

Safe Routes to School Program

Highlands 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 Highlands Elementary School Travel Plan are:

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

2. Task Force

This School Travel Plan is the product of a productive partnership. The Highlands Elementary School SRTS Task Force came together out of a request from the Highlands Elementary School Board of Education and the Police Department to the NJ Safe Routes to School Resource Center at the Voorhees Transportation Center at Rutgers University and Meadowlink/EZ Ride. The involvement of local stakeholders is an important part of ensuring the sustainability of the SRTS initiative and the enactment of 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 24.6%.
- c. The current percent of overweight adults in Monmouth County is 67.1%

4. School Travel Data

In June 2016, the Highlands Elementary School teachers conducted a School Travel Tally to determine how students travel to and from school. About 24 percent of children walk to school, 3 percent rode the school bus, 71 percent were driven to school, and less than 1 percent carpooled to school. The study shows 37 percent students walked home, 2 percent of students rode the school bus home, 57 percent were driven home, and less than one percent of students carpooled home. As for bicycles, 0 percent of students reported riding bikes.

5. Barriers and Opportunities Identified for Safer Walking & Biking

The Safe Routes to School Task Force and Community Partners from Highlands Borough conducted a walkability assessment of the road conditions in the area of Highlands Elementary School on June 13, 2016. The major intersections near Highlands Elementary School include:

1. Navesink Avenue and South Linden Avenue
2. The Memorial Parkway/County Road 8
3. Waterwitch Avenue and Bay Avenue
4. Waterwitch Avenue and Shore Drive

Key opportunities for bicycle and pedestrian infrastructure improvement around Highlands Elementary School include: slowing speeding traffic, adding radar speed limit and flashing stop signs, reducing speed limit within Linden Ave from school zone 35 mph to 25 mph, adding reflective bollards to Waterwitch & Linden and RT 36 & Linden Avenue, and adding high visibility crosswalks and ADA curb ramps where students cross to travel to school.

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. 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 Safe Routes to School and other Federal or State grant applications to fund bicycle and pedestrian infrastructure improvements.

Key Actions/Recommendations in Action Plan include:

- Install high visibility crosswalks at key intersections to assist walkers
- Hold a “Drive Slow and Safe” campaign to raise awareness and alert drivers to “protect students and prevent crashes”
- Lower speed limit within the school zone from 35 mph to 25 mph on Linden Avenue
- Install flashing school zone warning beacons and paint SLOW SCHOOL ZONE pavement markings on Linden Ave approaching school from both directions
- Install sharrow markings/signs to alert drivers that students are biking to school and Huddy Park

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 promote walking that 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 Highlands Elementary School was undertaken by a group of organizations – Meadowlink/EZ Ride, The School Parent Faculty Association, Highlands Borough, The Highlands BOE and School District Administration.

Meadowlink/EZ Ride

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 safety and 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.

Highlands Elementary School PTO

This effort to improve safety at Highlands Elementary School was initiated by the President of the BOE who represented a concerned group of parents and students. The BOE discussed the problems and asked the Police Department for assistance to apply for SRTS funds to make safety improvements. The Police called VTC who invited the SRTS team at EZ Ride to assist the Borough and the Borough engineering team/grant writer. EZ Ride's SRTS Coordinator encouraged the Borough to conduct a walkability assessment to better understand the issues and to get photographs to strengthen their grant application. Despite a short amount of time, the Borough rallied and pulled together a team of committed adult and student volunteers to do the walkability assessment and apply for a SRTS grant.

Background to SRTS Safety Initiative

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 Highlands Elementary School Travel Plan Task Force was established and one meeting was held before the walkability assessment to collect information and build support for the program.

In the summer of 2015, a Highlands HS student was struck and killed as she tried to cross Rt. 36 in the Borough of Atlantic Highlands which is one town over. Highlands's residents are still grieving this youth's death and are very aware that the same type of crash could happen in their community. They know that prevention is the best solution.

On Monday June 13, 2016 the EZ Ride SRTS Coordinator and a Senior Research Specialist from the Alan Voorhees Transportation Center (VTC) at Rutgers University were invited to coordinate a Walkability Assessment with the purpose of applying for a SRTS Infrastructure grant. An overview of the NJ SRTS program was provided and a presentation about how routes can be made safer for students and residents was provided by VTC. The Borough Administrator,

Borough Planner and Engineering team, Police Department staff, Parents, PTO members, BOE President, the Principal and students were present and indicated their concern about safety in the community. An informal discussion of barriers to safe walking and traffic issues occurred to help the VTC Specialist and SRTS Coordinator understand the issues behind the safety initiative. A list of the members of the Task Force who attended the Walkability Assessment or who are part of the team and their roles are included in the table below. The County representative was unable to attend the assessment but supports this application to improve safety in Highlands.

Highlands Elementary School Travel Plan Task Force

Organization	Role/Responsibility	Contact
Highlands Elementary School	Program Activity and Implementation	Rosemary Schutz <i>Principal</i> Highlands Elementary School 360 Navesink Avenue Highlands, NJ 07732 732-872-1476 rschutz@highlandselementary.org
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Highlands Borough Resident	Concerned Parent	Michelle Sciria 732-291-0347 freedompottery@hotmail.com
Highlands Borough Resident	Concerned Parent	Kimberly Munro 732-693-3350 KimberlyMunro123@gmail.com
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Highlands Borough	Engineering Project Implementation	Gerald Paige NJ Grants Manager/City Planner T and M Associates 11 Tindall Road Middletown, NJ 07748 732-671-6400 ext. 9496 gpaige@tandmassociates.com
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Alan M. Voorhees Transportation Center Edward J. Bloustein School of Planning and Public Policy, Rutgers The State University of New Jersey	Web- based resources, Technical Assistance, SRTS Recognition Program, Helpdesk assistance, SRTS Tools, Tips and Training	Leigh Ann Von Hagen, AICP/PP <i>Senior Research Specialist</i> Alan M. Voorhees Transportation Center Edward J. Bloustein School of Planning and Public Policy Rutgers, The State University of NJ 33 Livingston Avenue New Brunswick, New Jersey 08901 848-932-2854 lavh@ejb.rutgers.edu

2. District & School Profile

A school profile for Highlands 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.

The Highlands School District consists of one PreK-6 elementary school serving approximately 170 students. Student demographics are shown in Table 1 below.

Table 1. Highlands Borough School District – Student Demographics

Ethnicity	
Caucasian	138
Hispanic Origin	17
Asian	3
Black	11
Other	1
Gender	
Male	87
Female	83
Grade Level	
Primary (Pre-Kindergarten – Grade 6)	170

Academic Performance

The Highlands Borough School District is classified by the NJ Department of Education as District Factor Group “CD,” the third group from the most disadvantaged districts in the listing. The school is included in the Title 1 category and 41 percent of students receive free school lunch and breakfast and 10 percent receive reduced cost breakfast and lunch.

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. Highlands Health Profile – Monmouth County Community Health Assessment

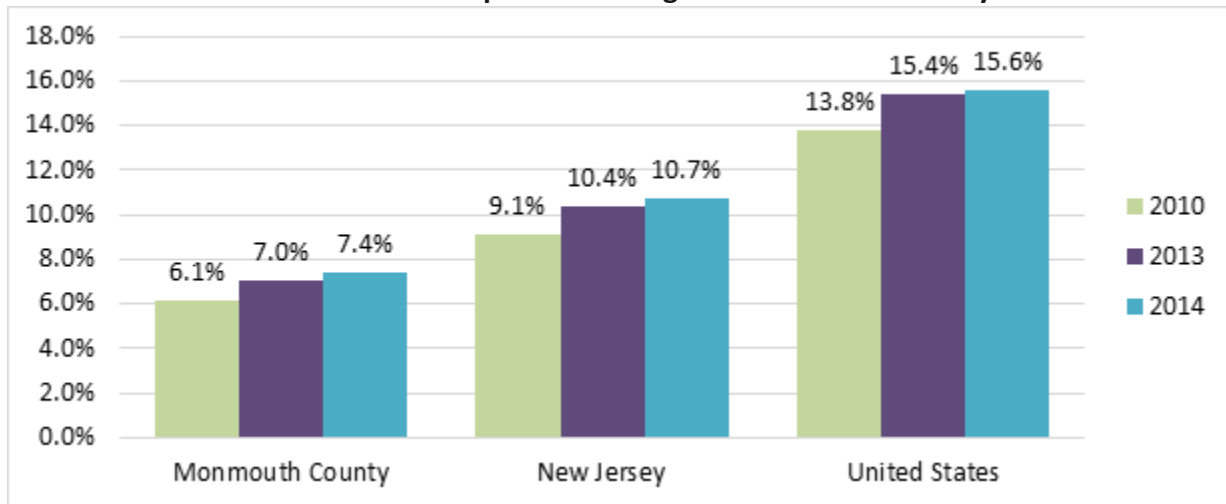
In 2015, the Health Improvement Coalition of Monmouth County worked with Meridian Health to conduct a Community Health Assessment of Monmouth and Ocean Counties. The Coalition invited representatives of health care providers, local health departments, nonprofit organizations and community members to 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 “have and have-nots”. For affluent communities in the county, access to healthcare is much more available and convenient. In socioeconomically- disadvantaged communities, health care may not be accessible or available and is therefore viewed as less important as people may not be aware they have health issues.
- Community should provide the proper environment and promote policies that encourage health behaviors.
- Physical fitness is limited for kids (neighborhood safety, limited access to fitness activities, overuse of television and electronics).

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. *Source: Centers for Disease Control and Prevention*

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

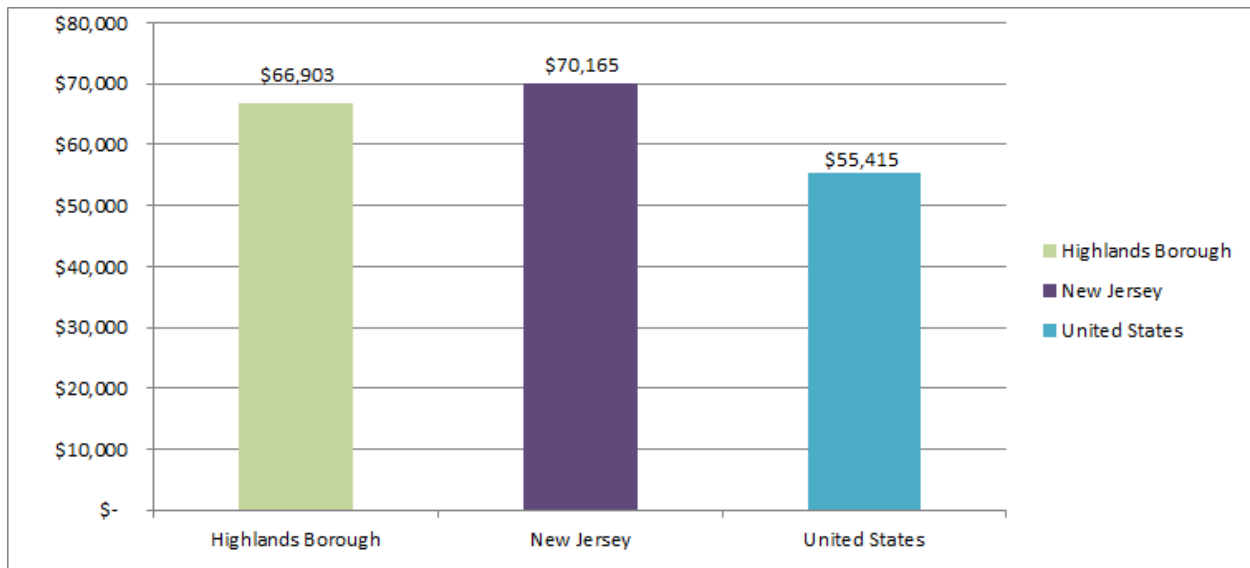


U.S. Census Bureau, American Fact Finder ACS DEMOGRAPHIC AND HOUSING ESTIMATES 2010-2014
American Community Survey 5- Year Estimate

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

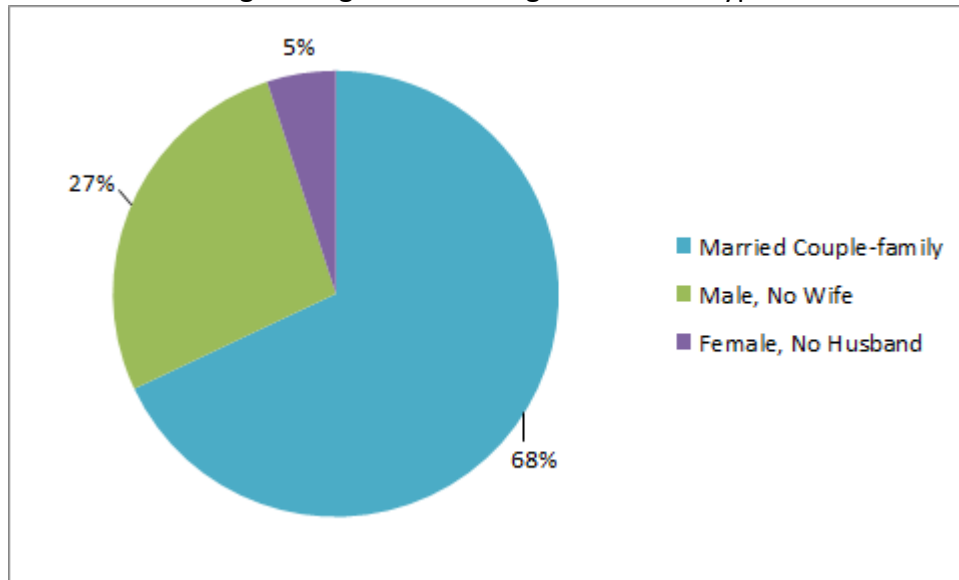
Chart 2. Estimated Median Household Income - Highlands Borough, NJ



City-Data.com, 2013

Data reveals the median HH income for Highlands Borough is approximately \$3,000 less than the average NJ Household in 2013.

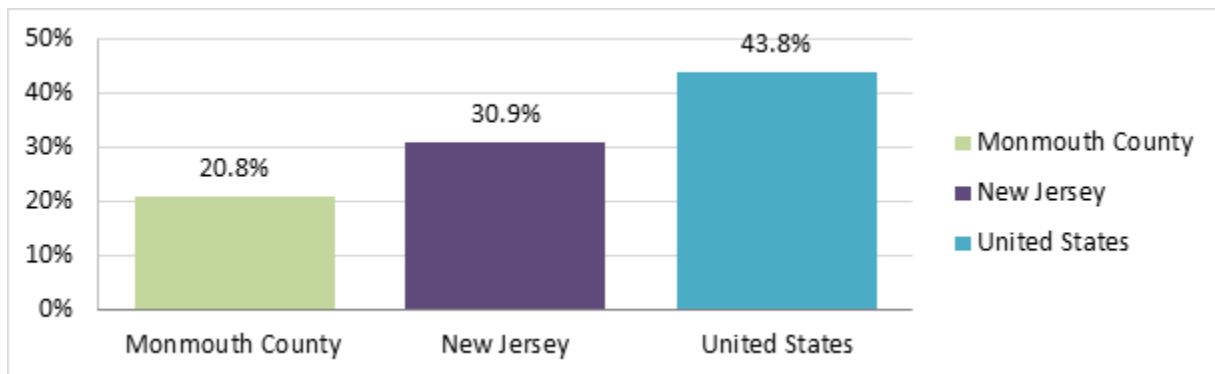
Chart 3: Income Households by Type - Highlands, NJ
 Percentage of Highlands Borough Household types



City-Data.com, 2013

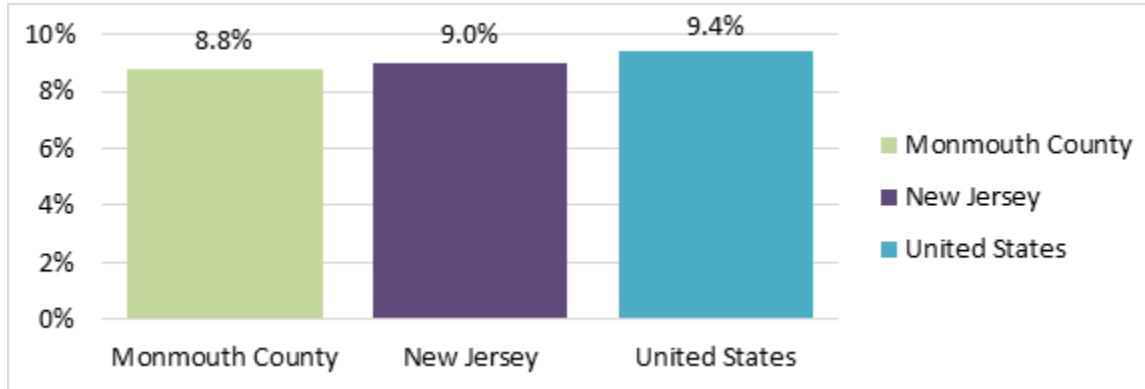
Chart 4. Children in Poverty

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



Meridian Health 2011, 2015 Community Health Needs Assessment

Chart 5: Current Prevalence of Adult Asthma in 2015



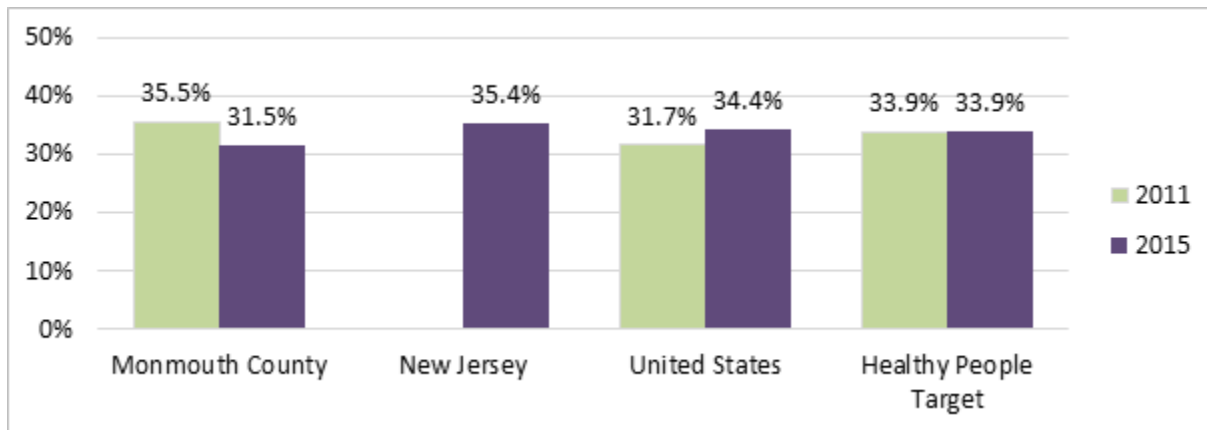
Meridian Health 2011, 2015 Community Health Needs Assessment

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



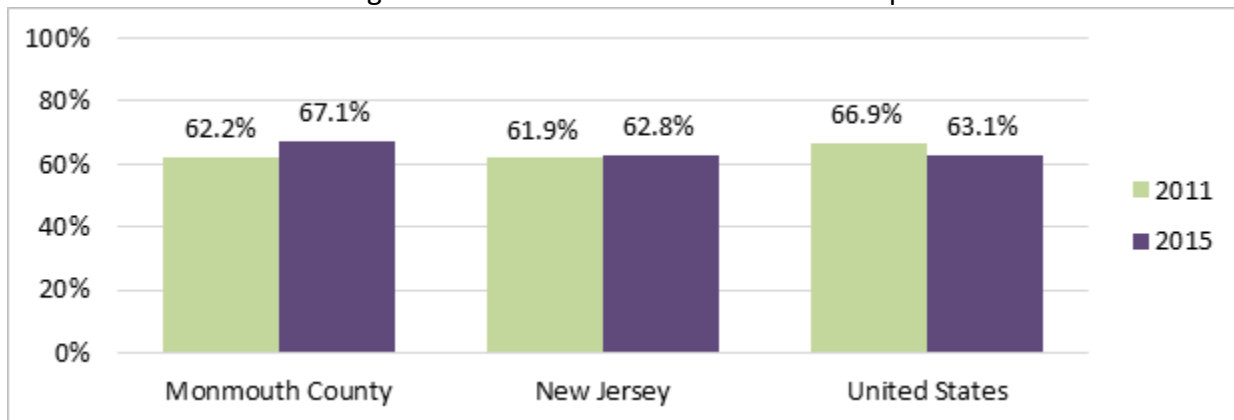
Meridian Health 2011, 2015 Community Health Needs Assessment

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 7. Prevalence of Overweight

Percentage of Adults with BMI Greater than or Equal to 25

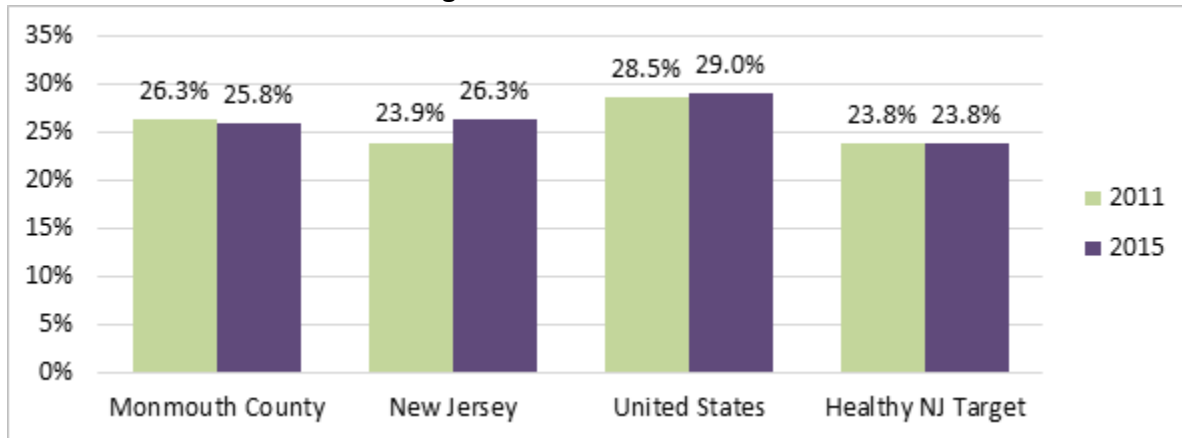


Meridian Health 2011, 2015 Community Health Needs Assessment

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 8. 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.

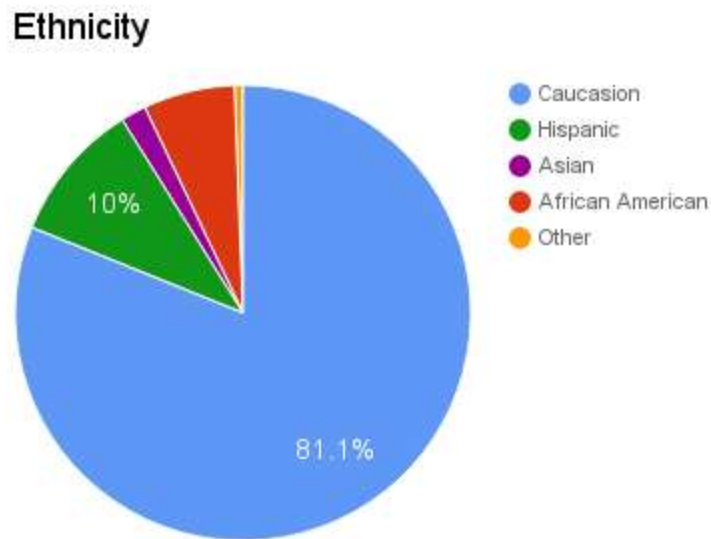
Safety

Students, parents, BOE and Borough representatives reported that Linden and Waterwich Avenues are generally unsafe for walking and biking due to the large amount of ferry traffic in the morning and the speed at which cars are travelling in the school zone. One student reported that his friend had almost been struck numerous times in the past school year by speeding vehicles and one parent pointed out the amount of curb damage caused by trucks and cars running into the curbs on Linden Avenue.

2.2 Highlands Elementary School

Highlands Elementary School is a public elementary school located in Highlands, NJ in the Borough Public School District. It enrolls approximately 170 students in Pre-Kindergarten through Grade 6.

**Chart 9. Ethnicity of Students
Enrollment by Ethnic/Racial Subgroup**



The number of students at Highlands Elementary School was 181 in 2012-2013. The student population decreased slightly to 174 in 2013-2014 and 170 in 2014-2015. As shown in Table 2 below, English is the predominant language spoken at home by 92.4 percent of the students. A smaller percentage of the students speak other languages at home such as Spanish and Arabic at 7.1 percent and 0.5 percent respectively.

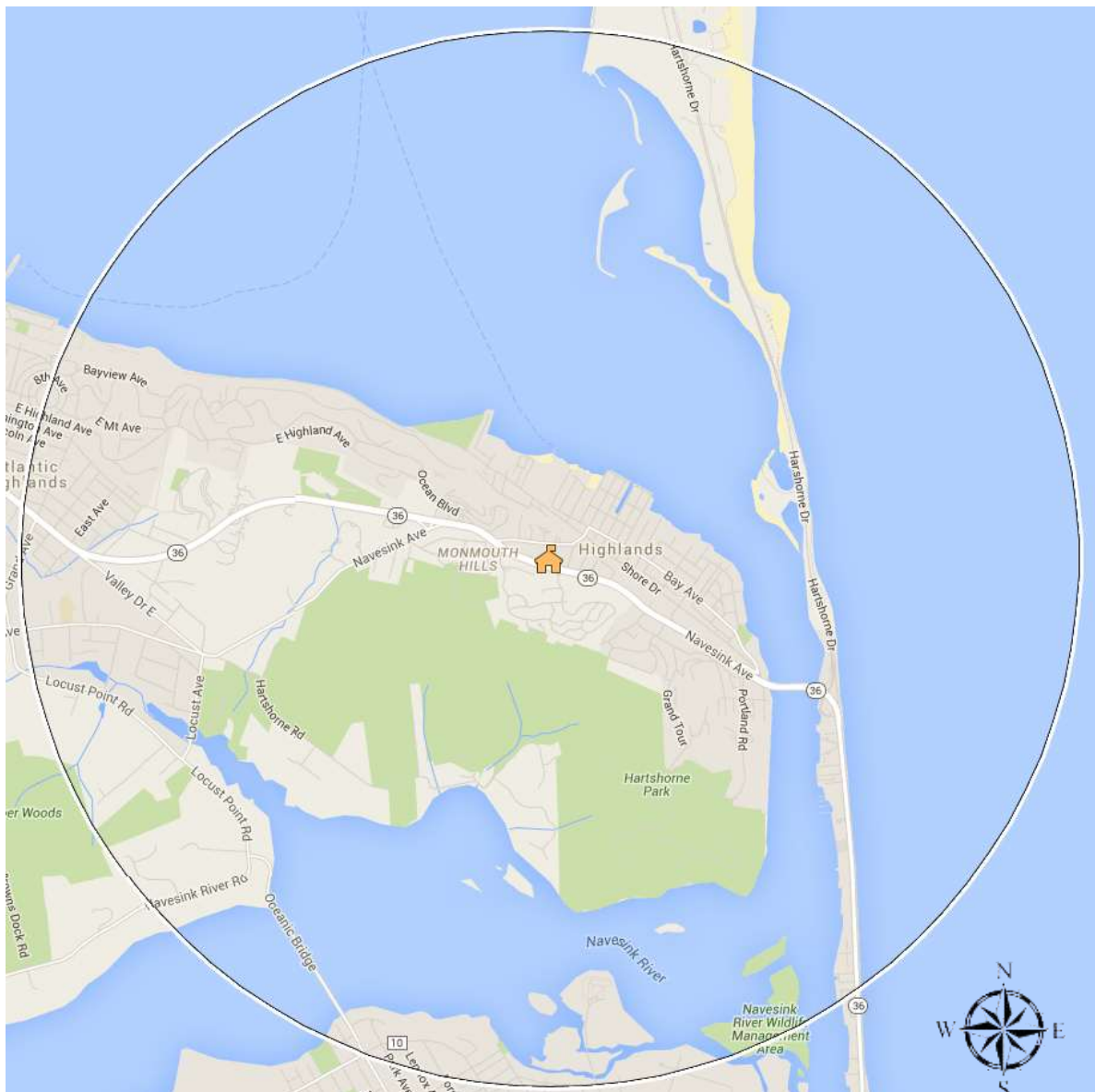
Table 2. Student Language Diversity (2013-14)

Language Diversity	
Percent of students who speak the following languages at home	
English	92.4%
Spanish	7.1%
Arabic	0.5%

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 Highlands Elementary School.

Map 1: Two Mile Area Surrounding Highlands Elementary School



Highlands Elementary School

3.1. Current Student Travel Environment

School Hours

The doors to the school are open for students at 7:55 am. The school day for students starts at 8:15 am and ends at 3:05 pm Monday through Friday.

Drop-off/Pick-Up Procedure

Families who use personal vehicles enter the school via the driveway on Route 36/Memorial Parkway, follow the path to the left and drop off students in front of the side entrance of the school off the parking lot. This door is used by all students, staff and visitors as the main entrance of the school. At dismissal time, the front and back doors are also used by different groups of students to reduce student congestion however, vehicles who arrive to pick up students all need to park in the small school lot or on Linden Ave. A small yellow bus is provided for less than ten students who need busing.

Crossing Guards

There are four crossing guards stationed to the Highlands Elementary School. They are at their posts assisting pedestrians at crosswalks from 7:30 am to 8:30 am and 2:30 pm to 3:30 pm. One is stationed at the corner of South Linden Avenue and Waterwitch Avenue. The second crossing guard is stationed at Shore Drive and Waterwitch Avenue. The third crossing guard is stationed at Bay Avenue and Waterwitch Avenue. The fourth crossing guard is stationed at Route 36 and Miller Street.

School Zone Speed

The speed limit along State Route 36 within the School Zone is 30 mph. The Speed Limit along Linden Ave. within the School Zone is 35 mph. Linden Avenue is under county jurisdiction. The School Zone is any section of roadway adjacent to a school (N.J.S.A. 39:1-1). According to the NJ School Zone Design Guide, "Establishing and enforcing the proper school zone speed limit is critically important. The speed limit in New Jersey, unless otherwise posted, is 25 miles per hour (mph) when passing through a school zone during recess, when the presence of children is clearly visible from the roadway, or while children are going to or leaving school, during opening or closing hours (N.J.S.A. 39:4-98). Because it is established by statute, a 25 mph school zone speed limit does not require adoption of an ordinance and approval from NJDOT. However, not all school speed limit zones are 25 mph. Local authorities, with reference to roadways under their jurisdiction, may by ordinance, or in the case of county authorities, by ordinance or resolution, designate a reasonable and safe speed limit that is less than or greater than 25 mph after an engineering and traffic investigation. The establishment of school speed limits should always be done in coordination with the agency having jurisdiction over the roadway in question, particularly if the limits are less than or greater than 25 mph [N.J.S.A. 39:4-98(c)]."

Highlands Elementary School Walking Buddies Program

Since 2015 the school has instituted a Walking Buddies Program. The Highlands Elementary students who walk home without a parent are matched up at dismissal with other students who live close or walk in the same direction. The “walking buddies” are dismissed together every day so that they never walk home alone.

This relieves the anxiety of the students and their parents and the faculty and administration of having children from grade 4 and up walking home alone. This is a safety precaution and a way to monitor inappropriate behavior on the way home.

Student Travel Mode

In June 2016, the teachers at Highlands Elementary School conducted a Travel Tally to document how the children in their classes get to and from school. Tallies were taken by teachers three times during one week. A total of 552 trips 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 about 24 percent of children walk to school, 3 percent rode the school bus, 71 percent were driven to school, and less than 1 percent carpoolled to school. The study shows 37 percent students walked home, 2 percent of students rode the school bus home, 57 percent were driven home, and less than one percent of students carpoolled home. As for bicycles, 0 percent of students reported riding bikes to school or home.

Table 3. Current Commute Mode

Mode	Arrival	Dismissal
Walk	24 percent	37 percent
School Bus	3 percent	2 percent
Driven in personal car	71 percent	57 percent
Public Transit	0 percent	0 percent
Carpool	0.6 percent	0.8 percent
Bike	0 percent	0 percent



3.2 Pedestrian Safety

Meadowlink conducted an analysis of the pedestrian-related crashes within a one-mile radius of the school over a 10-year period from 2003 to 2016 based on police incident reports. The reported incidents were plotted on Map 2.

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



Table 4. Pedestrian Crashes by Age, In Highlands Borough (2003-2015)

Age	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	Percent
0-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
10-17	0	0	1	0	1	1	0	0	0	0	0	0	0	3	30%
18-35	0	0	0	0	0	0	0	1	2	0	0	0	0	3	30%
36-60	0	0	0	0	0	2	0	0	0	0	0	0	0	2	20%
60+	0	0	0	0	0	0	0	1	0	0	0	0	1	2	20%
Total	0	0	1	0	1	3	0	2	2	0	0	0	1	10	

For Highlands Borough, there were 10 pedestrian crashes between the years 2003-2015. 40 percent of these pedestrian crashes occurred within a mile of Highlands Elementary School. While the majority of the crashes (approximately 70 percent) involved pedestrians aged 18-60, approximately 30 percent (3) of the total incidents involved children in the 0-17 age group.

3.3 Walkability Assessment

The SRTS Task Force conducted a walkability assessment of South Linden Avenue, Waterwitch Avenue, Navesink Avenue and RT. 36 on June 13, 2016. School children and residents of all ages and abilities walk in and through the neighborhood.

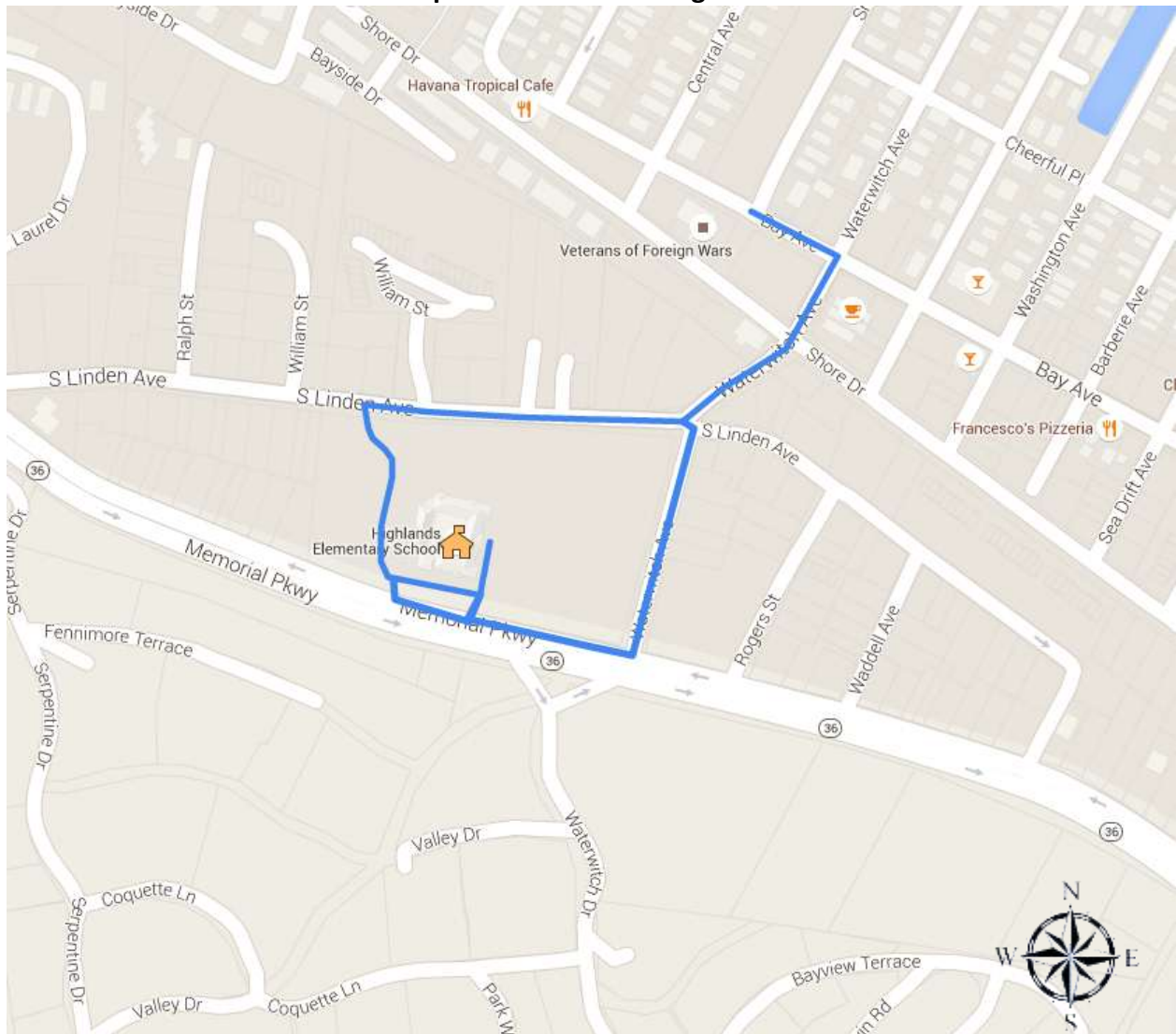
A Walkability Assessment evaluates the sidewalks, roads, crosswalks, lighting, signs, signals, and conditions of the environment along the walking route. A walkability assessment identifies pedestrian and bicycle safety improvements that can be made and notes what is currently done well. The SRTS Task 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.



The Highlands SRTS taskforce met at the school to discuss issues and the Senior Research Specialist from the Voorhees Transportation Center made a short presentation of common infrastructure problems and solutions around schools to improve walkability and bikeability.

Map 3 shows the walking route which was assessed. We started at the back of the school building, walked around to the front of the school, through the parking lot which is the zone dedicated for student drop off and pick up by car or bus. We exited the school property onto Linden Avenue and walked down Linden Avenue. We crossed the street and continued downtown on Waterwitch Avenue, and then we crossed Bay Avenue and walked to Huddy Park where there is a playground. The entire group walked back up Waterwitch Avenue on the opposite side and crossed Linden Ave and continued to Rt. 36. We then walked back to the front of the school on Rt. 36. After the walk, we met again in the school and discussed key issues we observed, project ideas we think should be implemented, and next steps to apply for the SRTS grant.

Map 3: Assessed Walking Route



Highlands Elementary School

Photo 1: Drop off and pickup Zone in parking lot of school



Observations and Recommendations

1. This parking lot area is filled with parents, students, buses and cars at pick up after school
2. Cars are double parked in areas marked "no parking" in the lot waiting for students
3. Police reported that at drop-off in AM, cars are backed up onto Rt. 36
4. Recommend a new area be designated for separate car and bus zones.
5. Recommend school consider implementing staggered dismissal to reduce traffic congestion as it is dangerous to have so many vehicles with students in same area at once.

Photo 2: Linden Avenue exiting school driveway



Observations and Recommendations

1. Missing crosswalk across school driveway
2. Recommend painting high visibility crosswalk in front of driveway
3. Drivers are speeding on Linden Ave as they exit Rt. 36 and drive through the School Zone
4. Recommend to work with County to pass an ordinance to reduce the speed from 35 mph to 25 mph in the school zone during arrival and departure times

Photo 3: Linden Avenue looking across school driveway



Observations and Recommendations

1. There is no crosswalk across the school driveway
2. Missing ADA curb ramps, truncated domes and crosswalk
3. Recommend to add a high visibility crosswalk across driveway
4. Recommend all school zone signs be evaluated for compliance to the Manual on Uniform Traffic Control Devices (MUTCD). Missing and faded school zone signs can be installed including school speed limit signs (MUTCD 7B.15) and warning beacons (MUTCD 4L.03).
5. Recommend "SLOW SCHOOL ZONE" pavement marking (MUTCD 7C.03) be used to alert drivers to slow down, and can install a radar feedback speed limit sign

Photo 4: Linden Avenue heading towards Waterwitch Avenue



Observations and Recommendations

1. Curbs are damaged along Linden Ave due to motorists hitting the curbs
2. Drivers frequently park with two wheels on the sidewalk along Linden
3. Recommend adding striping for parking and/or flexible bollards on the sidewalk to discourage this
4. Consider widening the narrow sidewalk to better accommodate people with disabilities
5. Consider narrowing travel lanes to 10.5 or 11 feet to slow speeds

Photo 5: Linden Avenue heading towards Waterwitch Avenue



Observations and Recommendations

1. Drivers frequently park with two wheels on the sidewalk along Linden.
2. Recommend adding striping for parking and/or flexible bollards on the sidewalk to discourage this
3. Recommend widening the narrow sidewalk to better accommodate people with disabilities
4. Recommend narrowing travel lanes to 10.5 or 11 feet to slow speeds

Photo 6: Linden Avenue



Observations

1. Curbs are damaged along Linden Ave due to motorists hitting the curbs

Photo 7: Linden Avenue



Observations

1. Curb is badly damaged along Linden Ave due to trucks and motorists hitting the curbs
2. Sidewalk is cracked, raised in places and very narrow

Photo 8: Intersection of Linden Avenue & Waterwitch Avenue



Observations and Recommendations

1. Motorists often do not come to a stop or slow when making right turns from Waterwitch onto Linden Ave. This is partially due to the wide curb radius which also lengthens the crosswalk leaving pedestrians exposed for a longer time while crossing the street.
2. Recommend reducing the curb radius can be reduced by using flexible, breakaway bollards, paint or by reconstructing the intersection to tighten the curb radius.
3. Recommend installation of bollard at the corner (lower right corner of Photo 4) to slow traffic as motorists make the turn (Also see Photo 8)
4. There are 3 high visibility striped crosswalks. Recommend painting another high visibility striped crosswalk should be added to the 4th leg of the intersection

Photo 9: Intersection of Linden Avenue & Waterwitch Avenue



Observations and Recommendations

1. Motorists often do not come to a stop or slow when making right turns from Waterwitch onto Linden Ave. This is partially due to the wide curb radius which also lengthens the crosswalk leaving pedestrians exposed for a longer time while crossing the street.
2. Recommend high visibility crosswalk restriping as crosswalk is faded

Photo 10: Intersection of Linden Avenue & Waterwitch Avenue



Observations and Recommendations

1. Student is not using the crosswalk when crossing and is relying on the crossing guard
2. Recommend that EZ Ride do walking and biking safety presentations in the schools in future to educate and encourage students with Pedestrian Safety Presentations

Photo 11: Intersection of Linden Ave & Waterwitch Ave.



Observations and Recommendations

1. ADA curb ramp is missing truncated dome pad on one corner
2. Recommend installing truncated dome pad to meet ADA compliance

Photo 12: Linden Avenue



Recommendations

1. Recommend replacing drainage grate with a bicycle compatible grate where bicycle tires will not get caught

Photo 13: Waterwitch Avenue (heading uphill towards Linden Avenue & school)



Observations and Recommendations

1. Cars are speeding and cutting the corner quickly to turn right onto Linden Avenue
2. Recommend reflective bollards be installed on this corner to slow cars down
3. Recommend "SLOW SCHOOL ZONE" pavement markings be added to alert and slow drivers

Photo 14: Intersection of Waterwitch Ave and Shore Drive



Observations and Recommendations

1. High visibility, ladder striped crosswalks are needed on all 4 legs of the intersection
2. Recommend installing truncated domes at a 90 degree angle
3. Students asked for sidewalks to be installed along northbound lane of Shore Drive to make it easier to walk to the park's playground. Although there are sidewalks along the southbound lane, students noted that the number of busy driveways and parking lots make them less safe when walking on them.

Photo 15: Intersection of Waterwich Avenue & Bay Avenue



Observations and Recommendations

1. The Boro is doing some work on Bay Ave and has recently repaved parts of the roads
2. Recommend high visibility crosswalks need to be repainted
3. Recommend painting a high visibility crosswalk at each corner and ensuring that the ADA curb ramps be added crossing Bay Avenue in order to connect Huddy Park to the Recreation Center

Photo 16: Intersection of Bay Ave. and Snug Harbor Ave.



Recommendations

1. Recommend painting a high visibility ladder striped crosswalk with ADA curb ramps crossing Bay Avenue in order to connect Huddy Park to the Recreation Center, because a number of students attend after school activities at the Recreation Center

Photo 17: Route 36 (Memorial Parkway) in front of the school



Observations and Recommendations

1. There is frequent heavy traffic on Route 36. Highlands Borough should approach NJDOT with a request to improve the walking environment which also serves as travel to a NJ Transit bus stop along Rt. 36.
2. Although there is a shoulder, the sidewalks lack a buffer between the road and the front of the school. NJDOT should consider widening the sidewalks and adding a planted buffer. (Photo 12)

Photo 18: Rt. 36 approaching school entrance driveway on right



Observations and Recommendations

1. The speed limit in front of the school when children are present is 30 mph.
2. Recommend installation of school zone warning beacons and/or radar feedback speed limit signs to alter motorists to reduce speeds during arrival and dismissal times.

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 Highlands Elementary School and its immediate area. To realize the full benefit of the SRTS program, it is suggested that this School Travel Plan be used to apply for SRTS grant funds to fully implement all 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	School, EZ Ride	Short-term, Mid-term, Long-term	No cost
Reinforce pick up and drop off procedures via Robo Call twice a year annually	School	Short-term, Mid-term, Long-term	Low
Create and update Family Handbook that defines arrival and dismissal procedures with map and text that defines drop-off/pick-up areas, the rules and procedures for driving along local streets within school campus and school parking lot	School, School Liaison,	Long-term	Low
Conduct “Drive Slow and Safe” 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, Boro	Short-term, Mid-term, Long-term	Low
Ask Police Department to give a talk re driving safety tip cards to parents at Back to School Night of PFA meetings	Police, School, PTO	Short-term, Mid-term, Long-term	Low
Integrate walking and safety education into classroom curriculum	School	Short-term, Mid-term, Long-term	Low

Leverage Social Media to spread awareness of school zone and enforcement activities	School Action Team, PTO, Community	Short-term, Mid-term, Long-term	Low
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2. Encouragement: Programs to encourage or promote walking and biking

Encouragement Actions	Responsibility	Time Frame	Cost
Hold a student poster contest on Walking and Biking to school	School, EZ Ride	Short-term	Low
Circulate School Travel Plan Report via School website and PFA meetings	School, PTO	Short-term	Low
Host Bike/Walk to School Days throughout the school year	School Action Team. 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 Action Team, PTO, EZ Ride	Short-term, Mid-term, Long-term	Low
School District could pass policies to support walking and biking to school	District, School	Mid-term, Long-term	Low
Borough can pass a Complete Streets Policy	Borough	Mid-term	Low
Utilize the school website to advance Safe Routes to School safety messages at least 1 week in advance	School Tech Coordinator	Mid-term, Long-term	Low

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
Recruit and train more parent volunteers to do Walking Buddies program	School Liaison, PTO, Police	Mid-term, Long-term	Low
Hire/Train more crossing guards who can watch out for kids' safety	Police	Mid-term, Long-term	Medium - High
Ask County to conduct speed study along Linden Avenue & Waterwitch Avenue	County planner/traffic department, Police Department	Short-term, Long-term	Medium
Ask police to set up electric signs that post drivers speeds and remind people to not speed as its school zone – do this 2x a year	Police Department, School Safety Liaison	Short-term, Long-term	Low
Ask town to post police to give tickets to speeding cars on Linden Ave quarterly to	Police, School, Boro	Short term Mid term	Low

deter speeding		Long Term	
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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 " markings on roadways surrounding school to alert drivers to slow down	Boro, DPW	Short-term Mid-term, Long-term	Low
Paint High Visibility Crosswalks at school exit on Linden Ave., and intersections of Linden Ave & Waterwitch Ave, Linden Ave & Bay Ave.	County and Boro DPW, Engineering, Police	Short-term, Mid-term, Long-term	Low
Implement traffic calming measures on Linden Avenue such as traffic signals at crosswalks, flashing radar speed limit signs, narrow lanes and narrow turning radius from Waterwitch to Linden.	County and Boro Engineering, Police	Mid-term, Long-term	Low
Post signs and paint area on roads to define Bus and Car drop off zones	School and Boro DPW/Engineering, Police	Short-term, Mid-term, Long-term	Low
Investigate and ensure ADA compliancy of crosswalks and curb ramps	County and Boro Engineering, Police	Mid-term, Long-term	Medium
Investigate traffic speeds around the school and post 25 mph speed limit signs in place of 35 mph signs in school zone	County Engineering, Boro Engineering, Police	Short-term, Mid-term, Long-term	Medium
Investigate installation of light fixtures around crosswalks at Linden and Waterwitch	County and Boro Engineering, Police	Mid-term, Long-term	Medium
Install reflective bollards to slow drivers down during turns	County and Boro Engineering, Police	Mid-term, Long-term	High
Install sharrow markings or bike lanes on Bay Avenue near the park	County and Boro Engineering, Police	Mid-term, Long-term	Medium-High
Repair curb and sidewalk damage on Linden Ave.	County and Boro Engineering, Police	Short-term, Mid-term,	Low

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

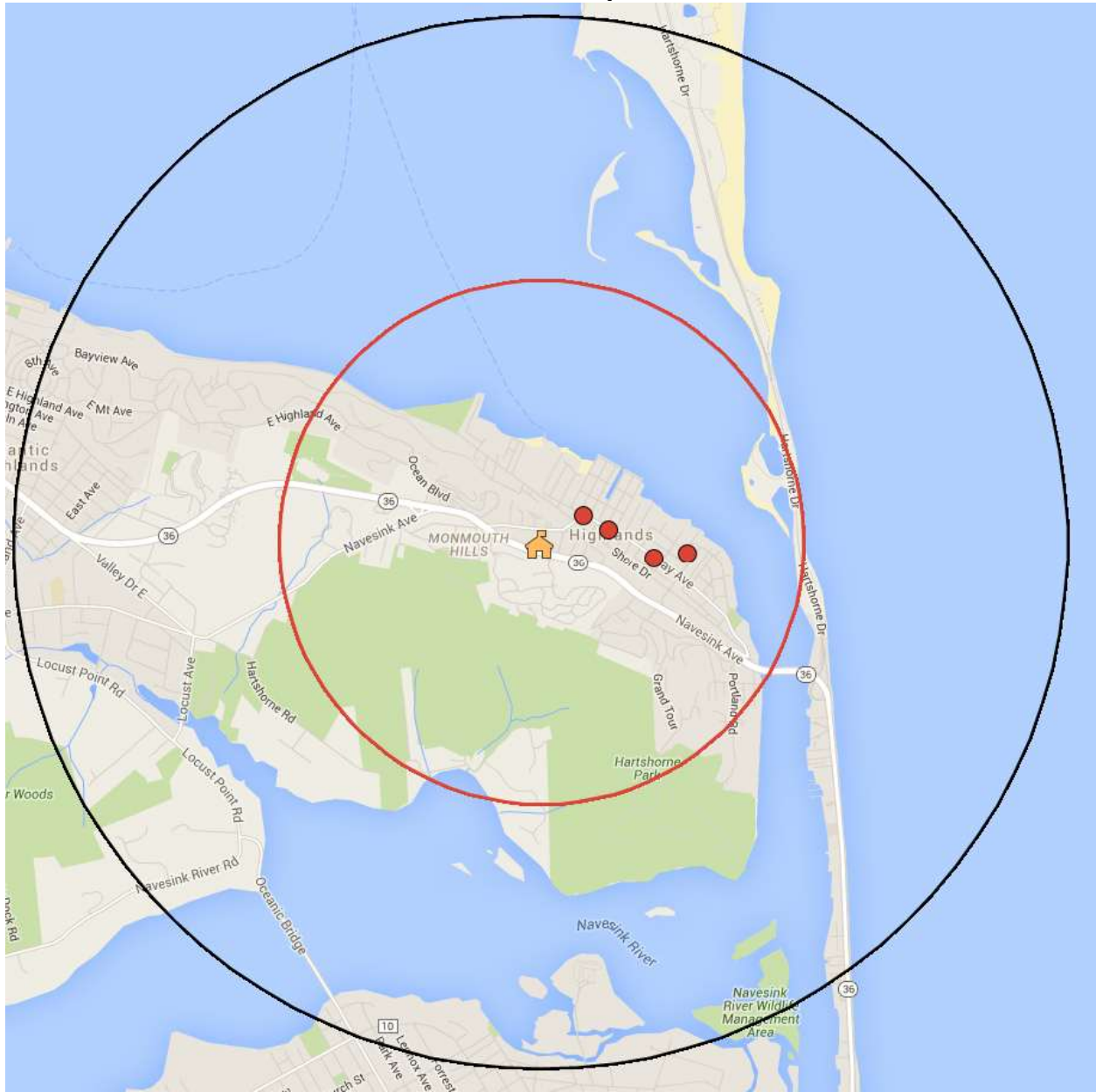
Evaluation Actions	Responsibility	Time Frame	Cost
Conduct Speed studies on Linden Avenue & Waterwitch Avenue to see if traffic is slower	Boro, County	Short, Mid-term and Long Term	Medium
Continue to conduct student travel tallies every year to measure how effective the SRTS program has been to increase the number of students walking, biking or carpooling	School, EZ Ride,	Mid-term, Long-term	Low
Improve communications between school officials and families establishing a convenient mechanism to share information and get feedback	PTO, School Tech Coordinator	Short-term, Mid-term, Long-term	Low
Evaluate if District passed any policies to support walking and biking to school	District	Short, Mid-term and Long Term	Low
Evaluate whether or not Boro has passed and implemented a Complete Streets policy	Boro	Short, Mid-term and Long Term	Low

Conclusion

Community priorities around Highlands Elementary School are safety for students, reducing the speed of traffic in the school zone along Linden Avenue, adding SLOW SCHOOL ZONE pavement markings on Linden Avenue, flashing stop signs, radar speed limit signs to alert drivers, restriping crosswalks, and adding sharrows markings or bike lanes where feasible. There is a lot of ferry traffic during student travel times on Linden Avenue and cars are speeding because drivers are trying to get to the ferry on time. Drivers need to be alert to the school zone and students travelling to school. The County speed limit of 35 mph should be reduced to 25 mph during school hours because this is a school zone. The County should also consider adding pedestrian countdown traffic signals at the intersection of Linden & Waterwitch and Linden & Bay Ave to help students get to the school and the local park.

The school community's desire to collaborate to help protect students due to recent crashes is admirable and deserves support from the County and Town. Meadowlink is proud to work with the community to improve safety and is looking forward to bringing SRTS safety programs to the school. This is the first School Travel Plan prepared for Highlands Elementary School. It is hoped this report will be used to apply for SRTS infrastructure grants to make the sidewalks and neighborhood safer for students to walk and bike to the Highlands Elementary School.

Appendix A Crash Map



Highlands Elementary School



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