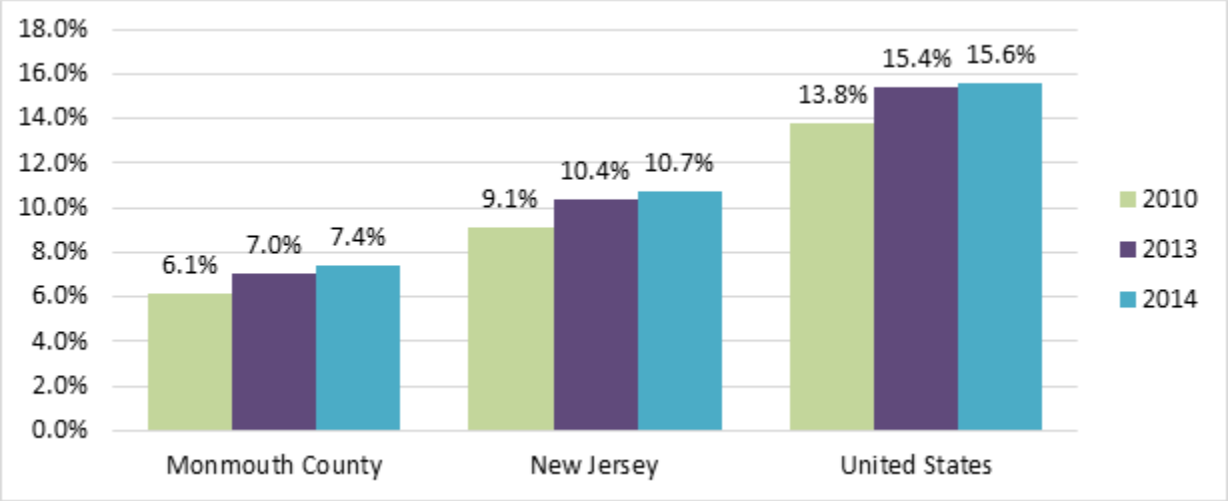


Understanding Social Determinants of Health

Conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes. These conditions are known as social determinants of health. We know that poverty may limit healthy food access and coincide with unsafe neighborhoods and that more education is a predictor of better health. We also know that differences in health are striking in communities with poor social determinants of health such as unstable housing, low income, unsafe neighborhoods, or substandard education. By applying what we know about social determinants of health, we can not only improve individual and population health but also advance health equity.

Centers for Disease Control and Prevention

Chart 1. Percent of Population Living Below 100% of Poverty Level



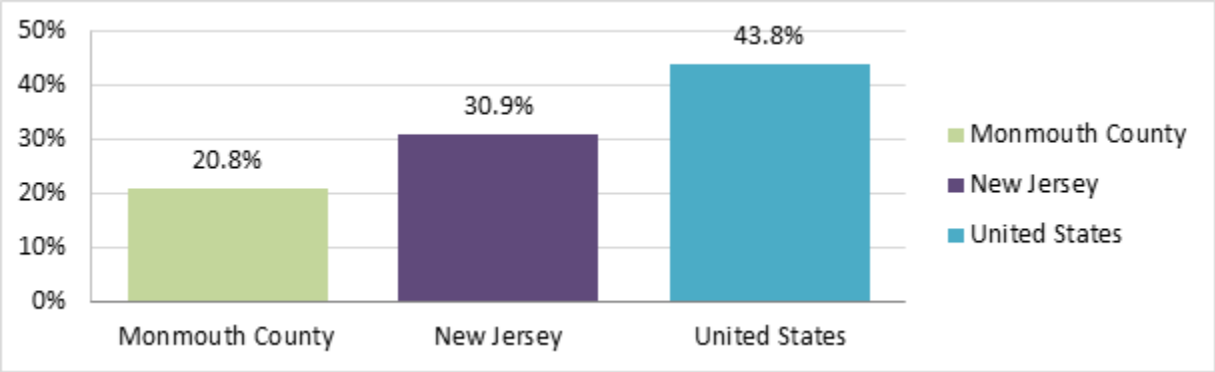
U.S. Census Bureau, American Fact Finder ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2010-2014 American Community Survey 5- Year Estimate

In 2014, 7.4% percentage of Monmouth County's population was living below 100% of the poverty level

- Slight increase from 2010 to 2014
- Lower than state and national percentages

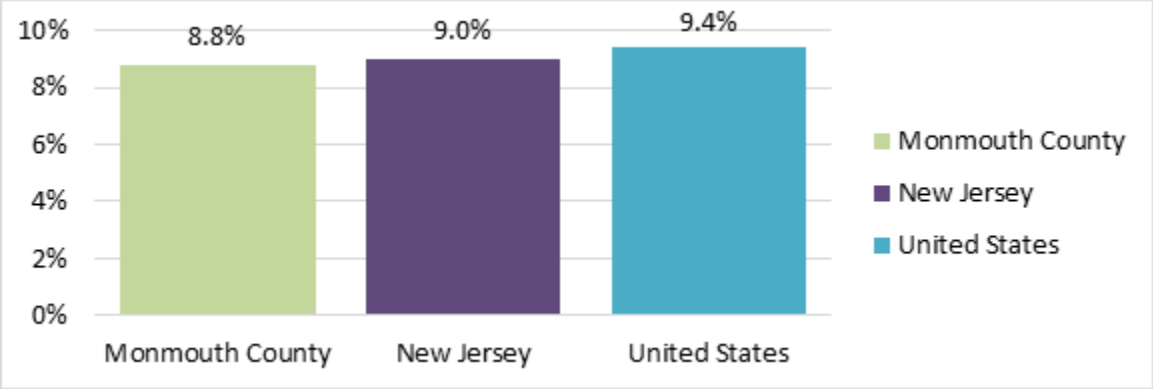
Chart 2. Children in Poverty

Percent of Children Living Below 200% of the Poverty Level, 2009-2013



Meridian Health 2011, 2015 Community Health Needs Assessment

Chart 3: Current Prevalence of Adult Asthma in 2015



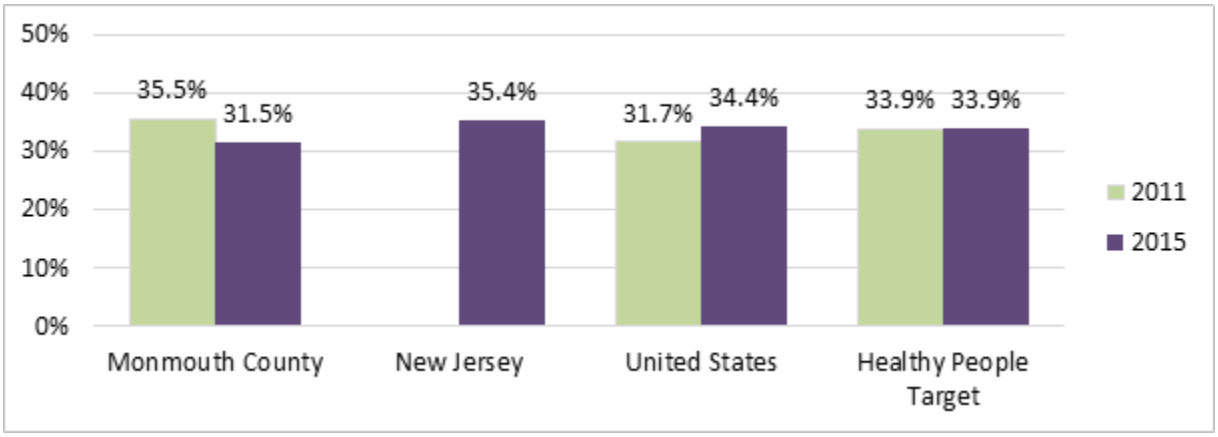
Meridian Health 2011, 2015 Community Health Needs Assessment

As of 2015, 10 percent of Monmouth County Children under the age of 18 suffer from asthma. These rates are much higher than neighboring Ocean County, and they are less favorable than the national rate of prevalence. Since 2011, the rates have increased in Monmouth County, yet in Ocean County, rates have decreased.

Childhood Obesity

In 2011, 28.7% of children ages 6-17 in Monmouth County were overweight or obese (85th percentile or higher), as per height/weight data collected from surveyed parents. In comparison 25.2% of Ocean County children ages 6-17 were overweight or obese, resulting in a total area overweight/obesity prevalence of 27.3%. The current childhood overweight/obesity prevalence is 24.6%. Findings are comparable by county and to the national prevalence. Childhood overweight/obesity prevalence is statistically unchanged over time.

Chart 4. Percent of Adults at a Healthy Weight (BMI 18.5-24.9)



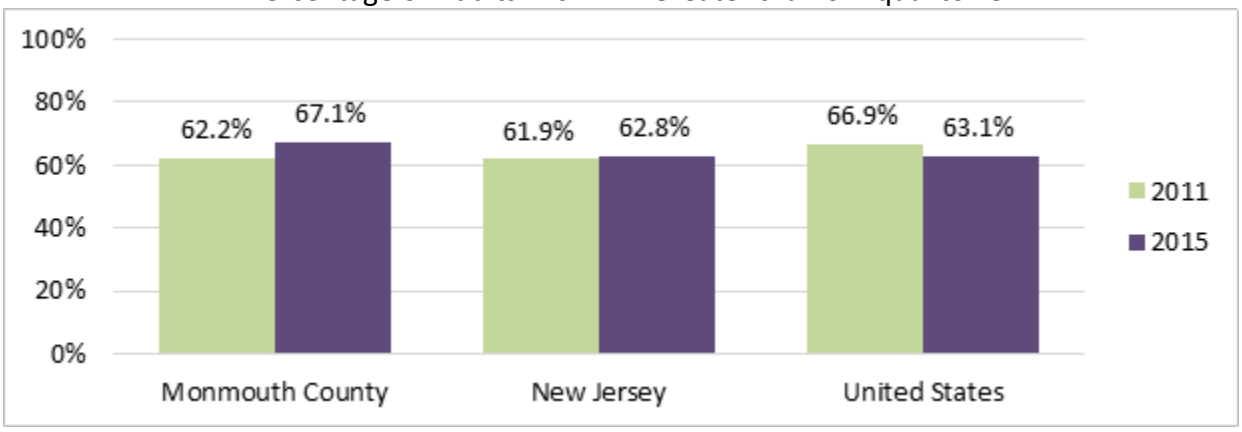
Meridian Health 2011, 2015 Community Health Needs Assessment

31.5% of Monmouth County Adults believe they are at a healthy weight as per self-reported height and weight data; however, the actual BMI data does not support that.

- Below state and national percentages
- Does not satisfy Healthy People 2020 Target
- There has been a significant decrease in healthy weight over time

Chart 5. Prevalence of Overweight

Percentage of Adults with BMI Greater than or Equal to 25



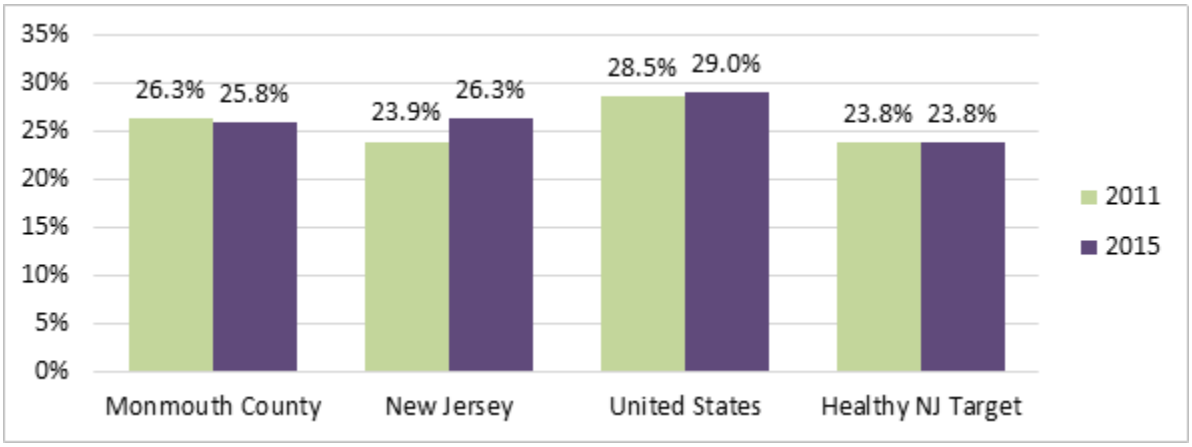
Meridian Health 2011, 2015 Community Health Needs Assessment

67.1% Monmouth County adults have a BMI greater than or equal to 25

- Higher than state and national prevalence
- Significant increase in Monmouth County since 2011

Chart 6. Prevalence of Obesity

Percentage of Adults with BMI Greater than 30



Meridian Health 2011, 2015 Community Health Needs Assessment

25.8% of Monmouth County adults are obese

- Similar to statewide prevalence
- Lower than national prevalence
- Fails to satisfy Healthy NJ target of 23.8%
- More prevalent among ages 40-64, Blacks, and Hispanics

Media Viewing Habits

The American Academy of Pediatrics recommends that children spend a maximum of two hours per day on entertainment media like television, computers, and video games.

Exercise

The HHS 2008 Physical Activity Guidelines for Americans recommend that adults get at least thirty minutes of moderate to vigorous activity daily and that children get at least sixty minutes of moderate to vigorous physical activity daily.

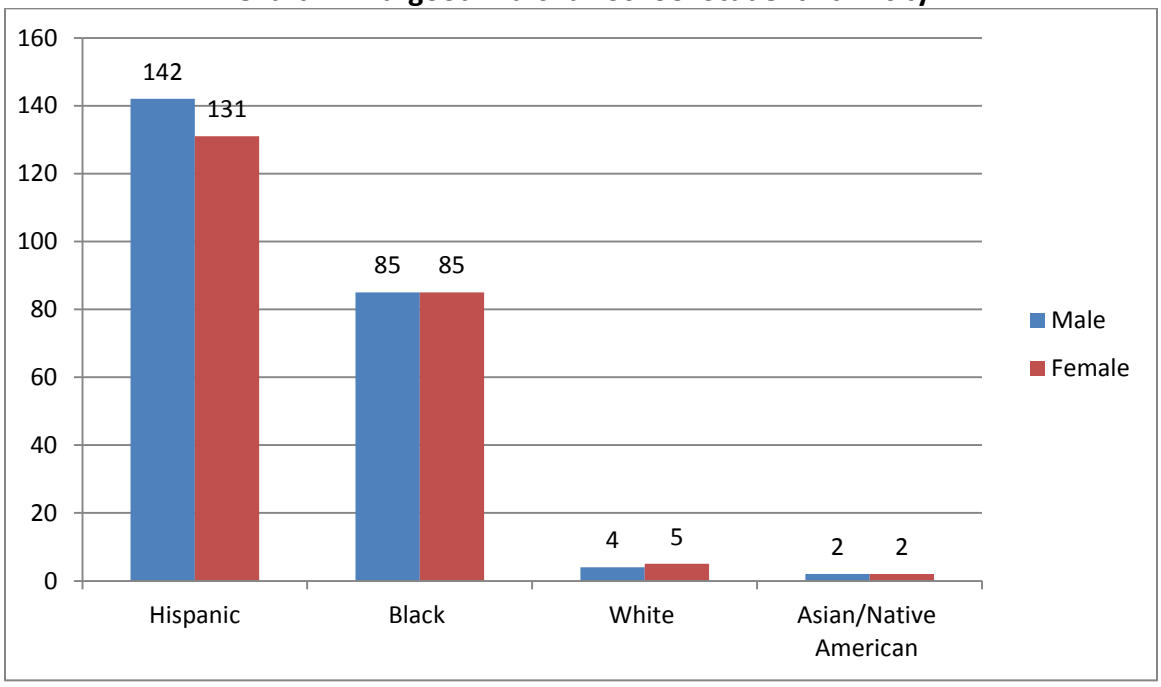
Safety

In a municipal comparison study done by the NJTPA for years 2011-14, 26% of pedestrians who were involved in crashes in Asbury Park were between the ages of 1-19. This indicates walking education in the schools is needed. This is compared to average youth pedestrian crash rates of 18% in NJ and 19% in other municipalities. Additionally, 18% of pre-crash action derived from crossing and jaywalking in Asbury Park which is higher than the NJ average of 11% and the municipal average of 13%. This shows students need to learn the importance of using crosswalks.

2.2 Thurgood Marshall Elementary School

Thurgood Marshall Elementary School is a public elementary school located in Asbury Park, NJ in the Asbury Park District Public Schools. It enrolls 456 students in grades K through 5.

Chart 7. Thurgood Marshall School Student Ethnicity



As shown in Table 2 below, there are three main languages spoken at home by students at Thurgood Marshall elementary School. The school reported that the languages spoken by their students include English, Spanish and Haitian Creole testifying to the ethnic diversity of the student population. In the CHNA, it was found that Spanish-speaking residents have increased 65% over the prior period in Monmouth County.

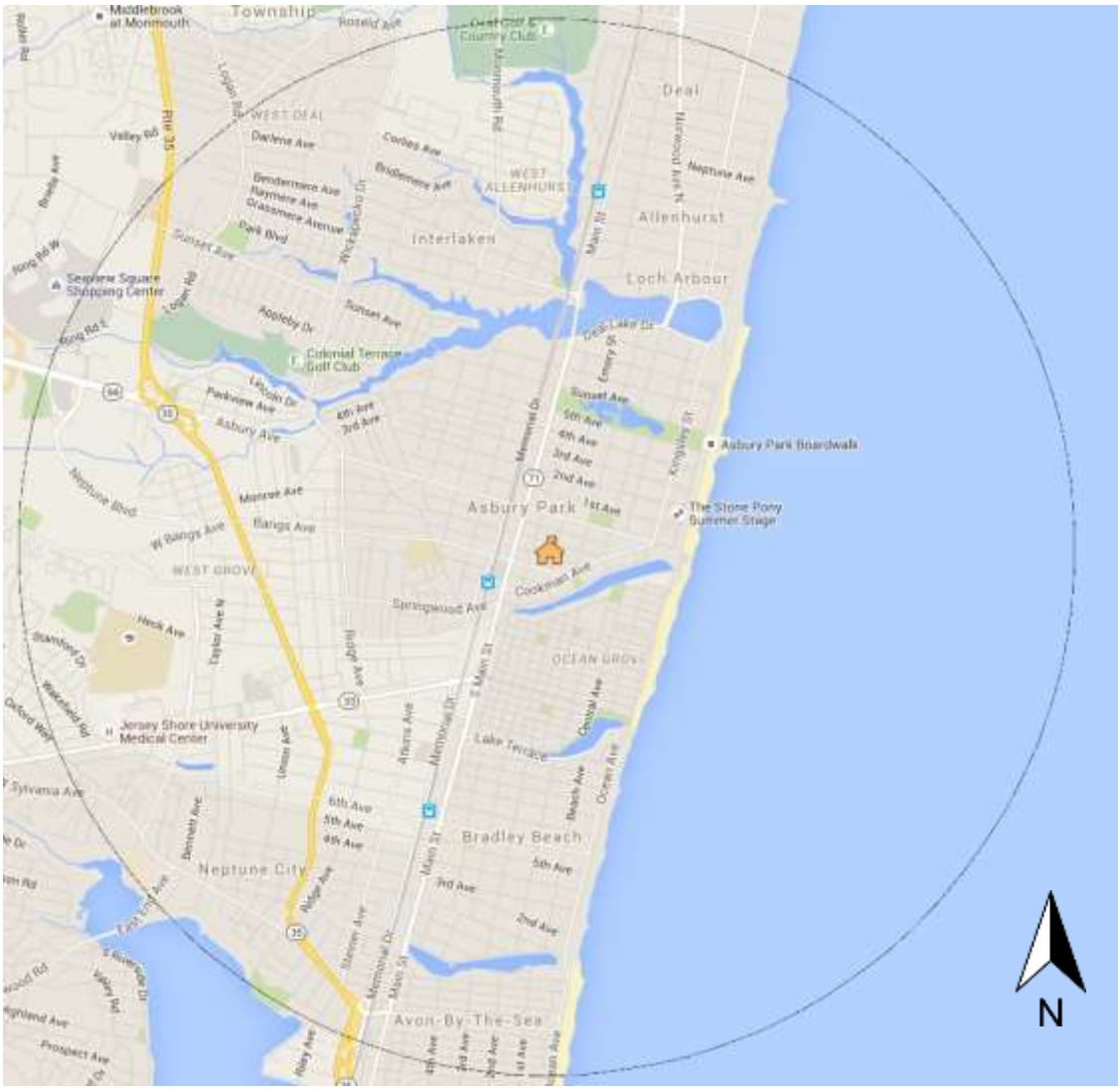
Table 2. Student Language Diversity (2015-16)

Language Diversity
Languages spoken at home by Thurgood Marshall Elementary students
English Spanish Haitian Creole

3. Journey to School

In the 1960s, about 50 percent of children in the United States walked or bicycled to school. Over the last few decades, concerns about vehicle traffic, safety for the children, and longer commutes have forced more and more parents to drive their children to school. This results in more traffic on the road and less children who walk to school. Today, on average only about 15 percent of children walk or bike to school. Map 1 provides a two mile area of the residential area surrounding Thurgood Marshall Elementary School.

Map 1: Two Mile Area Surrounding Thurgood Marshall Elementary School



Thurgood Marshall Elementary School

3.1. Current Student Travel Environment

School Hours

The school day for students starts at 8:00 am and ends at 2:20 pm Monday through Friday. Students can attend extended learning programs after school through the YMCA. Some kids go to the Boys & Girls Club in Asbury Park for afterschool programs.

Drop-off/Pick- Up Procedure

Buses for PK students drop off and pick up at the front entrance on Monroe Avenue. Families who use personal vehicles tend to approach the school from Main St. heading east, Bond St. heading south (one way road), or Emory St. heading north (one way road). Since the school currently blocks Monroe Ave. between Bond and Emory Streets to through traffic, personal cars were observed double parking and dropping off kids in the middle of the intersections or corners of Monroe Ave. & Bond St. and Monroe Ave. and Emory St. The resulting congestion in the morning with busses also coming along these same roads to drop off PK students makes it more dangerous for walkers and bicyclists to pass through these specific areas. In the afternoon, ice cream trucks further congest the area by double parking on these same corners. As well, the senior day care center on the corner of Main St. and Monroe Ave. has a large contingent of busses that drops off their clients and which also double park on Monroe Ave in the mornings.

Crossing Guards

There are ten crossing guards assigned to the areas near Thurgood Marshall Elementary School. One is stationed at the corner of Monroe Avenue & Bond Street and another at Monroe Avenue & Emory Street. These two corners have become a drop off/pick up point as the school uses cones to block cars from entering Monroe Ave at Bond St. and Emory St. Only busses are allowed to come through to drop off kids at the front. Other crossing guards are stationed at the corners of Sewall Ave. & Bond St., Sewall Ave. & Emory St., Asbury Ave. & Bond St., Asbury Ave. & Emory St., Summerfield Ave. & Bond St., Monroe Ave. & Main St., Monroe Ave & Memorial Dr., and Bangs Ave. & Main St.

Student Travel Mode

In February 2016, the teachers at Thurgood Marshall Elementary School conducted a Travel Tally to document how the children in 33 classes get to and from school. Tallies were taken by teachers three times during one week. A total of 2,180 trips during the morning and afternoon were documented and the data was analyzed by the NJ Safe Routes to School Resource Center at the Voorhees Transportation Center, Rutgers University.

As shown in Table 3, the analysis found that on approximately 52 percent of the children walk to school, 3 percent carpool to school, 19 percent rode the school bus, and 22 percent are driven in family vehicles to school, one percent rode their bicycles to school, and less than one percent took public transit to school. The study shows that 55 percent of students walk home, 21 percent rode the school bus home, 20 percent were driven home, less than a percent took public transit home, three percent carpooled home, and less than a percent rode their bikes home.

Table 3. Current Commute Mode

Mode	Arrival	Dismissal
Walk	52 percent	55 percent
School Bus	19 percent	21 percent
Driven in personal car	24 percent	20 percent
Public Transit	0.3 percent	0.5 percent
Carpool	3 percent	3 percent
Bike	1 percent	0.3 percent

3.2 Pedestrian Safety

Meadowlink conducted an analysis of the pedestrian-related accidents within a one-mile radius of the school over a 10-year period from 2003 to 2015 based on police incident reports. The reported incidents were plotted on Map 2.

Map 2: Pedestrian Crashes within One Mile of Thurgood Marshall Elementary School, 2003-15

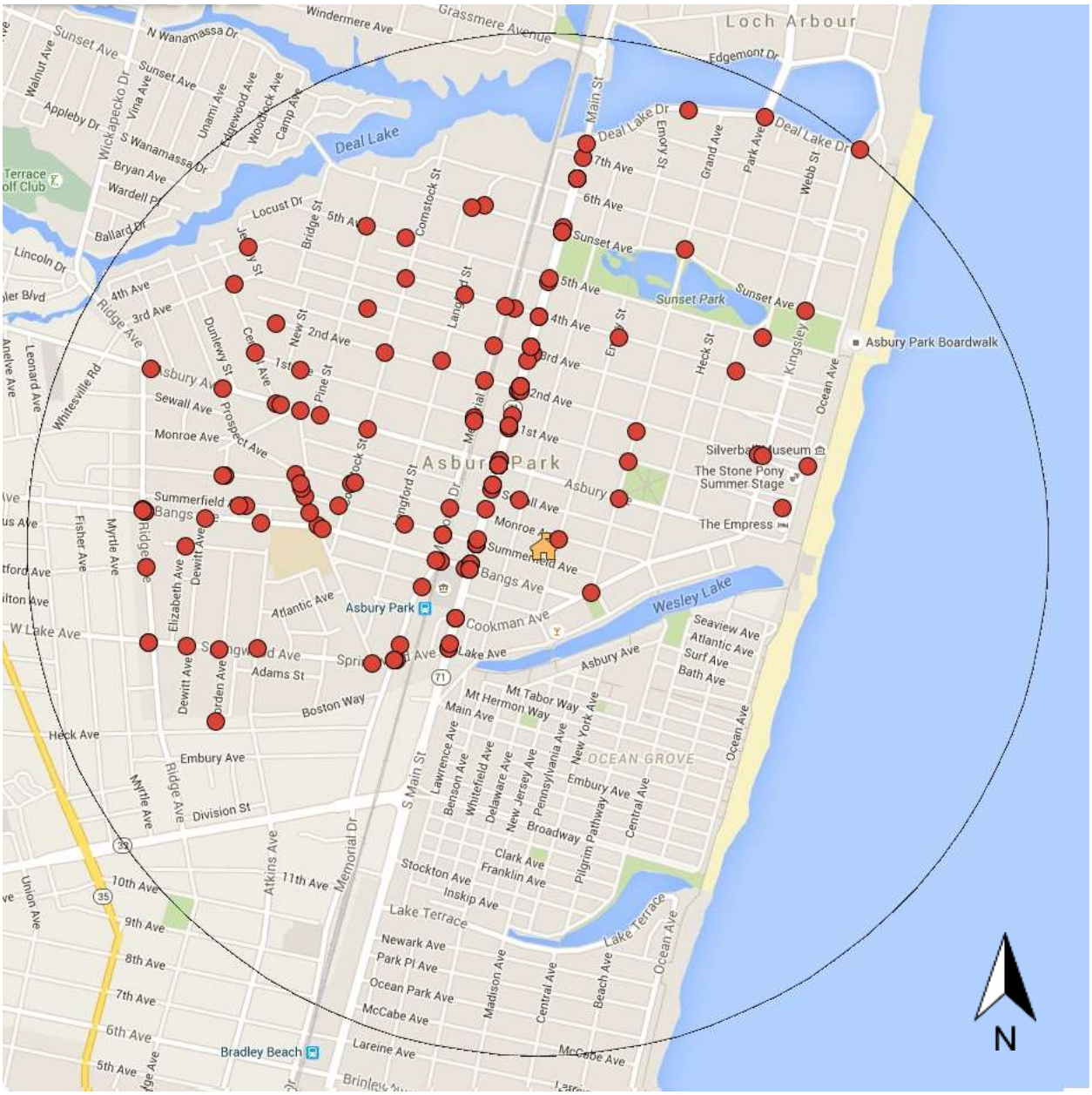


Table 4. Pedestrian Crashes by Age, In Asbury Park (2003-2015)

Age	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	Percent
0-10	5	5	1	3	2	0	2	5	2	1	6	3	1	36	12%
10-17	10	2	8	6	4	2	2	5	3	2	1	1	2	48	16%
18-35	6	13	5	5	14	7	9	5	7	3	4	7	8	93	31%
36-60	12	6	11	8	9	13	6	10	6	2	3	7	5	98	32%
60+	1	1	2	2	2	1	1	0	5	4	2	1	4	26	9%
Total	34	27	27	24	31	23	20	25	23	12	16	19	20	301	

For Asbury Park, there were 301 pedestrian crashes between the years 2003 - 2015. On average there were approximately 25 pedestrian crashes per year. While the majority of the crashes (approximately 63 percent) involved pedestrians aged 18-60, approximately 28 percent (84) of the total incidents involved children in the 0-17 age group.

3.3 Walkability Assessment

A couple members of the SRTS Task Force scheduled and conducted a walkability assessment around Thurgood Marshall Elementary School on May 19, 2016. Due to a miscommunication, some team members thought the assessment was cancelled and rescheduled, but it took place afterschool as planned but with a very small assessment team. The SRTS Coordinator from Meadowlink and a City intern walked and assessed the travel route and took photos. Interviews were also conducted with the two Crossing Guards located on Monroe Ave., Deborah Burns (Security), Mr. Vince Stasio (VP), Brenda Freeman (K teacher), Kaline Videau (Bilingual teacher), Theresa McNeil (Tutor) and Cynthia Locastro about barriers to safe walking and biking, and traffic concerns on the day of the assessment or the day after.

Since Asbury Park is a walking district, school children and residents of all ages and abilities walk in and through the neighborhood.

A Walkability Assessment evaluates the sidewalks, roads, crosswalks, lighting, signs, signals, and conditions of the environment along the walking route. A walkability assessment identifies infrastructure improvements that can be made and notes what is currently done well. The SRTS Task Force took photos of areas on the route. Comments and recommendations are listed with each photo and are summarized in the Action Plan at the end.

Map 3 on the following page, shows the walking route which was assessed.

Map 3: Assessed Walking Route

Thurgood Marshall Elementary School

Walkability Assessment of Route

Photo 1: Monroe Ave in front of Thurgood Marshall Elementary School

Observations and Recommendations

1. No crosswalk in front of school
2. Cars often double park in front of school to drop off late students
3. Recommend painting high visibility crosswalk in front

Photo 2: Front of school

Observations and Recommendations

1. Entry area has good lighting and in line of vision with the security desk
2. Recommend to install bike racks as they may encourage biking and are protected by the security desk

Photo 3: Monroe Ave in front of Thurgood Marshall School

Observations and Recommendations

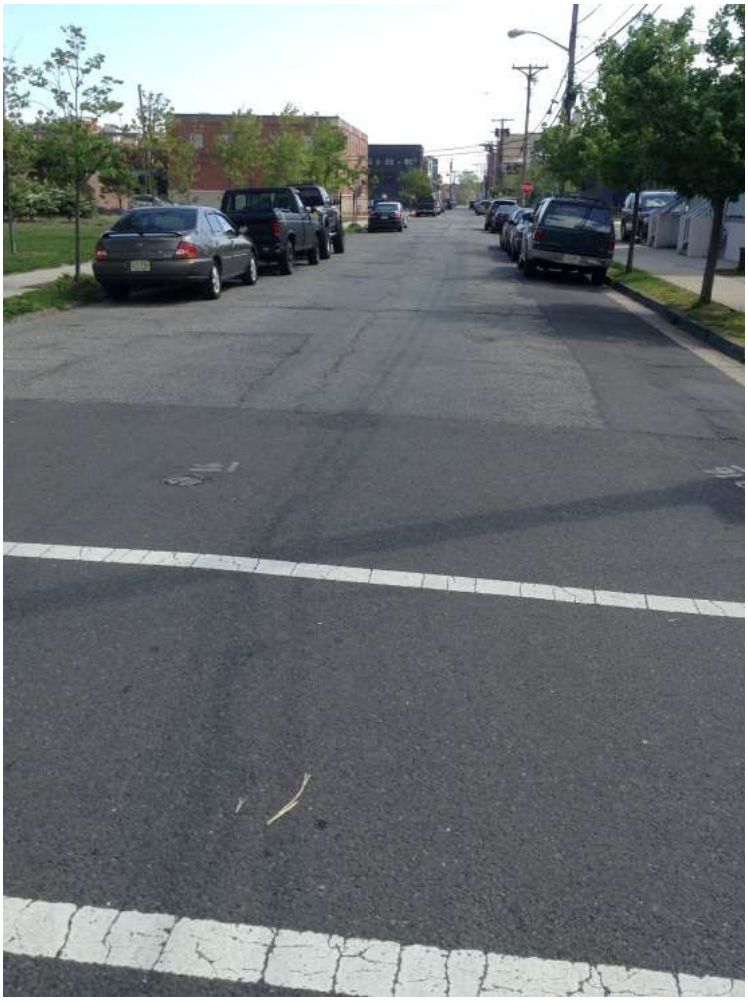
1. Recommend painting bike lane or sharrow as street is very wide
2. Recommend installing “School Zone” signs and “SLOW SCHOOL ZONE” pavement markings

Photo 4: Monroe Ave. & Bond St.

Observations and Recommendations

1. Crosswalks are present but could be more effective as high visibility striping
2. Recommend installing “School Zone” signs and pavement markings to slow alert drivers
3. Observed ice cream trucks double parking at pickup in PM and parents double parking to drop off children in AM
4. Recommend repairing and repainting damaged curb

Photo 5: Sewall and Bond St. (heading south on Bond)



Observations and Recommendations

1. No “School Zone” signs
2. Recommend “SLOW SCHOOL ZONE” pavement markings be painted on road
3. Recommend installing flashing “Stop” signs at all four intersections around school
4. Recommend painting Sharrow symbols on road as it is too narrow for bike lane

Photo 6: Bond St. (facing corner of Monroe Ave.)

Observations and Recommendations

1. Recommend repainting “Stop” bar
2. Recommend painting high visibility crosswalks
3. Recommend repairing and repainting broken curb

Photo 7: Intersection of Monroe Ave. & Bond St. (heading west to Main St)

Observations and Recommendations

1. Curb ramps lack truncated domes
2. Recommend installing truncated domes to ensure ADA compliance
3. Crosswalk lines are confusing
4. Recommend high visibility crosswalk striping be done to differentiate it from “Stop” bar
5. Recommend installing flashing “Stop” sign

Photo 8: Monroe Ave. near corner of Bond St.

Observations and Recommendations

1. Only observed “School Zone” sign. It has been seen blocked by larger SUVs and trucks
2. Recommend traffic calming measure by adding “SLOW SCHOOL ZONE” pavement markings between Main St. and Bond St.
3. Observed abandoned building that is boarded up and can be scary for children
4. Recommend installing “No Double Parking” signs
5. Recommend to add sharrow markings on road to encourage bicyclists to ride to school
6. Recommend City try to get owner to cleanup abandoned property

Photo 9: Main St Intersection of Main St. & Monroe Ave. (facing west):

Observations and Recommendations

1. Recommend school zone signs on corner
2. Recommend high visibility crosswalk restriping
3. Driver actually stopped in the crosswalk
4. Intersection is cracked, littered with potholes and in need of repair
5. Traffic signals lack pedestrian activated push buttons and countdown signal heads
6. Recommend adding pedestrian signal heads with push buttons and countdowns

Photo 10: Main St. between Sewall and Asbury Ave (heading north)

Observations and Recommendations

1. Sidewalk is very cracked, uneven, and in need of repair
2. Signals lack pedestrian countdown heads and push buttons
3. Recommend painting high visibility striped crosswalks along Main St.
4. Recommend adding “School Zone” and speed limit signs.

Photo 11: Main St. & Monroe Ave. (looking South on Main)

Observations and Recommendations

1. Main St (State Rt. 71) full of cracks, potholes and in need of repair
2. Curb ramps on sidewalks are not ADA compliant and need truncated domes
3. Recommend high visibility restriping of crosswalks
4. Intersection is site of several pedestrian crashes

Photo 12: Intersection of Asbury Ave (heading East) and Bond St.

Observations and Recommendations

1. Bicyclists observed riding on the sidewalk
2. Speeding cars observed
3. Recommend bike lanes to calm traffic as this is a wide street
4. Curb ramps are not ADA compliant and are missing truncated domes
5. Recommend high visibility restriping of crosswalks

Photo 13: Bond St. Heading South between Asbury & Sewall Aves.

Observations and Recommendations

1. Sidewalks are narrow but passable
2. No “School Zone” sign to let drivers know they are approaching school
3. Recommend installing “School Zone” sign, flashing “Stop” sign at corner and “SLOW SCHOOL ZONE” pavement markings

Photo 14: Bond St. between Asbury Ave. and Sewall Ave. heading South towards Sewall

Observations and Recommendations

1. Sidewalks are cracked and uneven
2. Recommend repairing sidewalk
3. Recommend flashing stop signs at corners

Photo 15: Bond St. & Monroe Ave. (heading south on Bond)

Observations and Recommendations

1. Stop sign is covered with graffiti and stands at an odd angle
2. Recommend “SLOW SCHOOL ZONE” marking on roadway
3. Recommend installing a flashing “Stop” sign

Photo 16: Intersection of Monroe Ave and Bond St looking north on Bond

Observations and Recommendations

1. Crosswalks are fading and lack high visibility striping
2. Some curb ramps lack truncated domes
3. Recommend high visibility restriping of crosswalks
4. Investigate who owns parking lot and inquire if it can be used as a drop off point

Photo 17: Monroe Ave between Emory St and Grande Ave (Charter School)

Observations and Recommendations

1. School gate obstructing sidewalk
2. Double parked vehicles at dismissal time on both sides poses danger to bicyclists

Photo 18: Intersection of Monroe Ave. and Emory St.

Observations and Recommendations

1. Curb ramps missing truncated domes
2. Recommend installing truncate domes to ensure ADA compliance
3. Recommend high visibility restriping of crosswalk
4. Ice cream trucks double parked on corners after school create more congestion

Photo 19: Monroe Ave between Emory St & Grande Ave. (Charter School)

Observations and Recommendations

1. Cars double parked all along the road on both sides
2. Cars idling engines contributes to pollution and children's breathing problems
3. Recommend signs be posted to prevent double parking
4. Recommend "SLOW SCHOOL ZONE" pavement markings
5. Recommend sharrow markings or bike lanes to calm traffic
6. Recommend adding mid-block high visibility crosswalk at entrance of Charter School
7. Recommend the Charter School develop pickup procedure that does not allow cars to double park

Photo 20: Monroe Avenue between Grande Ave and Emory Street heading West on Monroe

Observations and Recommendations

1. Observed only school zone sign on Monroe Ave heading West
2. Bus is double parked. Ice cream truck was double parked behind the bus and blocking the view of the “School Zone” sign.
3. Recommend “SLOW SCHOOL ZONE” pavement markings be installed on roadway
4. Recommend bike lanes to narrow road or sharrow markings to promote biking to school

Photo 21: Corner of Emory St. & Monroe Ave.

Observations and Recommendations

1. Curb ramps are not ADA compliant and need truncated domes
2. Recommend installing truncated domes
3. Recommend high visibility restriping of crosswalk
4. Guard says cars exit the apartment ramp and turn right but are only allowed to turn left

Photo 22: Monroe Ave. between Grande Ave. and Emory St. heading West

Observations and Recommendations

1. Observed ice cream truck double parked near Charter School on Monroe Ave
2. Observed second ice cream trucked parked ahead also on corner of Emory and Monroe
3. Recommend “SLOW SCHOOL ZONE AHEAD” pavement markings
4. Recommend better placed “School Zone” signs going in both directions as there is a school zone sign in front of man in photo but it is obstructed by tree branches
5. Recommend traffic calming measures installed here such as a speed table

Photo 23: Summerfield Ave. between Emory St. and Bond St. (back of school)

Observations and Recommendations

1. Sidewalk is good but has a large crack where it meets the driveway
2. This is an entrance at the back of the school. There is very little traffic on this road
3. Recommend school consider to use this entrance as another entrance as a separate drop-off or pick-up point to reduce some of the traffic congestion
4. School may want to consider staggered dismissal (5-10 minutes by grade) or arrival time to reduce traffic congestion
5. Recommend school allow walkers and bicyclists to depart earlier than those who are bused or picked up by car. This gives some protection from traffic and promotes walking as those who walk or bike is allowed to leave earlier.

Photo 24: Summerfield Avenue between Emory St. and Bond St. (back of school)

Observations and Recommendations

1. Road is damaged, cracked, and in need of repair
2. Sidewalks are in good shape
3. Recommend “SLOW SCHOOL ZONE” pavement markings on road
4. Recommend establishing drop off point here in the AM for students who are driven to school and to leave front entrance for walkers and bicyclists and to reduce traffic congestion

4. Action Plan & Recommendations

The Safe Routes to School Action Plan is organized into the "Five E's": Education, Encouragement, Enforcement, Engineering and Evaluation. Additionally, each element of the Action Plan considers two parameters – time and cost as shown below. Together, they comprise a set of directions to help the community prioritize their action steps to increase safety for students. The tables below identify preliminary recommendations specific to the Thurgood Marshall Elementary School and its immediate area. It is suggested that this School Travel Plan be used to apply for SRTS grant funds to assist with implementing the infrastructure needs identified in the action steps.

Timeframe Definition	Cost Definition
Short-term = less than 3 months	**Low** = Less than $2,000
Mid-term = between 3 to 6 months	**Medium** = between $2,000 and $10,000
Long-term = longer than 6 months	**High** = more than $10,000

1. **Education**: Programs to educate students, parents and the public about safe walking and biking

Education Actions	Responsibility	Time Frame	Cost
Invite EZ Ride to provide SRTS Bicycle and pedestrian SAFETY Presentations to students in all schools	School, EZ Ride	Short-term, Mid-term, Long-term	No cost
Reinforce bus/drop off/pick up procedures via Robo Call twice a year annually	School	Short-term, Mid-term, Long-term	Low
Create and update Family Handbook that prioritizes support for walking and biking to school, and defines arrival and dismissal procedures with map and text that defines drop-off/pick-up areas, anti-idling law, and the rules and procedures for driving along local streets within school zone	School, District, Parent Liaison,	Long-term	Low
Invite speakers from NJ Transit Rail Safety Education Program to present at all schools	School, EZ Ride	Short-term to Mid-term	No cost
Conduct "Drive Safe and Slow Near Monroe" Campaign twice a year. Notify parents/guardians and school staff by publishing information/updates in the Parent/Family Handbook, School Newsletters and on the school website	School, City	Short-term, Mid-term, Long-term	Low
Ask Police Department or EZ Ride to give a	Police, School,	Short-term, Mid-	Low

talk re driving/walking/biking safety and Street Smart tip cards to parents at Back to School Night or PTO meetings	PTO	term, Long-term	
Integrate walking and bicycling safety education into classroom curriculum	School staff	Short-term, Mid-term, Long-term	Low
Leverage Social Media to promote walking and bicycling, spread awareness of school zone and enforcement activities, and to provide anti-idling law education to parents, community members, delivery trucks/commercial vehicles	School Tech Team, PTO, Community	Short-term, Mid-term, Long-term	Low
Invite speakers from NJ Transit Rail Safety Education Program to present at all elementary schools	NJ transit, School	Short-term, Mid-Term, Long-term	Low

2. **Encouragement:** Programs to encourage or promote walking and biking

Encouragement Actions	Responsibility	Time Frame	Cost
Hold student poster contest on Walking and Biking to school	School, EZ Ride	Short-term	Low
Circulate School Travel Plan Report via School website and PTO meetings	School, PTO	Short-term	Low
Host Bike/Walk to School Days throughout the school year	School Health Council PTO,	Short-term, Mid-term, Long-term	Low
Participate in International Walk to School Day in October and National Bike to School Day, as well as NJ Walk and Bike to School Day	School Health Council, PTO, EZ Ride	Short-term, Mid-term, Long-term	Low
Utilize the school website to advance Safe Routes to School safety messages	School Tech Coordinator	Mid-term, Long-term	Low
Asbury Park passed a Complete Streets Policy in 2015. Municipality can adopt a Complete Streets checklist to ensure all road projects and maintenance comply with the new policy	City	Short-term, Mid-term, Long-term	Low - High

3. **Enforcement:** Activities to improve safety and security for those walking and biking to school

Enforcement Actions	Responsibility	Time Frame	Cost
Conduct bicycle registration at Back to School night	School, Police	Short-term, Mid-term, Long-term	Low
Investigate training parent volunteers to do Walking School Bus training to have more parents who can watch out for kids' safety	School Liaison, PTO, Police	Mid-term, Long-term	Low
Ask City to conduct speed study along Monroe Ave. and Asbury Ave.	City traffic police	Short-term, Long-term	Medium
Ask police to set up electric signs that post drivers speeds and remind people to not speed as it's school zone – do this 2x/year	Police Department, School Safety Liaison	Short-term, Long-term	Low
Ask City to post police on Monroe Ave to give tickets to speeding and double parked vehicles quarterly	Police, School, City	Short term Mid term Long Term	Low

4. **Engineering:** Infrastructure upgrades that improve walking and biking environment

Engineering Actions	Responsibility	Time Frame	Cost
Install bike racks and skateboard racks near school entrance	School	Mid-term,	Low
Post "School Zone" signs and paint "SLOW SCHOOL ZONE " on roadways surrounding school	City, DPW	Short-term	Low
Paint High Visibility Crosswalks at all intersections where students cross	City and State DPW, Engineering, Police	Short-term	Low
Implement traffic calming measures such as traffic signals at crosswalks, speed tables, curb extensions, pedestrian refuge islands, or narrow wide roads with bike lanes	County and Town Engineering, Police	Mid-term, Long-term	Low-Medium
Post signs and paint area on roads to define Bus and Car pick up and drop off zones	School and Town DPW/Engineering, Police	Short-term, Mid-term	Low
Repair or install ADA compliant sidewalks, crosswalks and curb ramps	City, County or State Engineering, Police	Mid-term, Long-term	Medium-High
Investigate traffic speeds around the school and post 25 mph speed limit signs	State Engineering, City Engineering, Police	Short-term, Mid-term	Low – Medium
Investigate installation of light fixtures around crosswalks as needed	State and City Engineering, Police	Mid-term, Long-term	Medium

Install pedestrian countdown traffic signal heads and push buttons on existing signals to assist walkers to cross intersections safely	City and State Engineering, Police	Short to Mid-term	Medium
Install sharrow markings on road, paint bike lanes, or install protected bike lanes separated from roadway if space permits	City and State Engineering, Police	Short to Mid-term, Long-term	Medium -High
Work with NJ Transit to improve rail crossings for pedestrian and biking safety	NJ Transit, School	Short-term, Mid-term, Long Term	Low
Review School Zones for appropriate MUTCD School Zone marking and consider areas where school zone flashing beacons and "Stop and Stay Stopped for Pedestrians in the Crosswalk" signs can be installed	City and State Engineering, Police	Short to Mid-term, Long-term	Medium -High

5. **Evaluation:** Efforts to monitor and evaluate progress towards the achievement of SRTS goals

Evaluation Actions	Responsibility	Time Frame	Cost
Continue to conduct student travel tallies every year to measure how effective the SRTS program has been to increase the number of students walking, biking or carpooling	School, EZ Ride,	Mid-term, Long-term	Low
Determine if Complete Streets policy has been implemented and to what degree	City	Mid-term, Long term	Low to High
Survey parents and students to see if they feel safety is better	School, Health Council		
Improve communications between school officials and families establishing a convenient mechanism to share information and get feedback	PTO, Parent Liaisons, School Tech Coordinator	Short-term, Mid-term, Long-term	Low

Conclusion

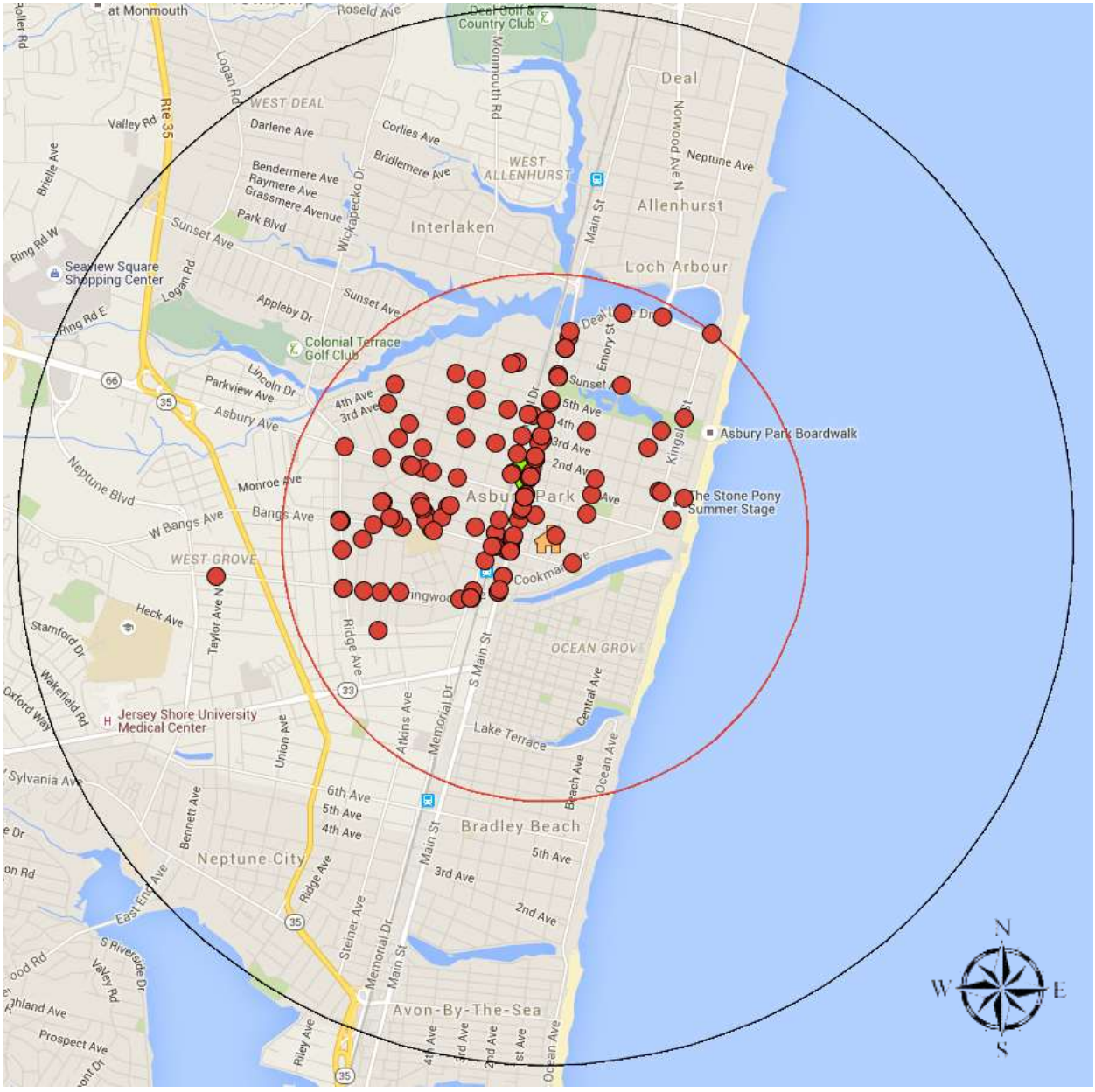
Community priorities around Thurgood Marshall Elementary School are safety for students and reducing the speed of traffic in the school zone by adding more high visibility striped crosswalks, SLOW SCHOOL ZONE pavement markings, school zone signs, flashing SLOW/STOP or radar speed limit signs, and speed tables. Another recommendation is to reduce traffic and drop off/pick up congestion in the school zone along Monroe Avenue by developing better drop off and pick up procedures for vehicles and busses. Suggestions are to use the school entrance on Summerfield Ave for students who are driven to school to reduce traffic congestion on Monroe Avenue and to leave the Monroe Avenue entrance for students who walk and ride bicycles. Another idea is to consider having staggered dismissal times for students. Additionally, some students and residents have health issues (such as asthma or being overweight) in Asbury Park. For this reason, it is strongly advised to add bike lanes or sharrow symbols to promote bicycling and walking as a means of fitness and to cut down on exhaust fumes from cars driving students to school and cars idling and waiting for students at pickup.

Repairing damaged crossings and sidewalks is crucial to promote safe walking for students. Adding high visibility striping and crosswalks where needed is a necessity and needs to be done as soon as possible as the assessment revealed that school zones and crosswalks are not visually evident for drivers and there have been many pedestrian car crashes in the vicinity of the school zone. The City could also consider to add pedestrian countdown signal heads to existing signals at key intersections on Main Street and Memorial Drive where they cross Monroe Avenue, Asbury Avenue, Summerfield Avenue, Bangs Avenue and the railroad tracks to assist students and residents to cross these busy intersections safely.

EZ Ride/Meadowlink is proud to work with the community to improve safety and bring SRTS educational and encouragement programs to the schools. The school community's desire to collaborate to help protect students and encourage safe walking and bicycling is admirable and deserves support from the City, State, and County who own the roads in Asbury Park. The District's efforts to pass two new policies to support walking and bicycling to school is a great accomplishment. EZ Ride/Meadowlink's Safe Routes to School team and other partners from the Alliance for a Healthier Asbury Park have provided many incentives to students to walk and bike to school to promote health and better academic results. This is the first School Travel Plan prepared for Thurgood Marshall Elementary School and it is hoped the school will continue to schedule biking and pedestrian safety programs for students in the coming years. This report can be used by the District or City to apply for SRTS infrastructure grants, TAP grants, or other DOT/safety grants to make the sidewalks and neighborhood safer for students and residents to walk and bike in Asbury Park.

Appendix A

Crash Map



Thurgood Marshall Elementary

1 Mile Radius

2 Mile Radius

Appendix B

Typical Opportunities for Improvement

LONG CROSSING DISTANCES

Long crossing distances prolong the exposure time of pedestrians to motorists and make it difficult to see the pedestrian signal head on the other side of the road.

PEDESTRIAN OBSTRUCTIONS

Obstructions in the pedestrian right-of-way impede pedestrian movement and safety.

LACK OF CURB CUTS

Sidewalks without curb cuts are an obstacle to parents with baby carriages as well as people with disabilities.

POOR MAINTENANCE

Without maintenance pedestrians can trip, it can be a liability issue, and people with disabilities can have trouble negotiating the area.

Typical Bicycle/Pedestrian Treatments

SHARED-USE ROADWAY

Can be a safe for bicyclists when:

- Width is sufficient
- Speeds are low
- Traffic volumes are low

BICYCLE LANE

- Provides a safe and comfortable environment for bicyclists
- An area that is delineated, but not separated from the roadway
- Typically 4' wide with a bicycle stencil

SHARED USE PATH (TRAIL)

- Offers connections and opportunities not provided in the roadway system
- Can provide valuable connections and recreational opportunities
- Typically 8'-10' wide

OTHER FACILITIES

- Bicycle Lockers
- Bicycle Racks on Transit
- Bicycle Racks
- Bicycle Safety Programs

Typical Bicycle/Pedestrian Treatments

SIDEWALKS

- A portion of the road ROW for the preferential or exclusive use of pedestrians
- Typically at least 5' wide
- Should be free of obstructions along its width and 80" high

CROSSWALKS

- Provides a designated crossing point
- Helps provide more predictable pedestrian movements
- Alerts drivers to pedestrian areas

SIGNAGE AND STRIPING

- Can help define pedestrian realm
- Provide visual cues for pedestrians and motorists
- Can augment other facilities

AMENITIES AND AESTHETICS

- Lets pedestrians know area was designed for their use
- Helps provide a safe and comfortable environment
- Helps provide sense of "place"

Typical Bicycle/Pedestrian Treatments

CURB EXTENSION

- Reduces Vehicle Speeds
- Reduces Pedestrian Crossing Distance
- Increases Pedestrian Visibility
- Protects Parking Area & Prevents Parking Close to Intersection

FULL CLOSURE

- Can be used to eliminate neighborhood cut-throughs
- Eliminates vehicular access
- Allows pedestrian and bicycle access and egress

MID-BLOCK CROSSING

- Reduces Vehicle Speeds
- Increases Pedestrians Visibility
- Reduces Pedestrian Crossing Distance
- Connects Pedestrian Generators

RAISED MEDIAN GATEWAY

- Provides Defined Entry
- Provides Cue to a Transition Area
- Aesthetically Pleasing
- Provides Pedestrian Refuge
- Reduction in Vehicle Speeds

Typical Traffic Calming Devices

GATEWAY
- Provides Defined Entry
- Provides Cue to a Transition Area
- Aesthetically Pleasing

CURB EXTENSION
REDUCED TURNING
- Reduces Vehicle Speeds
- Reduces Pedestrian Crossing Distance
- Increases Pedestrian Visibility
- Protects Parking Area & Prevents Parking Close to Intersection

RAISED
- Reduces Vehicle Speeds
- Increases Pedestrians Visibility
- Reduces Pedestrian Crossing Distance
- Provides Pedestrian Refuge

BIKELANE
- Reduces Vehicle Speeds
- Produces Designated Lane for Bicyclists
- Provides Additional Buffer for Pedestrians

Typical Traffic Calming Devices

CURB EXTENSION
- Reduces Vehicle Speeds
- Reduces Pedestrian Crossing Distance
- Increases Pedestrian Visibility
- Protects Parking Area & Prevents Parking Close to Intersection

MEDIAN REFUGE
- Reduces Vehicle Speeds
- Reduces Pedestrian- Vehicle Conflict
- Reduces Pedestrian Crossing Distance
- Improves Aesthetics if well-maintained

MID-BLOCK CROSSING
- Reduces Vehicle Speeds
- Increases Pedestrians Visibility
- Reduces Pedestrian Crossing Distance
- Connects Pedestrian Generators

Sidewalks and Access
- Simplifies Crossing Movement
- Reinforces pedestrian priority
- Improves visibility
- Provides safe accessibility