# OCEAN CITY

## OCEAN CITY PRIMARY SCHOOL & OCEAN CITY INTERMEDIATE SCHOOL





# SCHOOL TRAVEL PLAN

JANUARY, 2016

NEW JERSEY
Safe Routes to School

CROSS COUNTY CONNECTION
TRANSPORTATION MANAGEMENT ASSOCIATION
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# OCEAN CITY SCHOOL DISTRICT TRAVEL PLAN

Prepared by:
Cross County Connection Transportation Management Association
January 2016

Cross County Connection Transportation Management Association was formally incorporated in 1989 through efforts of a group of southern New Jersey business leaders, local government officials, and representatives from the New Jersey Department of Transportation and New Jersey Transit Corporation to address mobility issues in the region and reduce the number of vehicles on state and local roadways. Today, Cross County Connection is a non-profit organization partnering with the New Jersey Department of Transportation, New Jersey Transit, Federal Highway Administration and its members to provide solutions to complex transportation problems for counties, municipalities, employers and commuters in Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem Counties.

A School Travel Plan is a document that helps to identify student walking and bicycling travel corridors and recommends infrastructure improvements to make them safer for students. A School Travel Plan helps to identify short term and long term solutions to help encourage students to walk and bicycle to school safely.

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# CONTENTS

# TABLES



# MAPS



# APPENDICES



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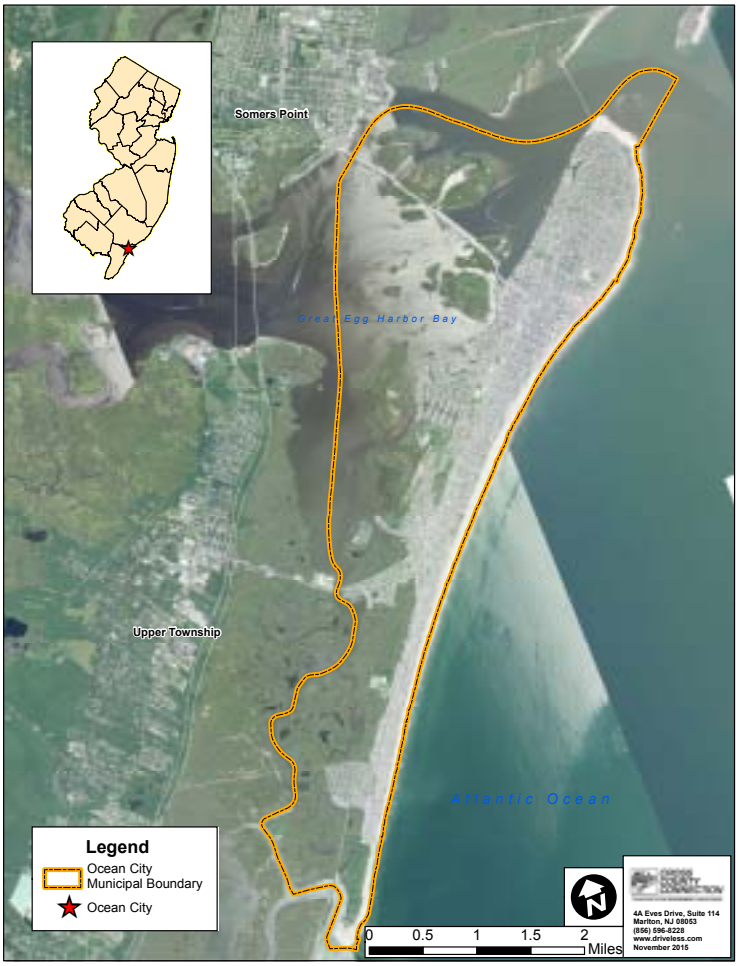
# 1. INTRODUCTION

**Map 1: Location of Ocean City, NJ**




The community of Ocean City is located on a barrier island along the southern coast of New Jersey, less than 10 miles southwest of Atlantic City and 65 miles southeast of Philadelphia. Ocean City is bordered by Somers Point and Longport to the north and Strathmere to the south. The Atlantic Ocean borders Ocean City to the east and the Great Egg Harbor Bay and marshland of Upper Township serve as the border to the west. As of 2014, Ocean City had a population of 11,520 with approximately 1,820 persons per square mile.

The Ocean City Public School District serves students in Kindergarten through 12th grade. The school district consists of three schools: Ocean City Primary School (grades Pre-K-3), Ocean City Intermediate School (grades 4-8), and Ocean City High School (grades 9-12). The Ocean City School District recognizes the importance of active transportation for the health of children and the environmental health of their community. To that end, the school district passed a Resolution of Support in favor of pursuing a sustainable Safe Routes to School program in the spring of 2015 (See Appendix A). The City seeks to increase the number of children that walk or bike to school. As part of the school district's effort to create safe pedestrian corridors, improve the health of students and reduce traffic congestion around schools, the administration has chosen to develop a Safe Routes to School (SRTS) Student Travel Plan for Ocean City Primary School and Ocean City Intermediate School.

## Goals

The purpose of this School Travel Plan is to provide a summary of existing walking and bicycling conditions, identify potential infrastructure improvements, and recommend additional educational and encouragement activities to facilitate safe pedestrian and bicycling movement to and from Ocean City's Primary and Intermediate schools. These objectives are consistent with the National Safe Routes to School Program goals of improving the health of schoolchildren through increased activity, increasing travel safety, and reducing reliance on motor vehicles to get to school. The goals of this Travel Plan are as follows:

- To encourage more students to walk to and from school
- To create a safer walking and bicycling environment for students who wish to walk and bike to school
- To improve the overall health of schoolchildren through increased physical activity
- To establish healthy lifestyle habits among schoolchildren that will continue into the future
- To reduce the negative environmental impact of automobile trips to schools, especially the effects of vehicles idling in close proximity to children

## Project Overview

The *Ocean City School District Travel Plan* was created in collaboration with municipal representatives of Ocean City and officials from the School District. Chapter 2, provides a brief overview of potential infrastructure improvements and treatments to enhance safety for children walking and bicycling to school. Chapter 3 assesses existing conditions and crash locations, while Chapter 4 identifies potential improvements for specific corridors based on the existing conditions analysis, input from City and School District representatives, and a walking audit of the area surrounding Ocean City's Primary and Intermediate schools. Chapter 5 emphasizes how to integrate the 5 E's of the SRTS Program, which are: Evaluation, Engineering, Education, Encouragement and Enforcement, by identifying actions and programs to encourage more students to safely walk or bike to school. Chapter 6 summarizes the findings and includes a list of resources to assist Ocean City with advancing its SRTS initiative.

**Bicycle racks, Ocean City Primary School**

## School Descriptions

As shown on Maps 2 and 3, Ocean City Primary School is bordered by West Avenue to the east and Bay Avenue to the west. The Primary School is bordered by 5th Street to the north and 6th Street to the south. Ocean City Intermediate School is located across town from the Primary School on Bay Avenue. It is bordered by 18th Street to the north, 20th Street to the south, Haven Avenue to the east, and Bay Avenue to the west. The two schools are 1.6 miles apart, both located in an urban area characterized by a grid street pattern. Ocean City Primary school is located directly to the east of Memorial Park and the Intermediate School is located two blocks away from Emil Palmer Park. Both parks are used for after school student activities and programs. The Primary School provides bicycle racks in front of the school next to the main entrance on West Avenue. The Intermediate School provides bicycle racks in front of the school on Bay Avenue, next to the main entrance and in the back of the school next to the basketball courts.

## Map 2: Ocean City Primary and Intermediate School Locations

Ocean City School District provides students with courtesy busing. Students who are eligible for courtesy busing to Ocean City Primary must live south of 9th Street or north of North Street. Eligible students for courtesy busing to the Intermediate School must live south of 34th Street, north of 9th Street, or west of Bay Avenue between Tennessee Avenue and 34th Street.

The City's compact grid pattern is conducive to walking and bicycling to school where appropriate infrastructure exists, and sidewalks are located on almost all streets throughout the City. A majority of the City consists of single family homes. During summer months, the city has an influx of tourists and second home owners. The Ocean City Boardwalk serves as the community's main commercial corridor between 14th Street and 1st Street. Attractions offered include water parks, amusement piers, restaurants, and access to Ocean City beaches, which attract residents and visitors alike. Since Ocean City is a popular tourist destination, students must contend with substantial traffic when walking or bicycling in warmer months.

## Working Group

This Travel Plan was developed by Cross County Connection in partnership with the SRTS working group members listed below (Table 1). Matthew Von Der Hayden, Ocean City Capital Management Planner, was the primary contact for the Travel Plan and coordinated input from the Ocean City School District and the City.

Table 1: Ocean City School District SRTS Working Group

| Organization | Role | Contact |
|---|---|---|
| Cross County Connection TMA | SRTS Program Assistance | Sean Schweitzer, SRTS Coordinator<br>schweitzer@driveless.com |
| Ocean City Board of Education | Implementation | Mark Ritter, Business Administrator<br>mritter@ocsdnj.com |
| Ocean City Board of Education | Implementation | Joseph Clark, Board President<br>jclark@ocnj.us |
| Ocean City Engineer | Implementation | Arthur Chew, Assistant Engineer<br>achew@ocnj.us |
| Ocean City Public Works | Implementation | Matthew Von Der Hayden,<br>Ocean City Capital Management Planner<br>mvonderhayden@ocnj.us |
| Ocean City Intermediate School | Implementation | Geoffrey Haines, Principal<br>ghaines@ocsdnj.com |
| Ocean City Primary School | Implementation | Cathleen Smith, Principal<br>csmith@ocsdnj.org |
| Ocean City School District | Implementation | Kathleen Taylor, Superintendent<br>ktaylor@ocsdnj.com |
| Ocean City Police Department | Enforcement | Jay Prettyman, Police Sergeant<br>jprettyman@ocnj.us |
| Ocean City Police Department | Enforcement | Brian Hopely, Police Traffic Sergeant<br>bhopely@ocnj.us |

## Study Area and Scope

This travel plan was prepared for the use of the Ocean City School District SRTS working group and its members. The travel plan considers the physical characteristics of Ocean City's walking and bicycling infrastructure from the perspective of students aged 5-14. Physical environment observations, analysis, and recommendations are limited to areas where these students could walk or bike to school, based on methodology provided by the National Center for Safe Routes to School. The NCSRTS assumes 30 minutes of travel as the maximum an elementary or middle school student would regularly walk or bike to school;[1] the range of student travel is provided in the table below and illustrated in Map 3.

In order to prioritize the most critical physical infrastructure improvements to benefit the most students, areas closest to the schools were selected for detailed analysis and recommendations in this travel plan. A study area of a ten minute (approximately 1/2 mile) walking radius was selected for each school. In general, many Primary School students may need to be supervised while walking or biking even short distances, while older students may be able to travel distances of beyond the half-mile study area. For example, as the table shows below, Intermediate School students could travel roughly 1.35 miles walking or roughly 2.5 miles by bicycle in 30 minutes or less. For infrastructure prioritization purposes, the 1/2 mile radius was selected for both schools.

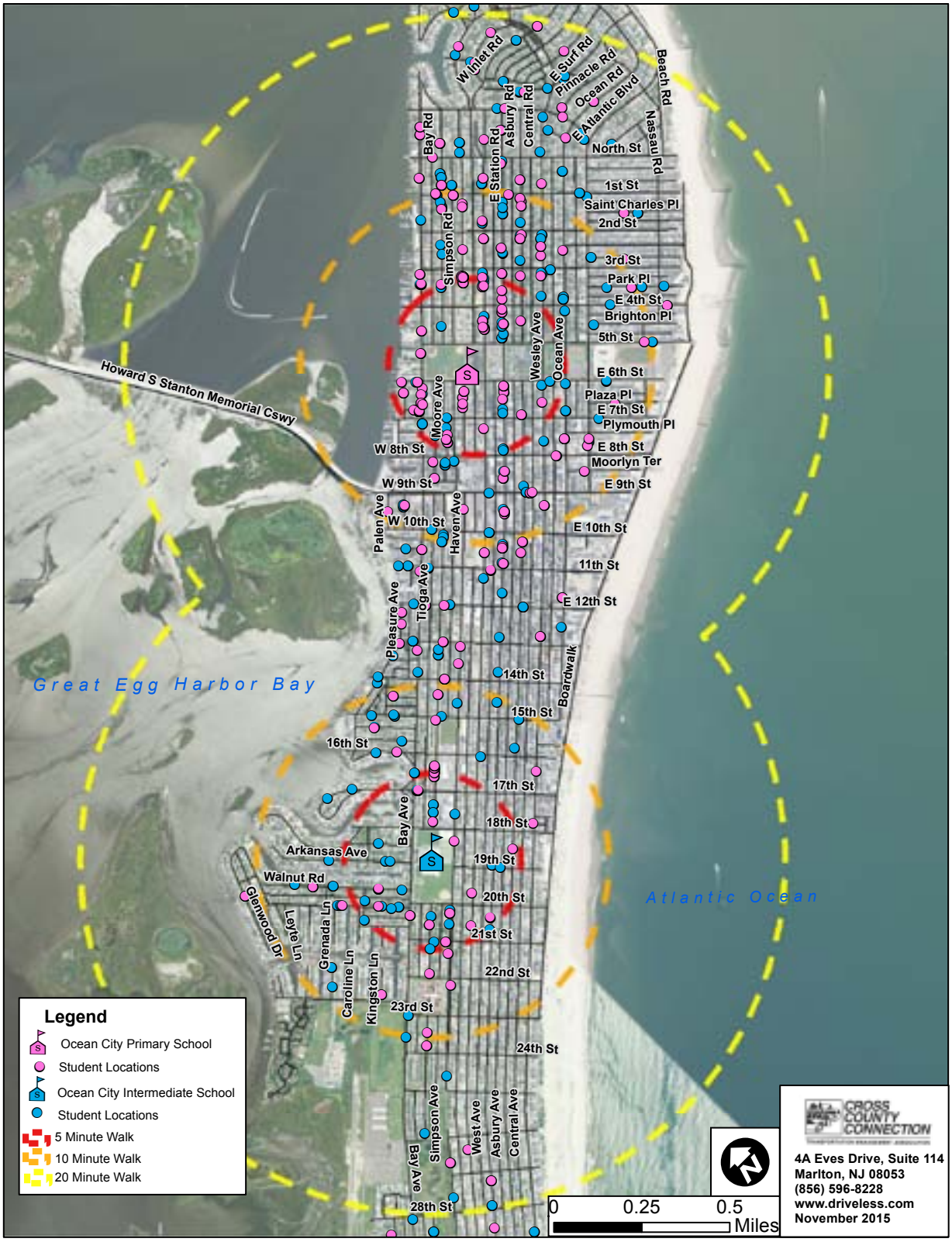
Table 2: Student Travel Ranges

| Walking | | Bicycling | |
|---|---|---|---|
| Minutes | Miles | Minutes | Miles |
| 5 | 0.23 | 5 | 0.42 |
| 10 | 0.45 | 10 | 0.83 |
| 15 | 0.68 | 15 | 1.25 |
| 20 | 0.90 | 20 | 1.67 |
| 25 | 1.13 | 25 | 2.18 |
| 30 | 1.35 | 30 | 2.50 |

School program and policy analysis and recommendations are tailored to the Ocean City Primary and Intermediate schools, while other non-physical aspects of the study, such as city ordinances and municipal activities, are considered city-wide.

[1] http://www.saferoutesinfo.org/program-tools/what-distances-are-reasonable-expect-elementary-school-students-bike-school

## Map 3: Ocean City School District Study Area



# 2. INFRASTRUCTURE IMPROVEMENT STRATEGIES

Communities can implement a variety of infrastructure improvements to enhance safety for bicyclists and pedestrians and facilitate safe and convenient student travel to and from school. This chapter provides a brief overview of common pedestrian and bicycle facilities, some of which are identified as current infrastructure in Chapter 3 and potential infrastructure improvements in Chapter 4. This chapter is intended to familiarize readers with these design treatments, but does not provide an exhaustive list of potential infrastructure improvements. Additionally, this chapter is not intended to serve as a design guide. Project designers and engineers should consult the respective engineering guidance when designing and implementing these facilities, such as American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highway and Streets*, AASHTO's *Guide for the Development of Bicycle Facilities*, the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*, the National Association of City Transportation Officials' (NATCO) *Urban Bikeway Design Guide*, NJDOT's *Roadway Design Manual*, and others.

## Pedestrian Improvements

### Sidewalks

Sidewalks are travel lanes for pedestrians. These facilities separate pedestrian travel from motor vehicle traffic, which greatly increases safety for walkers. Sidewalks are typically a minimum of five-feet wide and are often made of concrete, asphalt, or other materials. Biking on sidewalks is not permitted in Ocean City; however bicycling on sidewalks has been observed. Bicycling on sidewalks can result in conflicts with pedestrians, which may create safety concerns. While it is appropriate for younger children to ride on sidewalks with or without parental supervision, it may be more appropriate for older children that receive bicycle safety education, to ride on roadways that safely accommodate bike travel. Students at any age should always wear a properly fitted bicycle helmet.

Sidewalk on 5th Street, Ocean City, NJ

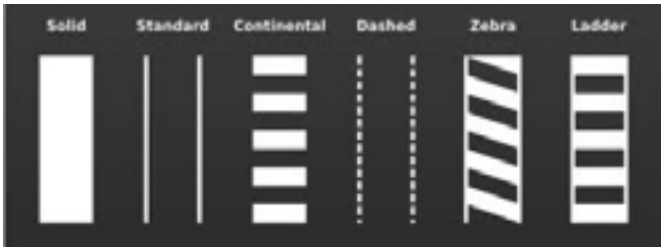
### Curb Ramps

Curb ramps provide access to sidewalks from the roadway, which is particularly important for people using wheelchairs, parents with strollers, or individuals that have difficulty stepping up and down curbs, such as elderly individuals. Newly constructed or altered roadway projects are required to incorporate curb ramps in accordance with the Americans with Disabilities Act (ADA) design guidelines. ADA requirements also specify that curb ramps must be equipped with

Curb ramp, Ocean City, NJ

detectable warning surfaces (DWS) that provide a warning to visually impaired pedestrians. Separate curb ramps should be provided for each crosswalk, as opposed to a single ramp at a corner for both crosswalks, because visually impaired individuals use these ramps to orient themselves toward crosswalks.

## Marked Crosswalks




Crosswalks exist at every intersection, regardless of whether they are marked with paint. Marked crosswalks, however, indicate preferred locations for pedestrians to cross, and help alert motorists to pedestrian crossing locations. Additionally, in New Jersey, motorists are required to stop for pedestrians in marked crosswalks, but are only required to yield to pedestrians in unmarked crosswalks. Marked crosswalks may also be used to indicate school walking routes, and may be desirable to install in locations with many pedestrians, such as in downtown areas and near schools. There are a variety of marked crosswalks that are permitted by the Manual on Uniform Traffic Control Devices (MUTCD), shown above. Solid, continental, zebra, and ladder crosswalks are more visible to motorists and are known as high-visibility crosswalks.


Pedestrian crossing island, West Windsor, NJ

## Crossing Islands

Crossing islands, or pedestrian refuge islands, are raised islands located in the center of a roadway at an intersection or mid-block crosswalk. These facilities provide pedestrians with a safe place to stop halfway across a roadway to deal with vehicle traffic traveling in one direction at a time. Slower-paced pedestrians may feel more comfortable crossing the street when crossing islands are present, and the installation of these facilities has been shown to decrease pedestrian-vehicle collisions and reduce vehicle speeds.

## Curb Extensions

Curb extensions, also known as bump-outs or bulb-outs, extend the sidewalk or curb line into a parking lane, which reduces street width. This improves pedestrian crossings by reducing the distance required to cross the street. These facilities increase visibility for pedestrians since motorists are prevented from parking in or too close to a crosswalk. Curb extensions should only be used where there is a parking lane, and care should be taken on roads with transit or bicycle lanes.


Curb extension with bicycle lane & pedestrian signage, Ocean City, NJ

### Signage


In-street pedestrian signage, Ocean City, NJ

Pedestrian crossing signs may be used to complement crosswalks, and can be helpful in alerting motorists to busy crossing locations. This signage includes traditional pedestrian crossing signs, school-specific crossing signs, and rectangular rapid flashing beacons (RRFBs), which emit a flashing yellow light when activated by a pedestrian, and others. In-street signs can be installed at uncontrolled, mid-block pedestrian crossings to help make crosswalks more visible to drivers and encourage them to stop for pedestrians. These signs can only be installed at mid-block locations as they are prohibited by the 2009 MUTCD at signalized intersections. These signs can be permanently installed in the roadway or mounted on a portable base, which allows them to be easily removed or relocated. These signs must reflect the respective state law regarding whether motorists are required to yield or stop for pedestrians in a crosswalk. New Jersey law requires vehicles to stop and stay stopped for pedestrians crossing the roadway within any marked crosswalk.

## Bicycle Improvements

### Bicycle Routes


Sharrows on a connector bike route, Ocean City, NJ

Bicycle routes are a type of on-road bikeway. These facilities designate preferred routes for bicycle travel and indicate that a roadway is a shared travel environment for bicyclists and motorists. Bicycle routes can be marked with signs, such as “bike route” or “bicycles may use full lane.” These facilities may also be marked with “sharrow” pavement markings. These markings inform motorists to expect bicyclists and show bicyclists where to ride. Bicycle route and share the road signs can also provide bicyclists with wayfinding assistance. These treatments are preferable on high-volume roadways which are too narrow for designated bicycle lanes; however sharrows should not be seen as a universally appropriate replacement for dedicated bicycle infrastructure. For example, in the above photograph, the roadbed appears to be wide enough to accommodate bicycle lanes in either or both directions. If parallel parking lanes are present but not needed, conversion to bicycle lanes may be appropriate.

## Bicycle Lanes

Bicycle lanes are another type of on-street bikeway. The installation of bicycle lanes designates space on a roadway for bicyclists with striping and pavement markings. These lanes, which are typically a minimum of five feet wide, are for the exclusive use of bicyclists and help reduce conflicts between motorists and bicyclists. As previously mentioned, Ocean City has installed bicycle lanes on West Avenue, Haven Avenue, and is in the process of equipping Bay Avenue with bicycle lanes.

Bicycle lanes, Wildwood Crest, NJ

## Protected Bicycle Lanes

There are two additional types of bicycle lanes that can provide additional separation between motorists and bicyclists. Buffered bicycle lanes further enhance safety by increasing the space between motorists and bicyclists with a painted buffer. This creates additional passing distance and creates a sense of increased safety. These buffers are typically a minimum of two-feet wide. Protected bicycle lanes, also known as cycle tracks, include a physical barrier, such as planters, a parking lane, or flexible plastic bollards, to further enhance comfort and safety for bicyclists riding in the roadway.

Buffered bicycle lane, Ocean City, NJ

Cycle track, Ocean City, NJ

Bicycle and Pedestrian HAWK signal, 9th Street & Aldrich Avenue, Ocean City, NJ

# 3. EXISTING CONDITIONS

## School Policies and Practices

At the beginning of each school year, students that attend Ocean City's Primary and Intermediate schools and their parents are issued a handbook outlining school transportation policies. The handbook is available online by visiting the Ocean City School District website. Ocean City is a walking district, with the exception of students participating in special education programs, those with disabilities, and those determined to live far enough from the school to require courtesy busing. Students are permitted to walk or bike to school, and Ocean City provides crossing guards at the following intersections within the study area (shown in Maps 4 and 5):

Primary School Crossing Guards
- 5th Street at West Avenue
- 6th Street at West Avenue
- 5th Street at Asbury Avenue

Intermediate School Crossing Guards
- 18th Street at Haven Avenue
- 18th Street at Bay Avenue

### Primary School Drop off & Pick Up Policies

According to the Ocean City Primary School Student Handbook, school is in session from 8:35 AM – 3 PM. No student is permitted in a classroom prior to that time unless it has been arranged in advance with the classroom teacher. Ocean City Primary School's Principal, Cathleen Smith, noted that the following drop-off/pick-up policy is in effect.

- Morning and afternoon drop off & pick-up is at the main entrance, and is supervised.
- All students are to enter the school through the main entrance in front of the school located on West Ave.
- Parents may drop off their children in front of the school in designated drop-off parking spots.
- Students who take the bus will enter the side door of the school.
- All Students will exit to their respective buses and to cars through the main entrance doors. Parents picking up their child can park in front of the school (West Avenue), but are encouraged to do so quickly.

## Map 4: Primary School Drop Off and Crossing Guards

### Intermediate School Drop off & Pick up Policies

As noted by Ocean City Intermediate School's Principal, Geoffrey Haines, Ocean City Intermediate School is in session from 7:45 AM to 2:20 PM, and students are not permitted in the school before 7:35 AM unless given prior permission. Mr. Haines detailed the following additional policies for Ocean City Intermediate School.

- Parents who drive students to school are reminded that during the morning bus time (7:30AM to 8:00AM) and afternoon bus time (2:00PM to 2:30PM) motor vehicles are not permitted in the front driveway regardless of the weather.
- Parents must drop off or pick-up students on Haven Avenue directly behind the school. There is a safe drop-off/pick-up zone on Haven Avenue adjacent to the Intermediate School.
- Bay Avenue, in front of the school, is a "No Stopping or Standing" area. Students cannot be dropped off or picked-up in the school driveway or on Bay Avenue in front of the school. Violators may be subject to enforcement.

## Municipal Policies and Practices

In addition to supporting the Safe Routes to School (SRTS) program, Ocean City has demonstrated its commitment to improving safety for all roadway users, including pedestrians and bicyclists, by adopting a Complete Streets policy. Complete Streets are roadways designed for users of all modes of travel and any age or ability. While a Complete Street will vary depending on local context, these roadways often include one or more elements such as sidewalks, crosswalks, curb ramps, bicycle lanes, and transit shelters. Adopting a Complete Streets policy directs transportation planners, engineers, other government staff, and officials to consider and balance the needs of everyone in roadway projects, and it helps formalize the idea and practice of routinely accommodating all roadway users in transportation projects.

Ocean City adopted its Complete Streets policy in October 2011. This initiative complements and supports the Safe Routes to School (SRTS) program as the City routinely considers all roadway users, including children, in transportation projects. Findings from the Ocean City Travel Plan should be considered during the implementation of the City's Complete Streets policy or any other roadway improvements, particularly for projects in the vicinity of Ocean City Primary and Intermediate schools, by implementing pedestrian and bicycle accommodating infrastructure.

## Recent Grants

Ocean City received several grants between 2014 and 2015 that have helped support transportation infrastructure improvements and maintain current pedestrian infrastructure. The grants Ocean City received are:

- Sustainable Jersey Capacity Building Grant.....$2,000.00
- New Jersey DOT Grant Safe Streets to Transit Grant.....$100,000.00
- Green Acres Cape May County Recreation Grant.....$500,000.00

## Map 5: Intermediate School Drop Off and Crossing Guards

Ocean City will use these grants to maintain pedestrian/bicycle infrastructure and recreational facilities for students.

The Sustainable Jersey Capacity Building Grant funds can be used for school green team expenses. Funding does not have to be for project-specific activities, although grant funding may be used for a project that will earn points for an Action Item in the Sustainable Jersey for Schools program.

The New Jersey Department of Transportation (NJDOT) Safe Streets to Transit Grant was used in 2014 to install a HAWK (high-intensity activated crosswalk) signal at the intersection of 9th Street and Aldrich Avenue to allow students and residents to cross the busy intersection at 9th Street. It also helps bicyclists and students bicycling to school that live on the other side of of 9th Street get to the Ocean City Primary and Intermediate schools safely.

The Green Acres Cape May County Recreation Grant will be used to create a state-of-the-art skateboard park where students can participate in after school activities. This helps to encourage students to skateboard to school and participate in after-school activities revolving around healthy recreation. The park will be constructed directly across from the Primary School, in what is currently a parking lot beside the firehouse on West Avenue.

## Travel Mode

Student travel tallies were conducted by teachers at Ocean City Primary School and Intermediate schools in the spring of 2015 over a one week period. A breakdown of how students travel to school is shown in Table 3.

The Ocean City School District provides busing to approximately 67% of the Primary School's students and 62% of the Intermediate School's students. However, as Table 3 shows only 41% and 45% of students, respectively, at the Primary and Intermediate schools, actually used the bus during the survey week. At the Primary School and Intermediate Schools, 37% and 33%, respectively, of students arrived by car.

The results of the Student Travel Tally are indicative of the vehicle congestion observed at student arrival and dismissal times. Parents reported that congestion around both schools in the morning and afternoon makes them feel it is dangerous for students to walk to school, which is why they drive their children. However, this only further contributes to congestion at student arrival and dismissal times.

Table 3: Student Population Travel Mode

| Travel Mode | Ocean City Primary School | | Ocean City Intermediate School | |
|---|---|---|---|---|
| | Students | % Total | Students | % Total |
| Walk | 51 | 15.2% | 56 | 11.3% |
| Bike & Other Wheels | 23 | 6.8% | 56 | 11.3% |
| Bus | 138 | 41.1% | 222 | 44.8% |
| Car | 124 | 36.9% | 162 | 32.7% |
| Total Students | 336 | 100% | 496 | 100% |

## Bicycle and Pedestrian Facilities

"OC-1" Bicycle Route Symbol, Haven Avenue

Ocean City has a long history of providing exemplary bicycle and pedestrian facilities. Ocean City was recently honored for its success to date in Complete Streets policy implementation, including the installation of new bicycle and pedestrian facilities. The following is a list of the major bicycle and pedestrian facilities currently available to use, also shown in Map 6:

### Haven Avenue Route (OC 1)

Haven Avenue is a bicycle boulevard featuring shared lane markings, low vehicle speeds, and low traffic volumes. It is a north-south corridor with a motor vehicle speed limit of 15 mph. The route is denoted with the sign "OC-1" with a bicycle symbol accompanying it along the route. "OC 1" extends from 9th to 35th Streets, where it ends, and then resumes again from 49th to 56th Streets. The Haven Avenue bicycle route connects with parallel dedicated bicycle facilities, including on-street bicycle lanes on West Avenue and the Boardwalk Bicycle Route via shorter east-west "connector routes." These connector routes are marked with "sharrows" to indicate the presence of bicycle traffic.

### West Avenue Route

The West Avenue Bike Route extends north-south starting from 12th Street and ends at 55th Street, with designated bicycle lanes on either side of West Avenue. West Avenue is a main corridor and may not be well-suited to beginner riders due to its high traffic volume, on street parallel parking, and higher speed limit (30 MPH).


Bicycle lane on West Avenue

### Bay Avenue Route

New designated bicycle lanes have been installed on this county road through city and county funding from 6th Street to 18th Street. These lanes provide enhanced safety and comfort for many riders, but because Bay Avenue is a main north-south corridor with heavy traffic volumes and motor vehicle speed limits of up to 35 MPH, it may be unsuitable for beginner riders in its current configuration.

### Boardwalk Route

The Boardwalk at Ocean City allows the use of bicycles and offers designated bike lanes from 1st Street to 23rd Street. In the summer (May 15th to Labor Day) biking is permitted between 5AM and 12PM. Bicycling is prohibited on the boardwalk after noon, due to high pedestrian congestion during the afternoon and evening hours during the summer season.

## Map 6: Existing Bicycle Facilities

## Connector Routes and Loops

Connecting bicycle routes can be found intermittently throughout Ocean City. The majority of these routes run east-west to connect the Haven Avenue route, West Avenue route, and ultimately the Boardwalk route, enabling residents to travel freely around Ocean City to multiple destinations including homes, businesses, and the shore via bicycle. Connecting routes are located at Battersea Road, 6th, 10th, 14th, 18th, 24th, 29th, 52nd, and 55th Streets, and Bay Avenue starting at 52nd street and ending at Corson's State Park, located at the southernmost point of the island.

## Curb Extensions

Curb extensions are present in many parts of Ocean City, including the redesigned portion of Bay Avenue from 6th Street to 18th Street and on Haven Avenue. Curb extensions are sometimes also called bump-outs or bulb-outs, and are used to shorten pedestrian crossing distances, tighten turning radii, and calm traffic.

## Medians

Painted medians are present on West Avenue and Bay Avenue as a traffic channeling and calming measure, as well as to provide for left turn lanes. Curbed medians are present on Haven Avenue as a traffic calming measure and pedestrian refuge island, as well as intermittently on other streets throughout the city.

**Raised median, Haven Avenue**

## Bicycle Racks

Currently, students from Ocean City Primary and Intermediate schools can use the Haven Avenue and other existing bicycle routes to get to and from school. Both schools provide uncovered bicycle parking. The Primary School offers bicycle parking in the front of the school next to the main entrance. The Intermediate School provides bicycle parking in the front of the school next to the main entrance and in the back of the school in between the tennis courts. Both school principals have mentioned that the installation of additional bicycle racks would be very helpful in handling the influx of students biking to school in the warmer months.

## Bicycle and Pedestrian Crashes

Between 2010 and 2014, there were nine crashes involving pedestrians and 12 crashes involving bicyclists occurring around Ocean City Primary and Intermediate schools (see Maps 7 and 8). Crashes were filtered based on school arrival and dismissal times (from 7:00AM to 9:00AM and from 2:30PM to 5:00PM), and only the resulting crashes are reported. The crash records were retrieved from Plan4Safety, a program of the Rutgers University Center for Advanced Infrastructure and Transportation. These crashes included bicyclists of all age groups, and were not limited to students. The crash information collected here is within a ten minute walk from Ocean City Primary School and a 20 minute walk of the intermediate school. The term crash is defined as a motor vehicle colliding with a pedestrian or a bicyclist, also known as a collision. The frequency of crashes was highest in 2011, with eight crashes occurring, and lowest in 2012, with two crashes recorded. During the period from 2010 to 2014, a total of twenty-one crashes involving either a pedestrian or bicyclist were recorded.

### Ocean City Primary School

There were a total of 11 crashes (pedestrian and bicyclist related) occurring within a ten minute walk from Ocean City Primary School. Within a five minute walk from the Primary school, one bicycle related crash occurred at 4th Street and West Avenue (a major corridor for students walking and bicycling to the Primary School) and one pedestrian related crash occurred at 6th Street and Ocean Avenue (a minor corridor that Primary School students use to walk and bicycle to school). These crashes are listed in Table 4 and shown in Map 7.

Within a ten minute walk from Ocean City Primary school, there were four bicycle-related crashes and five pedestrian-related crashes, with some crashes occurring on major and minor corridors identified during the walking audit by both school officials and the City Engineer. Locations of these crashes are listed in Table 5 and are shown in Map 7.

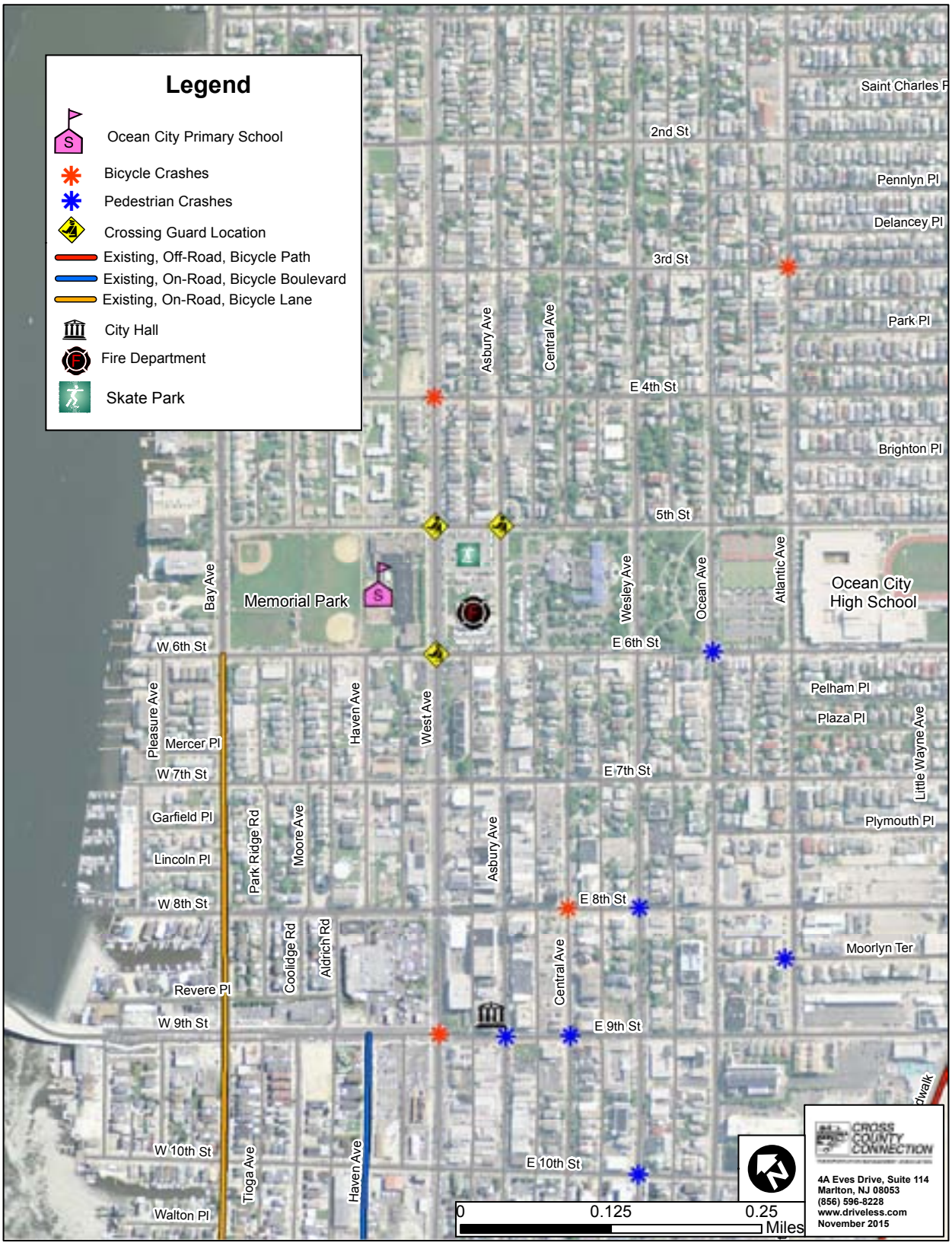
Table 4: Primary School Bicycle and Pedestrian Crashes within Five Minute Walk, 2010 - 2014

| Crash Location | Type of Crash (Involving Motor Vehicle) |
|---|---|
| West Avenue and 4th Street | Bicycle |
| Ocean Avenue and 6th Street | Pedestrian |

Table 5: Primary School Bicycle and Pedestrian Crashes within Ten Minute Walk, 2010-2014

| Crash Location | Type of Crash (Involving Motor Vehicle) |
|---|---|
| Atlantic Avenue and 3rd Street | Bicycle |
| Wayne Avenue and 7th Street | Bicycle |
| Wesley Avenue and 8th Street | Pedestrian |
| Central Avenue and 8th Street | Bicycle |
| Atlantic Avenue and Moorlyn Terrace | Pedestrian |
| Central Avenue and 9th Street | Pedestrian |
| Asbury Avenue and 9th Street | Pedestrian |
| West Avenue and 9th Street | Bicycle |
| Wesley Avenue and 10th Street | Pedestrian |

## Map 7: Ocean City Primary School Bicycle and Pedestrian Crashes



## Ocean City Intermediate School

There were no crashes (pedestrian- or bicyclist-related) occurring within a five minute walk north of the Intermediate School between 2010-2014; however, school officials reported a student was struck by a vehicle while bicycling to school at the intersection of 18th Street and Haven Avenue, prompting the addition of a crossing guard at this location. Within a ten minute walk, one bicycle-involved crash occurred at the intersection of 15th Street and Haven Avenue and one pedestrian-involved crash occurred at 15th Street and Wesley Avenue (shown in Map 8 and Table 6). Crashes occurring within a twenty minute walk of the school are shown in Table 7 and Map 8. These crashes are important to consider because Intermediate School students may walk or bike up to thirty minutes to school and the Intermediate School students are present on the roads where crashes occurred.

Table 6: Intermediate School Bicycle and Pedestrian Crashes within Ten Minute Walk

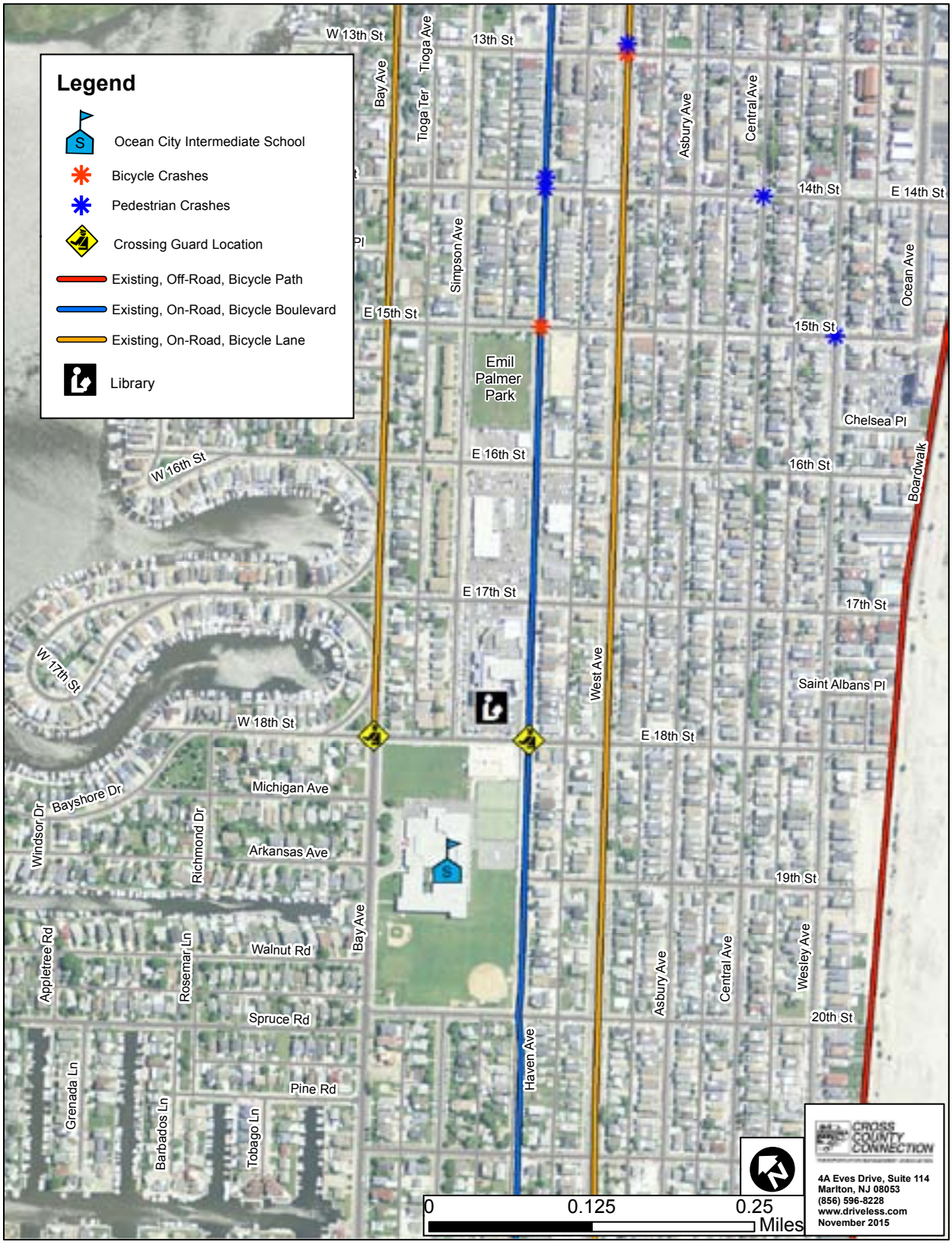
| Crash Location | Type of Crash (Involving Motor Vehicle) |
|---|---|
| Haven Avenue and 15th Street | Bicycle |
| Wesley Avenue and 15th Street | Pedestrian |

Table 7: Intermediate School Bicycle and Pedestrian Crashes within Twenty Minute Walk

| Crash Location | Type of Crash (Involving Motor Vehicle) |
|---|---|
| Haven Avenue and 14th Street | Pedestrian (2) |
| Central Avenue and 14th Street | Pedestrian |
| West Avenue and 13th Street | Pedestrian (1) & Bicycle (1) |
| Asbury Avenue and 12th Street | Pedestrian |
| Bay Avenue and 12th Street | Bicycle |

Haven Avenue Bicycle Boulevard

## Map 8: Ocean City Intermediate School Bicycle and Pedestrian Crashes



# 4. AUDIT FINDINGS AND CORRIDOR RECOMMENDATIONS

## Corridor Selection

A walking audit was conducted on May 15, 2015 to assess walking and bicycling conditions surrounding the Ocean City Primary and Intermediate schools and to document areas in need of infrastructure improvement. The study area consists of areas within a ten minute walk (1/2 mile) of the Primary and Intermediate Schools. The following analysis is based on the observations from the walking audit and discussions with participants from the SRTS working group, including the Ocean City traffic engineer and principals of each school, who relayed input from parents. The working group met with Cross County Connection prior to the audit to provide specific input to guide the assessment of existing conditions. The audit was held in dry weather, on a weekday, from 12:00 PM to 5:00 PM, with a temperature of approximately 68 degrees.

Because the student population of both schools is distributed throughout Ocean City, and the City's street grid is compact, there are many possible routes students could take to school. As a result, the Travel Plan prioritizes routes on the perimeter of both schools and identifies major and minor student travel corridors that should be given priority for infrastructure improvements. These focus areas are shown in Maps 9 and 10 and listed below.

This chapter describes each corridor listed below, discusses safety concerns, and suggests infrastructure improvements to enhance safety and encourage safe walking and bicycling to and from Ocean City Primary and Intermediate schools. Recommendations for improvements are shown in Maps 9 and 10 and are discussed in more detail in this chapter.

Ocean City Primary School

Major student travel corridors include:

- West Ave. from 11th St. to North St.
- Asbury Ave. from 11th St. to North St.

Minor student travel corridors include:

- 5th St. from Bay Ave. to Atlantic Ave.
- 6th St. from Great Egg Harbor Bay to Atlantic Ave.

Ocean City Intermediate School

Major student travel corridors include:

- Bay Ave. from 16th St. to 25th St.
- Haven Ave. from 16th St. to 25th St.

Minor student travel corridors include:

- Simpson Ave. from 16th St. to 18th St.
- 20th St. from Bay Ave. to the Boardwalk

These recommendations are based on an assessment of existing conditions, input from the working group, findings from the audit, sound planning judgment, and guidelines set by the American Association of State Highway and Transportation Officials (AASHTO) and the National Association of City Transportation Officials (NACTO) unless otherwise cited. These recommendations are intended to enhance safety and facilitate student travel to and from school. Recommendations may include repairing or installing crosswalks, repairing or installing sidewalks, incorporating ADA-compliant curb ramps, improving signage, implementing bikeways, enhancing visibility, and applying traffic calming measures. Recommendations found in the Ocean City Travel Plan are general in nature, and Cross County Connection recommends that the City conduct further engineering analysis before implementing the suggestions in this plan.

## Ocean City Primary School

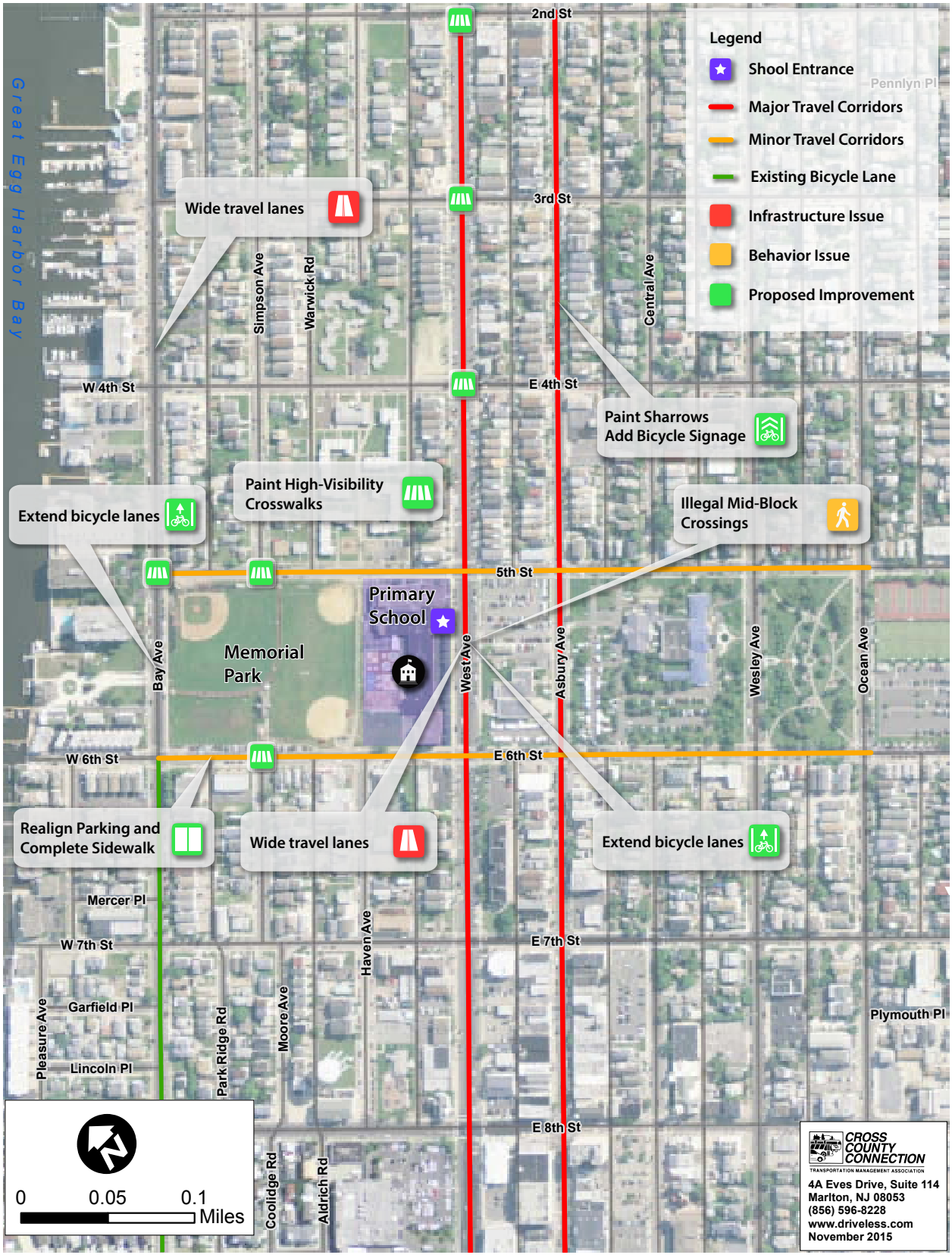
Ocean City Primary School is located in the northern portion of Ocean City on the western side of the island bordering Great Egg Harbor Bay (see Maps 2 and 9). The school occupies half of a large block between West Avenue and Bay Avenue, which are long avenues that run from north to south for much of the length of the island. According to the municipal engineer, the vast majority of traffic in Ocean City travels along the City's avenues, which are accordingly signalized to ensure smooth and safe traffic flow. The block is also bordered by 5th and 6th Streets, which run from east to west across the island's narrow width, carrying much lighter traffic volumes, generally at the start or end of longer trips.

Adjacent to Ocean City Primary School, the other half of the superblock is occupied by Memorial Park, which features recreational fields used by Ocean City Primary students. Between the school and Memorial Park, a six foot paved path connects to Haven Avenue, a bicycle priority street (bicycle boulevard). Haven Avenue features a traffic-calmed speed limit of 15 miles per hour and pavement markings that channel bicycle traffic across some higher-volume intersections and alerts drivers to the presence of bicycles in the roadway. Stop signs are removed at every odd street along Haven Avenue to prioritize bicycle traffic. The City has plans to widen the path behind the school to 12 feet, install pedestrian-scale lighting, and implement landscaping improvements.

Ocean City Fire Headquarters is located across from the Primary school's main entrance on West Avenue. A large church, Ocean City Tabernacle, is located on the following block between 5th and 6th streets. There is a large public park on the following block, and Ocean City High School is located on the subsequent blocks. Thus, civic, educational, recreational, or religious uses occupy virtually the entire width of Ocean City between 5th and 6th streets, from the bay to the ocean.

**Multi-use path behind Ocean City Primary School, connecting to Haven Avenue Bicycle Boulevard**

## Map 9: Ocean City Primary School Walking Audit Findings and Recommendations



## Major Corridor: West Avenue

West Avenue is a recommended travel route for students attending Ocean City Primary School due to the presence of connected pedestrian facilities, its proximity to the school, and its function as an important north-south connection between the school grounds and students' homes. The school's main entrance is located on West Avenue, mid-block between 5th and 6th streets.

### Roadway Characteristics

As a principle north-south corridor in Ocean City, West Avenue carries a large volume of traffic and features signalized intersections on most streets in the study area from the school southward. There is a painted median in front of the school between 5th and 6th Streets. The street has one wide lane in each direction from North Street to 8th Street, bicycle lanes between 8th and 9th Street, four travel lanes from 9th Street to 12th Street, and bicycle lanes from 12th Street southward.

Table 8: West Avenue Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 - 30 MPH |
| **Travel Lanes** | Variable. Front of school: 2, Wide |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Connected on both sides |
| **Crosswalks** | All intersections, some high-visibility |
| **Traffic Signals** | 5th St, 6th St, 8th St, 9th St, 10th St; Pedestrian signals present |
| **Pedestrian Signage** | "School Crossing," "No Pedestrians, Use Cross-walk" |
| **Curb Extensions** | None |
| **Crossing Guards** | 5th Street, 6th Street |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | 8th to 9th St., south of 11th St. |
| **Bicycle Signage** | "No Bicycles on Sidewalk" |
| **Sharrows** | None |
| **Street Trees** | Intermittent tree canopy |
| **Driveways** | Few |
| **Median** | 5th St. to 6th St., painted |
| **Suggested Improvements** | Paint high-visibility crosswalks at 4th Street, 3rd Street, 2nd Street, and North Street, Imple-ment ADA improvements, Extend bicycle lanes from 8th Street to North Street |

The posted speed limit is 25 MPH in the school zone from 5th Street to 6th Street and 30 MPH outside of the school zone. School officials have observed high traffic volumes and speeding on West Avenue. On-street parking is permitted on both sides of the roadway, and in front of the school there is handicapped parking and an ADA ramp mid-block. Beyond the handicapped parking, there is signed 15 minute short-term parking.

There are continuous sidewalks on both sides of the street and recent signal upgrades at 5th Street feature a dedicated pedestrian signal phase, and curb ramps. There are marked crosswalks at all intersections, some of which are high-visibility continental crosswalks. There is pedestrian crossing signage at several key locations, such as the intersections at 5th Street, 6th Street, and 7th Street.

Crossing guards are located at the intersections of 5th Street and 6th Street on West Avenue. "No Bikes on Sidewalk" signs are posted along West Avenue starting at 6th Street and southward. There is no other bicycle infrastructure between 8th Street and North Street, or 9th Street to 12th Street.

## Transportation Concerns

As a major travel corridor, many students are picked-up and dropped-off on West Avenue. Currently the area is signed for 15 minute parking, and school administrators expressed that some parents linger while dropping off or picking up their children, which creates congestion. Currently, some teachers and parents also use a parking lot directly across from the school's entrance. Individuals have been observed crossing West Avenue mid-block to the parking lot, despite the presence of signs directing pedestrians to cross at nearby intersections.

New Pedestrian Signal, 5th and West

There have been three accidents involving bicyclists on West Avenue in the study area between 2010 and 2014. There was one pedestrian-related crash (see Map 7).

## Recommendations

Due to the high traffic volumes and speeding observed by school officials, high-visibility continental crosswalks should be installed at all intersections not already featuring this pedestrian safety treatment (including 4th Street, 3rd Street, 2nd Street, & North Street). Faded crosswalks at 5th Street and southward should be repainted.

Targeted education and enforcement actions would help address concerns about parking congestion and channelization of pedestrian crossing movements at the school's entrance.

Continuation of the bicycle lanes and road diet installed on West Avenue between 8th and 9th Street to North Street would improve safety on this busy corridor in front of Ocean City Primary School for students who walk and bike to school. Narrowing the currently wide travel lanes would calm traffic, enhancing student safety. Traffic lane narrowing is endorsed by the Federal Highway Administration (FHWA) as an effective bicycle and pedestrian safety improvement.[2,3]

Ocean City should continue implementing ADA improvements throughout the corridor, focusing on adding curb cuts, detectable warning strips (truncated domes), and audible crossing signals where missing, and correcting any curb ramps with improper slope.


Bicycle Racks at Primary School Entrance

West Avenue Pick-up & Drop-Off Zone

[2] FHWA Proven Safety Countermeasures: http://safety.fhwa.dot.gov/provencountermeasures/

[3] Pedestrian and Bicycle Information Center: http://www.pedbikeinfo.org/planning/facilities_calming_lanereduction.cfm

## Major Corridor: Asbury Avenue

Asbury Avenue is a recommended travel route for students that attend Ocean City Primary School due to the presence of high-quality connected pedestrian facilities, its function as a north-south connection to student homes, and its quiet, calm character.

### Roadway Characteristics

Asbury Avenue features two relatively narrow travel lanes (one in each direction) and parallel parking on both sides. There are wide, continuous sidewalks on both sides of the street, which feature high-visibility continental crosswalks and curb cuts at most intersections. The street's narrow travel lanes, well-used parallel parking, and high-visibility crosswalks together create a traffic calming effect.

The presence of many medium-sized trees along the sidewalks further calms traffic and provides shelter from the elements for children walking or biking to school.

The posted speed limit is 25 MPH and intersection traffic flow is controlled by stop signs placed on the streets perpendicular to Asbury Avenue. There is no existing bicycle infrastructure on Asbury Avenue.

Table 9: Asbury Avenue Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 MPH |
| **Travel Lanes** | 2, Narrow |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Connected on both sides, wide |
| **Crosswalks** | Almost all intersections, high-visibility |
| **Traffic Signals** | 6th Street and 8th Street, No pedestrian signals |
| **Pedestrian Signage** | None |
| **Curb Extensions** | None |
| **Crossing Guards** | None |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | None |
| **Sharrows** | None |
| **Street Trees** | Medium-size, interrupted tree canopy |
| **Driveways** | Few |
| **Median** | None |
| **Suggested Improvements** | Repaint crosswalks as needed, Implement ADA improvements, Install sharrows, and "Bicycles May Use Full Lane" signage, Targeted enforcement of speed and stop for pedestrians in crosswalks laws |

### Transportation Concerns

Asbury Avenue's many existing traffic calming attributes make it an ideal street for biking and walking to Ocean City Primary School. However, there was one crash involving bicyclists on Asbury Avenue in the study area between 2010 and 2014, and one pedestrian related crash (Map 7).

Some crosswalks in the Asbury Avenue corridor are faded, creating a hazard for pedestrians and diminishing their traffic calming effects.

## Recommendations

Targeted enforcement of speed limits and stop for pedestrian laws would help ensure the street is a safe and pleasant route for students who walk or bike to school.

The installation of bicycle shared lane markings (sharrows) and "Bicycles May Use Full Lane" signs would enhance bicyclist safety and comfort and further calm traffic.

The City should repaint faded crosswalks throughout this corridor and replace any low-visibility crosswalks with high-visibility continental crosswalks.

Ocean City should continue implementing ADA improvements throughout the corridor, focusing on adding curb cuts and detectable warning strips where missing, and correcting any curb ramps with improper slope.


Young person bicycling on Asbury Avenue

## Minor Corridor: 5th Street

5th Street is a recommended travel route for students that attend Ocean City Primary School because it forms part of the perimeter of the school and Memorial Park, and has mostly connected pedestrian facilities.

Table 10: 5th Street Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 MPH |
| **Travel Lanes** | 2, Average width |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Mostly connected on both sides |
| **Crosswalks** | Few, low-visibility |
| **Traffic Signals** | West Avenue, Pedestrian Signal Present |
| **Pedestrian Signage** | None |
| **Curb Extensions** | None |
| **Crossing Guards** | None |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | None |
| **Sharrows** | None |
| **Street Trees** | None |
| **Driveways** | Some |
| **Medians** | None |
| **Suggested Improvements** | Refurbish sidewalks, Install high-visibility crosswalks, Install curb extensions, Stripe parking lanes and centerline, Implement ADA improvements |

### Roadway Characteristics

5th Street features fewer traffic calming elements than Asbury Avenue or West Avenue. There is parallel parking on both sides of the street; however it is only partially utilized. Buses load on the school side of 5th Street at West Avenue, which has been restricted as a loading zone, thereby preventing parallel parking in this section. Parking lanes are not striped and there is no striped center line, lending a wider appearance to each travel lane. This creates an effectively wider road-bed for much of the length of 5th Street, which may encourage drivers to speed.[4]

There are mostly continuous sidewalks on both sides of the street; however, some sidewalk sections are missing or deteriorated. Curb ramps are present at most intersections, although they are missing detectable warning strips and may not be the correct slope for wheelchair access.

The posted speed limit is 25 MPH and intersection traffic flow is controlled by stop signs and traffic signals placed on major avenues that intersect the street. There is no dedicated bicycle infrastructure on 5th Street.

### Transportation Concerns

5th Street borders Ocean City Primary School and Memorial Park, suggesting the potential for frequent use by students. There were no bicycle or pedestrian crashes on 5th Street in the study area between 2010 and 2014. However, the lack of traffic calming measures on this street may encourage speeding or failure to stop for pedestrians in crosswalks.

### Recommendations

The installation of traffic calming measures would increase student safety walking or biking to school. Curb extensions and high-visibility crosswalks may be installed at T-intersections between Bay Avenue and West Avenue to facilitate safe student crossings and preserve pedestrian crossing sight-lines throughout the superblock. Additionally, painted bicycle

[4] FHWA Lane Width: http://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_lanewidth.cfm

crossings may be added to extend the Haven Avenue Bicycle Path as the path is improved between the school and Memorial Park. Targeted enforcement of speed limits and stop for pedestrian laws would help ensure that the street is a safe and pleasant route for students who walk or bike to school.

Recently a bicycle lane and high-visibility continental crosswalks were installed on Bay Avenue between 6th and 18th Streets. Ocean City should consider extending this bike lane and high-visibility crosswalk treatment all the way to Battersea Road to calm traffic on Bay Avenue near Memorial Park and improve student bicycle and pedestrian access to Ocean City Primary School.

Ocean City should continue implementing ADA improvements on 5th Street, focusing on adding curb ramps and detectable warning strips where missing or fixing curb ramp slope.


**High-visibility crosswalk opportunity, Bay Avenue**

**ADA improvements and high-visibility crosswalks could be added, Simpson Avenue and 5th Street**

**5th Street is a long block and lacks crosswalks at T-intersections near Memorial Park**

## Minor Corridor: 6th Street

6th Street is a recommended travel route for students that attend Ocean City Primary School because it forms part of the perimeter of the school and Memorial Park, and has mostly connected pedestrian facilities.

### Roadway Characteristics

6th Street is similar to 5th Street in character and engineering. There are parallel parking lanes bordering the school with short-term 15-minute parking and handicapped spaces near the school. Bordering the park, there are perpendicular pull-in parking spaces. However, there are major interruptions to the sidewalk network surrounding the entrance to Memorial Park. It appears the parallel parking lane has been absorbed into the travel lane in this section, while parking has been positioned to interrupt the sidewalk area.

Curb ramps are present at most intersections, although they are missing detectable warning strips and should be checked to ensure they are the correct slope for wheelchairs.

Table 11: 6th Street Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 MPH |
| **Travel Lanes** | 2, Average width |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Interruptions near park |
| **Crosswalks** | Few, low-visibility |
| **Traffic Signals** | West Avenue, Pedestrian signal present |
| **Pedestrian Signage** | "Pedestrian Ahead," "Pedestrian Crossing" |
| **Curb Extensions** | None |
| **Crossing Guards** | West Avenue |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | None |
| **Sharrows** | None |
| **Street Trees** | None |
| **Driveways** | Some |
| **Medians** | None |
| **Suggested Improvements** | Connect disconnected side-walks, Install curb extensions, Install high-visibility crosswalks, Implement ADA improvements, Stripe parking lanes and center line |

The posted speed limit is 25 MPH and intersection traffic flow is controlled by stop signs and traffic signals placed on major avenues that intersect the street. There is no dedicated bicycle infrastructure on 6th Street.

### Transportation Concerns

6th Street borders Ocean City Primary School and the main entrance to Memorial Park, suggesting the potential for frequent use by students. There were no bicycle or pedestrian crashes on 6th Street in the study area between 2010 and 2014. The lack of traffic calming measures on this street may encourage speeding or failure to stop for pedestrians in crosswalks.

### Recommendations

The sidewalk should be realigned and completed surrounding the entrance to Memorial Park. Since there is unused cross-section space from the parallel parking further down the block, Ocean City could add curb extensions in the parallel parking lane immediately before and after the pull-in parking section, and move the pull-in parking 6 to 8 feet toward the road centerline. This would create space to install a 5 to 7 foot sidewalk along the park fence,

which could then easily be connected to the rest of the sidewalk network on this side of the street. It is particularly important to complete this portion of the sidewalk network because it immediately borders both Memorial Park and Ocean City Primary School.

The installation of traffic calming measures would increase student safety. High-visibility crosswalks may be painted at T-intersections between Bay Avenue and West Avenue to facilitate safe student crossings throughout the long block. Additionally, painted bicycle crossings may be added to connect the Haven Avenue Bicycle Path to proposed improvements to the path between the school and Memorial Park. Targeted enforcement of speed limits and stop for pedestrian laws would help ensure the street remains a safe and pleasant route for students who walk or bike to school.

Ocean City should continue implementing ADA improvements throughout the corridor, focusing on adding curb cuts and detectable warning strips where missing, and correcting curb ramp slopes where necessary.

Sidewalk and parking could be realigned


Speeding is a concern on 6th Street

Rendering of possible parking realignment to complete sidewalk to Bay Avenue

## Ocean City Intermediate School

Ocean City Intermediate School is located in the central portion of Ocean City toward the western side of the island bordering Great Egg Harbor Bay (shown in Map 2). The school occupies most of a large block between Haven Avenue and Bay Avenue, which are long north-south avenues. As mentioned previously, the municipal engineer stated the vast majority of traffic in Ocean City travels along these avenues. The block is also bordered by 18th and 20th Streets, which run from east to west. The rest of the school's block is occupied by recreational fields owned by Ocean City.

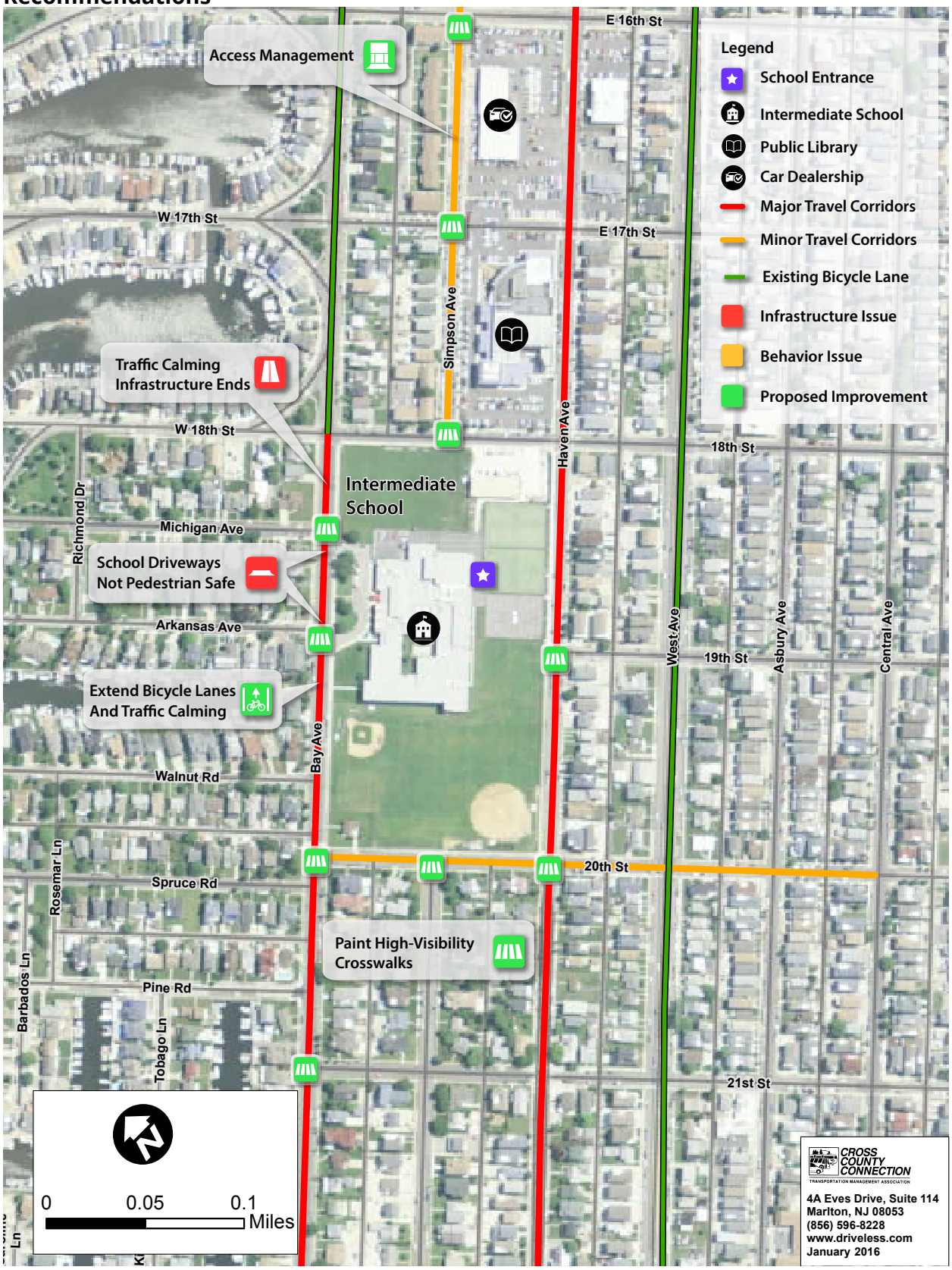
Across 18th Street from Ocean City Intermediate School is a civic complex that includes the Ocean City Public Library, Ocean City Community Center, Ocean City Historical Museum, and the Ocean City Arts Center. Further south, Bay Avenue is bordered by Ocean City's airport and golf course, as well as a wildlife preserve.

The principle avenues surrounding Ocean City Intermediate School differ significantly in terms of safety. Bay Avenue is a busy county-owned road, although the recent installation of bicycle lanes and high-visibility continental crosswalks have calmed a portion of the road from the corner of 18th Street at the northern end of the Ocean City Intermediate School property to 6th Street at the southern end of the Ocean City Primary School block.

Haven Avenue, conversely, is true to its name: the street is configured as a bicycle boulevard featuring a 15 MPH speed limit and numerous complementary traffic calming measures, including curb extensions, medians, all-direction stops, and even street art. Together, these features create an ideal bicycling and walking route for Ocean City's Intermediate School students. Further detail about the student travel corridors surrounding Ocean City Intermediate School comprises the balance of this section.


**Ocean City Intermediate School Entrance with Bike Rack**

## Map 10: Ocean City Intermediate School Walking Audit Findings and Recommendations



## Major Corridor: Haven Avenue

Haven Avenue is a recommended travel route for students that attend Ocean City Intermediate School because of its proximity to the school and its numerous design features that promote bicycle and pedestrian safety.

Table 12: Haven Avenue Corridor Overview

| | |
|---|---|
| **Speed Limit** | 15 MPH |
| **Travel Lanes** | 2, Narrow |
| **Parking Lanes** | 2, Narrow |
| **Sidewalks** | Wide, uninterrupted |
| **Crosswalks** | Intermittent, various styles |
| **Traffic Signals** | None |
| **Pedestrian Signage** | None |
| **Curb Extensions** | Many |
| **Crossing Guards** | 18th Street |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | OC-1, "Share the Road" |
| **Sharrows** | Present |
| **Street Trees** | Few |
| **Driveways** | Some |
| **Medians** | Some curbed sections |
| **Suggested Improvements** | Install high-visibility crosswalks, Implement ADA improvements |

### Roadway Characteristics

Haven Avenue is a bicycle boulevard featuring narrow travel lanes, parallel parking, curb extensions, and a speed limit of 15 MPH throughout the corridor.

Curb ramps are present at most intersections, although they are missing detectable warning strips and may not be the correct slope for wheelchairs. Curb extensions are present at many but not all intersections, helping to further calm traffic on the street, while preserving traffic flow for student pick-up and drop off.

In addition to its safe speed limit, Haven Avenue features sharrows and "Share the Road" signage for bicyclists. Haven Avenue is also signed as a bicycle route, designated OC-1, which serves as a helpful wayfinding tool for cyclists and a visual reminder for motorists that the street is designed to be shared with cyclists.

### Transportation Concerns

Haven Avenue's 15 mile per hour speed limit is by far its most important bicycle and pedestrian safety feature. When vulnerable users are hit by cars traveling 15 miles per hour, there is only a 10% chance of serious injury or death. However, when struck by a speeding car traveling 40 miles per hour (a frequent occurrence on many roads with higher 25-35 MPH limits), there is approximately a 75% risk of severe injury and a 50% risk of death.[5] This safety design feature has already been proven successful: the principal reported a bicyclist was recently struck on Haven Avenue on their way to school by a car and escaped without severe injury or death. Of course, no crash is acceptable, regardless of its severity.

### Recommendations

As Haven Avenue already contains many commendable traffic calming measures, Ocean City could focus on further building on this success. Ocean City could provide additional high-visibility continental crosswalks at key intersections where they are currently lacking. For example, currently there are three standard crosswalks at the intersection of Haven Avenue and 20th Street; also, the intersection of Haven Avenue and 19th Street has unmarked

[5] AAA Foundation for Traffic Safety, "Impact Speed and a Pedestrian's Risk of Severe Injury or Death", 2011: https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf

crosswalks on both sides of 19th Street where pedestrians would cross Haven Avenue to reach the school grounds. This latter crosswalk is particularly important to stripe, as school officials reported most students are restricted to use only this entrance to access school property, and the nearest marked crosswalk in either direction is over 500 feet away. The *AASHTO Pedestrian Guide* and *NJDOT Flexible Design of New Jersey Main Streets* guide both recommend a maximum crossing spacing of every 300 feet, suggesting a marked crosswalk is appropriate on all three crosswalks in this location.[6] Given the close proximity to the school entrance, high-visibility continental crosswalks are recommended.

Ocean City should continue implementing ADA improvements throughout the corridor, focusing on adding curb ramps and detectable warning strips where missing.

**A median, curb extensions, and street art calm traffic at Haven Avenue and 20th street**


**Haven Ave's speed limit is safer for vulnerable users**


**Young riders bicycle along Haven Avenue behind Ocean City Intermediate School**

[6] King, M. "To Cross or Not to Cross" ITE Journal, November 2014.

## Major Corridor: Bay Avenue

Bay Avenue is a recommended travel route for students that attend Ocean City Intermediate School because of its proximity to the school, as well as the presence of connected pedestrian and bicycle facilities north of 18th Street.

Table 13: Bay Avenue Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 - 35 MPH |
| **Travel Lanes** | 2, Varying width |
| **Parking Lanes** | 2, Varying width |
| **Sidewalks** | Continuous, except near Golf Course |
| **Crosswalks** | High-Visibility, 6th-18th Streets |
| **Traffic Signals** | 10th, 14th, 18th, 24th Streets, and Tennessee Avenue; Pedestrian signals present, except for 24th Street |
| **Pedestrian Signage** | "Pedestrian Ahead," "School Crossing," "Stop for Pedestrians in Crosswalk" |
| **Curb Extensions** | 16th, 17th, and 18th Streets |
| **Crossing Guards** | 18th Street |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | 6th-18th Street section |
| **Bicycle Signage** | None |
| **Sharrows** | Intermittent |
| **Street Trees** | Intermittent |
| **Driveways** | Some |
| **Medians** | None |
| **Suggested Improvements** | Continue bicycle lanes, continental crosswalk, and curb extensions south of 18th Street throughout corridor |

### Roadway Characteristics

Bay Avenue is a county owned road with higher speed limits of up to 35 miles per hour and wider lanes than Haven Avenue. From the northern edge of the intermediate school block at 18th Street to the southern edge of the primary school block at 6th Street, Bay Avenue features new, high-quality bicycle and pedestrian facilities including on-road bicycle lanes, curb extensions, and high-visibility continental crosswalks.

There are parallel parking lanes on both sides of Bay Avenue, and buses enter Ocean City Intermediate School from this street via a short semi-circular driveway.

### Transportation Concerns

At 15th, 14th, 12th, 10th, 9th, 8th, and 6th Streets, only one detectable warning strip is present at each corner, as opposed to the preferred two. For example, at 15th Street, detectable warning strips are oriented toward the center of the intersection, as opposed to 18th Street, where they are aligned with each crosswalk. This preferred alignment allows vision-impaired individuals to "line up" their street crossing safely, and allows wheelchair users to safely align their wheels between the rows of detectable domes. Most importantly, it helps prevent visually impaired individuals from accidentally entering the cartway due to a detectable warning strip that does not extend sufficiently far across the walking path.

Additionally, although there are high-visibility continental crosswalks at the T-intersections between 15th Street and 16th Street (allowing pedestrians to cross at comfortable distances along the corridor), there are no high-visibility continental crosswalks crossing Bay Avenue at T-intersections between 6th Street and 14th Street. This forces pedestrians to cross at distances of 500 feet or greater, which is beyond the AASHTO and NJDOT directed minimum crosswalk interval of every 300 feet. This should be remedied through the installation of continental crosswalks at T-intersections across Bay Avenue between 6th Street and 14th St.

There was one pedestrian crash on Bay Avenue in the study area between 2010 and 2014. The school's driveway is very wide and the sidewalk does not extend through the driveway, as is recommended, making the driveway function as an intersection rather than as a driveway.

## Recommendations

The driveway entrances in front of the school should be redesigned to be more pedestrian safe. This could be accomplished by adding high-visibility crosswalks and updated ADA ramps, or by extending the sidewalks across the driveway as recommended by the Bicycle and Pedestrian Safety Guide and Countermeasure Selection System.[7]

Ocean City officials have already expressed interest in extending the Bay Avenue 6th-18th Street corridor design south of 18th Street, and should pursue this course. For future corridor redesign efforts, care should be exercised in aligning detectable warning strips and providing high-visibility continental crosswalks at intervals of no greater than 300 feet.

**Bicycle and pedestrian infrastructure improvements could be extended in front of the school on Bay Ave**

**Well-aligned ped warning strips, Bay and 18th**

**Bicycle and pedestrian infrastructure improvements could be extended south of 18th Street**

[7] http://pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=20

## Minor Corridor: 20th Street

20th Street is a recommended travel route for students that attend Ocean City Intermediate School because of its proximity to the school, as well as the presence of marked crosswalks and mostly connected sidewalks.

### Roadway Characteristics

20th Street is a residential road with speed limits of 25 MPH. Marked crosswalks are appropriately located at all major crossings including Bay Avenue, Haven Avenue and Simpson Avenue. The T-intersection crosswalks at Simpson Avenue provide students multiple options for safely crossing the long block of 20th Street between Bay and Haven Avenues at an interval of less than 300 feet as recommended by AASHTO and NJDOT. Street art in the crosswalk at Haven Avenue and 20th Street is both visually appealing and draws motorists' attention to the presence of a school and related pedestrian activity.

There are parallel parking lanes on both sides of 20th Street; however, the lanes are not striped and the parallel parking is not well-used, lending a wide appearance to the road. Curb cuts are present at Bay Avenue and Haven Avenue crossings.

Table 14: 20th Street Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 MPH |
| **Travel Lanes** | 2, Average width |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Interrupted at Haven & 20th St. |
| **Crosswalks** | Low-Visibility, marked |
| **Traffic Signals** | 10th, 14th, 18th, 24th Streets, and Tennessee Avenue; Pedestrian signals present except for 24th street |
| **Pedestrian Signage** | Pedestrian Ahead, School Crossing, Stop for Pedestrians in Crosswalk |
| **Curb Extensions** | None |
| **Crossing Guards** | None |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | None |
| **Sharrows** | None |
| **Street Trees** | Intermittent |
| **Driveways** | Some |
| **Medians** | None |
| **Suggested Improvements** | Install continental crosswalks, Add curb extensions, Stripe parking lanes, Implement ADA improvements |

The sidewalk is mostly connected, with the exception of one parcel at the corner of 20th Street and Haven Avenue, which interrupts the sidewalk network on both streets (south side of 20th and west side of Haven).

### Transportation Concerns

A single lot interrupts the sidewalk networks on two streets, as pictured on the next page. Sidewalks should be connected through this section.

Since parking lanes and the centerline are not striped, this lends a wider appearance to the roadway. Parking lanes could be striped lending a narrower appearance to the roadway even when cars are not parked there, thereby calming traffic.

There were no bicycle or pedestrian crashes on 20th Street in the study area between 2010 and 2014.

## Recommendations

Implementing traffic calming measures such as installing painted lane markings would help calm traffic. If road space permits, bicycle lanes could be added. The planting of tall street trees in the planting strip on the south side of 20th Street would further calm traffic and result in a more pleasant and safe walking and bicycling environment for students.

ADA improvements would be especially helpful at the crosswalks at 20th Street and Simpson Avenue, which currently lacks a curb cut or detectable warning strips.

Standard crosswalks along this corridor should be replaced with high-visibility continental crosswalks due to the proximity of these crossings to Ocean City Intermediate School and corresponding high volumes of pedestrian traffic.

**ADA improvement opportunity, 20th and Simpson Ave**


**Interrupted sidewalk network, 20th St and Haven Ave**

**Great opportunities for bicycle and pedestrian improvements on 20th Street**

## Minor Corridor: Simpson Avenue

Simpson Avenue is a recommended travel route for students that attend Ocean City Intermediate School because of the location of many student homes along this corridor; its proximity to the intermediate school; the presence of student trip generators such as athletic fields at Emil Palmer Park and the Ocean City Public Library; and the presence of low vehicle traffic volumes.

Table 15: Simpson Avenue Corridor Overview

| | |
|---|---|
| **Speed Limit** | 25 MPH |
| **Travel Lanes** | 2, Average width |
| **Parking Lanes** | 2, Average width |
| **Sidewalks** | Mostly connected both sides |
| **Crosswalks** | Low-Visibility or missing |
| **Traffic Signals** | None |
| **Pedestrian Signage** | School crossing |
| **Curb Extensions** | None |
| **Crossing Guards** | None |
| **Pedestrian Scale Lighting** | None |
| **Bicycle Lanes** | None |
| **Bicycle Signage** | None |
| **Sharrows** | None |
| **Street Trees** | Sparse |
| **Driveways** | Half-block wide driveway at car dealership is a hazard (16th to 17th Streets) |
| **Medians** | None |
| **Suggested Improvements** | Install continental crosswalks, add curb extensions, channelize dealership driveway, Implement ADA improvements |

### Roadway Characteristics

Simpson Avenue is a primarily residential road with speed limits of 25 MPH. The roadway features a marked centerline but its parallel parking lanes are not striped, lending a slightly wider appearance to the travel lanes.

Curb ramps are present at most intersections; however, the intersection at 18th Street (closest to the school) lacks crosswalks, curb cuts, or other ADA features.

The sidewalk is mostly connected, with the exception of some driveways that are not pedestrian safe. There is a wide driveway in front of a car dealership located between 16th and 17th Streets extending for the majority of the block, which is not a pedestrian- or bicycle-safe design.

### Transportation Concerns

Aside from the lack of high-visibility crosswalks, pedestrian signage, striped parallel parking lanes, and ADA accessibility features, the largest bicycle and pedestrian concern on Simpson Avenue is the car dealership's wide driveway. This driveway currently extends throughout the majority of the block, and is not formalized using access management techniques recommended by the FHWA or others.[8] The current situation invites numerous unpredictable conflicts between entering and exiting cars with bicyclists or pedestrians.[9] The width of this driveway multiplies the inherent number of potential conflict points as opposed to a safer single or two-lane channelized driveway.

There were no reported bicycle or pedestrian crashes on Simpson Avenue in the study area between 2010 and 2014.

8 http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_006.pdf
9 See bottom figure: http://pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=20

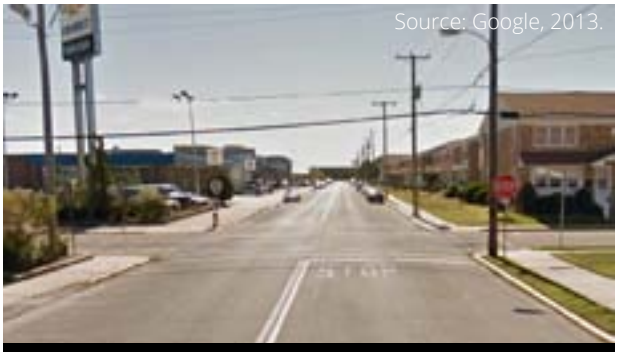
## Recommendations

Implementing traffic calming measures such as installing painted parking lanes and centerline markings would help calm traffic. If road space permits, bicycle lanes could be added. The planting of street trees with taller, broader canopies in the planting strip would further calm traffic and make for a more pleasant and safe walking and bicycling environment.

Access management techniques should be applied to the car dealership driveway to enhance bicyclist and pedestrian safety. Vechicles should cross the sidewalk at channelized vehicle access points, not at-will at any point throughout the length of the block. Additionally, the slope of the sidewalk on this block should be checked for ADA compliance. ADA improvements would be especially helpful at the crosswalks at Simpson Avenue and 20th Street, which currently lacks a curb or detectable warning strips.

High-visibility continental crosswalks should be painted along this corridor due to the presence of Ocean City Intermediate School, Ocean City Public Library, Emil Palmer Park, and corresponding high volumes of student pedestrian traffic.


**Missing crosswalks, Simpson Ave & 18th St**




**Faded, low-visibility crosswalks, Simpson Ave & 16th Street**


**Long undefined driveway on Simpson Avenue is a bicycle and pedestrian hazard**

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# 5. NON-INFRASTRUCTURE RECOMMENDED ACTIONS

The following are the recommended non-infrastructure actions suggested to achieve the goals of the Ocean City School District Travel Plan by addressing the 5 E's of Safe Routes to School: Education, Encouragement, Enforcement, Engineering, and Evaluation.

## Education

Education efforts are an important component in developing a sustainable Safe Routes to School Program and to relieve pedestrian and bicycle travel issues. These actions can help change a community's perception of how children should travel to and from school safely. They will also ensure that children receive proper instruction on walking and bicycling while raising community awareness of the benefits of walking and biking. Table 16 details the recommended Education Actions.

Table 16: Education Actions

| Education Actions | Responsibility | Time Frame |
|---|---|---|
| Creation and distribution of educational materials to students, parents/guardians and community members | Ocean City Primary and Intermediate School/Cross County Connection TMA/ NJSRTS Program | Ongoing |
| In-class education on safe walking practices, along with health and environmental benefits | Ocean City Primary and Intermediate School/Cross County Connection TMA/The Brain Injury Alliance of New Jersey | Annually |
| Inclusion of SRTS elements in Teacher and Student Handbooks | Ocean City Primary and Intermediate School | Annually |
| Participate in New Jersey's SRTS Webinar Program | Ocean City Primary and Intermediate School | Ongoing |
| Pedestrian and bicycling safety education at parent-teacher meetings | Ocean City Primary and Intermediate School | Ongoing |

Cross County Connection and the Alan M. Voorhees Transportation Center will provide safety education and outreach materials for distribution to students, parents and school staff. These materials may be circulated at parent-teacher meetings, school walking events, in-class, or included with municipal information. Pedestrian and bicycling safety education should also be addressed at parent-teacher meetings as well as safer driving habits. Inclusion of parents in educational programming is a good way to reinforce safety education at home.

The school district should continue to take advantage of Cross County Connection's 3rd-4th Grade Pedestrian Safety Program on an annual basis. Additional information about the Pedestrian Safety Program is available on Cross County Connection TMA's website: (http://driveless.com/TransportationPlanning/SafeRoutes.html).
Through active participation, students will learn about the benefits of walking, ways to avoid potential hazards while walking, how to properly understand and obey pedestrian signals, cross roadways safely, and understand traffic flow. New Jersey Core Curriculum Standards Cumulative Progress Indicators are covered in this program. Many schools in southern New

Jersey use the Pedestrian Safety Program as a building block for their SRTS programs.

To supplement Cross County Connection's 3rd-4th Grade Pedestrian Safety Program, it would be beneficial to the health and wellbeing of students from the Ocean City School District to also take advantage of other programs available to schools, which teach children safe bicycling and walking, such as the Brain Injury Alliance of New Jersey (http://bianj.org/).

## Encouragement

Encouragement actions promote walking and biking to school through programs such as walking school buses, satellite walking events, a Golden Sneaker Award, and other activities that generate excitement about walking and biking. These programs are essential to building the momentum necessary to significantly change school travel habits. Both Ocean City Primary and Intermediate school should hold a walk to school event once a month to encourage more students to walk and bike to school.

Both schools have coordinated Walk to School Events through their SRTS Program. Furthermore, they have held a Bike Rodeo for children within the community to help teach the fundamentals of safe bicycling to and from school and also within the community of Ocean City. The Ocean City Police department is proactive in encouraging students and residents to practice and obey pedestrian and bicycle safety skills and laws within the City. Some of the programs and events that are held include the following list in Table 17.

### Riding School Bus

A program that occurs twice a year at Ocean City Intermediate School, which promotes kids riding their bicycles to/from school. It encourages a healthier lifestyle, environmental awareness, and bicycle safety. The program is supported by the school district, teachers and faculty, and the Ocean City Police Department Policing Unit.


**Bike Rodeo, Ocean City, NJ**

**Table 17: Encouragement Actions**

| Encouragement Actions | Responsibility | Time Frame |
|---|---|---|
| Walk to School Event | Ocean City Primary and Intermediate School | Bi-Annually |
| Walking School Bus (WSB)/ Pilot | Ocean City Intermediate School/Cross County Connection TMA | Spring 2016 |
| Riding School Bus (RSB) | Ocean City Intermediate School/ Ocean City Police Department | Bi-Annually |
| Satellite Drop Off Program / Pilot | Ocean City Primary School | Spring 2016 |
| Bicycle Rodeo | Ocean City Primary and Intermediate School/Cross County Connection TMA | Spring 2016 |
| Participation in International Walk to School Day | Ocean City Primary and Intermediate School | Annually |
| Participation in International Bike to School Day | Ocean City Primary and Intermediate School | Annually |
| Golden Sneaker Award Pilot | Ocean City Primary and Intermediate School | Spring 2016 |

## Walk to School Day

Ocean City Intermediate School participates twice a year in National Walk to School Day. Parents, teachers, faculty members, and police officers meet at a predetermined location and walk to school obeying pedestrian traffic laws along the way.

## Bicycle Helmet Program

Members of Ocean City Police Department's Community Oriented Policing Unit, working in conjunction with school faculty members, to identify children who bicycle to and from school who are not wearing helmets. These children are provided helmets, free of charge, and only asked that when riding to wear the helmet. The program is available to students and to community members.

## Bicycle Lock Program

Members of the Ocean City Police Department's Community Oriented Policing Unit, working in conjunction with school faculty members, identify children who bicycle to and from school who are not using a bicycle lock to secure their bicycle. These children are provided bicycle locks, free of charge, and are encouraged to use the bike lock when securing their bicycle. The program is available to students and to community members.

## Youth Leadership Program

Officers from the Ocean City Police Department's Community Oriented Policing Unit teach a 12 week course called "Youth Leadership" to 5th grade students at the Intermediate School. A block of this instruction is dedicated to bicycle safety. Students are advised that safety is paramount. They are reminded that children under 17 years of age are required by law to wear a helmet whether riding a bicycle, skateboarding, or rollerblading.

## Bicycle Safety Assemblies

Members of the Police Department's Traffic Safety and Community Oriented Policing Unit attend school assemblies throughout the year where children are briefed on bicycle and pedestrian safety. Questions are presented and students are awarded bicycle safety equipment for correct answers.

## Walking School Bus (WSB)

A walking school bus is a group of children walking to school along a fixed route with one or more adults. It is suggested that both schools develop a pilot program during the school year. By doing so, younger students will be given the opportunity to learn about safe pedestrian practices, while familiarizing themselves with their neighborhoods. This activity could complement Ocean City Intermediate School's existing Riding School Bus program.

## Satellite Drop Off

The SRTS Team should explore the opportunity to organize a Satellite Drop-off Program if a WSB program is not undertaken. Much like a Walking School Bus, students are asked to meet school faculty at a designated location where the group then walks to the school. Cross County Connection will work with the school district to identify safe satellite drop-off locations based upon where students reside.

## Bicycle Rodeos

Cross County Connection can continue to assist the school district in the planning of bicycle rodeos on school grounds. Bicycle rodeos are used to teach a large group of schoolchildren safe bicycling practices, such as how to fit a helmet, signal for turns, and come to quick stops.

## Walk to School Day

To further promote walking and bicycling, each school should continue to participate in International Walk to School Day and International Bike to School Day, which are held in the months of October and May, respectively. School events may be registered online by visiting www.walkbiketoschool.org. International Walk to School Day in October can act as the official annual kick off to the schools' SRTS Programs.

## Golden Sneaker Award Program

A Golden Sneaker Award Program is an incentivized contest that can be run in various ways. Some schools tally each student that walks or bikes to school daily at the end of each month, and the homeroom with the most walking/bicycling students will earn the "Golden Sneaker." A Golden Sneaker Award can be created by spray painting an old running shoe gold and mounting it on top of a trophy stand. Incentive programs are a good way to keep the momentum going with SRTS programs.

## Enforcement

Enforcement of safe and lawful travel behavior around schools, on all travel corridors, and throughout the City is important to ensure a safe walking and bicycling environment for children. Table 18 lists enforcement actions Ocean City can take to promote safe walking and bicycling environments throughout the city.

Table 18: Enforcement Actions

| Enforcement Actions | Responsibility | Time Frame |
|---|---|---|
| Speed Enforcement | Ocean City Police | Targeted & Ongoing |
| Stop for Pedestrians in Crosswalks Enforcement | Ocean City Police | Targeted & Ongoing |
| Incorrect Crossing Behaviors | Ocean City Police/School Officials | Ongoing |
| Parking Enforcement | Ocean City Police | Ongoing |
| Property Maintenance Enforcement | Ocean City Police | Ongoing |

Roadways around each school should be targeted for immediate enforcement due to concerns about speeding. For incorrect pedestrian behaviors, warnings could be issued by police or school officials, along with brief flyers explaining relevant crossing laws and why it is safer to cross at a marked crosswalk. In addition, participation in New Jersey's Pedestrian Decoy Safety Program should be considered. This program has been a successful enforcement tool in many New Jersey communities to ensure that vehicles regularly stop for pedestrians in crosswalks and obey New Jersey's "Stop and Stay Stopped" law (NJ 39:4-36).

While performing the walking audit, it was noted by the Principal of Ocean City Primary School, Cathleen Smith, that she has observed students crossing West Avenue mid-block to get to the main entrance of the school with parents, instead of walking to West Avenue and 5th Street to use the designated crosswalk. Police or school officials should be present during arrival and dismissal times to issue reminders to parents and students to use designated crosswalks and not jaywalk midblock across West Avenue. The same is true for Ocean City Intermediate school on Haven Avenue and Bay Avenue.

Parking laws should be enforced to deter parents from lingering when dropping off their children in front of the school where designated drop-off parking spots are located, to help alleviate traffic congestion at arrival and dismissal times for Ocean City Primary School.

## Engineering

Engineering recommendations in this Travel Plan are discussed in Chapter 4 and shown on Maps 9 and 10. These recommendations focus on safety improvements throughout the study area, most of which can be implemented in a short timeframe. These recommendations are general in nature and should be examined further by engineering staff. Any improvement would require appropriate engineering analysis and would be subject to appropriate design guidelines and regulations, such as the Manual on Uniform Traffic Control Devices (MUTCD).

## Evaluation

Determining participation in walking and bicycling programs and identifying parent concerns are an important part of the SRTS program. Evaluating these factors allows school staff to determine the success of their SRTS activities and how they might prioritize and modify their efforts to encourage more children to walk and bike to school.

Ocean City School District conducted student travel tallies in the spring of 2015. Student travel tallies are held in-class by school staff to determine how children arrived at school that day. Tallies should be held at regular intervals to determine the impact of SRTS activities in student travel choices (usually held week long to gain accurate data). Tallies should also be compared quarterly to measure success. Parent surveys may be sent home with children or distributed to parents electronically to determine parent attitudes and concerns about children walking or biking to school.

Table 19: Evaluation Actions

| Evaluation Action | Responsibility | Time Frame |
|---|---|---|
| Student Travel Tally | Ocean City Primary and Intermediate School | 2015-2016 School Year; Quarterly |
| Parent Survey | Ocean City Primary and Intermediate School/ Cross County Connection TMA/ Voorhees Transportation Center | 2015-2016 School Year; Annually |
| Participation in Bicycle/ Pedestrian Events and Programs | Ocean City Primary and Intermediate School | At Time of Program Administration |
| Infrastructure Upgrades Completed | Ocean City Primary and Intermediate School/ Ocean City Engineer | Annually |

Motor vehicle diversion enhances bicycle safety, Ocean City, NJ

# 6. CONCLUSION

Ocean City Primary and Intermediate Schools are committed to increasing the number of children who walk and bike to school through safety improvements and programs that encourage walking/bicycling and educate students about safety procedures. The City and School District currently address child walking safety by providing crossing guards at busy intersections and providing a Safe Routes to School Program that includes both education and encouragement activities as well as many good bicycle and pedestrian safety infrastructure features. The Ocean City School District Travel Plan was developed to address the school district's interest in improving walking and bicycling programs, and the continued concerns about existing and potential safety issues due to speeding, road crossings and pedestrian infrastructure gaps in the community it serves.

## Next Steps

Implementation of this plan and the sustained success of any effort to increase walking and bicycling to school will require continued partnership among local and regional organizations. Infrastructure improvements must be employed alongside hands-on education and encouragement programs to maintain momentum towards achieving the goals set forth by the SRTS Team. The following entities should undertake the actions listed below and outlined in more detail through this document to implement the Ocean City School Travel Plan.

- Ocean City and the School District should continue to collaborate to pursue SRTS Infrastructure grants and other grants administered by NJDOT and South Jersey Transportation Planning Organization (SJTPO) to implement recommendations identified in Chapter 4, such as repainting crosswalks, installing additional high-visibility continental crosswalks, pedestrian signage, implementing bikeways, and other pedestrian and bicycle safety improvements.
- The School District, Cross County Connection, and the Brain Injury Alliance should continue to facilitate pedestrian safety education and encouragement activities.
- Ocean City Police Department should continue enforcement efforts and consider participating in the pedestrian safety decoy program to increase compliance with New Jersey's "Stop and Stay Stopped" law.
- Ocean City School District, Cross County Connection, and the Voorhees Transportation Center should continue evaluation efforts, such as conducting student travel tallies and parent surveys, in order to modify the SRTS program, where necessary.

## Funding Resources

Implementation of engineering improvements can be expensive. Fortunately, there are funding programs at the state and federal level dedicated to assist with the implementation of projects that would improve the safety of Ocean City Primary and Intermediate School students walking and bicycling to school. These funding programs are competitive, have deadlines and the application process requires time to complete. In addition, the programs listed on the next page receive far more funding requests than can be obligated. Cross County Connection is available to provide assistance in determining appropriate funding sources and preparing grant applications.

The funding programs listed below are provided as a general guide, and are not an exhaustive list of available funding sources. For more information on a specific program, please contact the granting agency or refer to the grant program guidelines found on the program websites.

## Safe Routes to School (SRTS) Infrastructure Program

Federal funding is available for SRTS projects that improve the safety of children walking or biking to school. The program is administered through NJDOT. Eligible projects may include the planning, design, construction or installation of sidewalks, crosswalks, signals, traffic-calming and bicycle facilities within two miles of an elementary or middle school (K-8). Local and regional governments, school districts and individual schools are eligible to be project sponsors and receive direct funding.

## Surface Transportation Program (STP) Setaside

This federal funding is set aside to foster more livable communities and promote alternative modes of transportation such as biking and walking. Eligible activities include bikeway construction, acquisition of right-of-way for bikeways and many other projects. Activities funded by the STP Setaside were previously funded by the Transportation Alternatives Program (TAP) and the Transportation Enhancements (TE) Program in previous federal transportation bills. A key feautre of the STP setaside program in the current federal transportation bill (FAST Act) is the funding eligibility for projects dedicated to the construction, planning and design of infrastructure projects that provide “safe routes for non-drivers” which includes children, seniors and disabled persons. NJDOT has historically provided the 20% match required under federal transportation legislation. Eligible project sponsors for STP setaside funds include local and regional governments, transit agencies, school districts and individual schools.

## Municipal Aid Program

Municipal Aid is a state-funded program administered by NJDOT for roadway and bridge improvements, which may include the installation of bicycle and pedestrian facilities. Each county is appropriated funds for their constituent municipalities based on a formula. Municipalities must submit applications, detailing a potential project to their local NJDOT District Office.

School districts and individual schools are not eligible to apply for these funds directly, but they should encourage their municipal government to apply for these funds and direct them towards improving the bicycle and pedestrian safety around their schools.

For more information regarding these three funding programs contact:

New Jersey Department of Transportation (NJDOT)
Website: http://www.state.nj.us/transportation/business/localaid/
District Manager, NJDOT
1 Executive Campus
Route 70 West, 3rd Floor
Cherry Hill, NJ 08002
Phone: 856-486-6618
Fax: 856-486-6771

Multi-use path, Route 52 Causeway, Ocean City, NJ

## Summary

The Ocean City Student Travel Plan was created through the collaboration of the Ocean City Safe Routes to School working group and by Cross County Connection TMA. This Travel Plan was undertaken to address Ocean City's Primary and Intermediate School's interest in improving/incorporating new pedestrian infrastructure to create a safer walking and bicycling environment for students to get to and from school. The Travel Plan outlines the potential safety issues and concerns regarding pedestrian infrastructure within close proximity to both the Primary and Intermediate School and offers recommendations to the areas of concern which are defined in this Travel Plan.

The sustained success of any effort to increase walking and bicycling to school will require continued partnership among local and regional organizations. Infrastructure improvements must coincide with hands-on education and encouragement programs to maintain momentum towards achieving goals set forth by the Safe Routes to School working group. Both Ocean City Primary and Intermediate school and the City have demonstrated through current and past efforts, that they are committed to creating a community that promotes healthy and active lifestyles for students, as well as providing a safe environment for walking and bicycling.

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# APPENDIX A: OCEAN CITY RESOLUTION OF SUPPORT FOR SAFE ROUTES TO SCHOOL

CITY OF OCEAN CITY
CAPE MAY COUNTY, NEW JERSEY
**RESOLUTION** 15-51-067

**AUTHORIZING THE CITY OF OCEAN CITY TO EXECUTE A RESOLUTION OF SUPPORT FOR THE PARTICIPATION IN THE SAFE ROUTES TO SCHOOL PROGRAM**

**WHEREAS**, the City of Ocean City, New Jersey sees the need to promote the health and safety of our children; and

**WHEREAS,** nearly one out of three children (31%) ages 10-17 are overweight or obese in New Jersey and New Jersey has the second highest rate of obesity (17.9%) for low-income children ages 2-5; and

**WHEREAS,** lack of physical activity has had a significant impact on children's health and well-being, resulting in higher rates of obesity, diabetes, heart disease, and other related health concerns compared to 30 years ago; and

**WHEREAS,** driving children to school by private vehicle and idling in the school vicinity contributes to traffic congestion and air pollution near the school; and

**WHEREAS,** air pollution near schools can have adverse effects on student health, including decreased lung development, allergies and asthma, as well as on the local environment; and

**WHEREAS,** Congress has designated federal funding to develop the National Safe Routes to School Program to address these challenges; and

**WHEREAS,** bicycling and walking to school can have a positive mental and physical impact on the health of children and youth, and helps them arrive at school ready to learn; and

**WHEREAS,** providing safer routes to and from schools aims to decrease pedestrian and bicycling related injuries, not just for students but for the entire community; and

**WHEREAS,** the Safe Routes to School program uses education, encouragement, infrastructure and enforcement strategies to help make walking and bicycling to school safer and more attractive to children; and

**WHEREAS,** a successful Safe Routes to School program involves schools, school boards, citizens and local government to collaborate to enable and encourage children, including those with disabilities, to walk and bicycle to school safely; and

**THEREFORE BE IT RESOLVED**, that the Governing Body of the City of Ocean City support the Safe Routes to School program and are proponents of developing and maintaining safe ways to walk and bicycle to school.

Anthony P. Wilson
Council President

CLERK'S CERTIFICATE

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# APPENDIX B: BOARD OF EDUCATION RESOLUTION OF SUPPORT FOR SAFE ROUTES TO SCHOOL

**OCEAN CITY BOARD OF EDUCATION**
501 Atlantic Avenue, Suite 1
Ocean City, New Jersey 08226 - 3891
Phone: (609) 399-4161
Fax: (609) 399-4656

OCEAN CITY BOARD OF EDUCATION
REGULAR MEETING

MARCH 18, 2015

Motion by Mr. Raymond Clark, seconded by Mr. Holmes and carried unanimously, the Board of Education approved the following Superintendent's recommendation by "roll call vote." Members absent were Mr. Batastini and Mr. Bauer.

The Board approves the attached Resolution to support the New Jersey Safe Routes to School program.

This is to certify that the above is a true copy of an excerpt of an Ocean City Board of Education meeting held March 18, 2015.

ATTEST: _____

Mark A. Ritter, Interim Business Administrator/Board Secretary
Ocean City Board of Education

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# APPENDIX C: OCEAN CITY POLICE DEPARTMENT COMMUNITY OUTREACH ON BICYCLE SAFETY

CITY OF OCEAN CITY

AMERICA'S GREATEST FAMILY RESORT

POLICE DEPARTMENT

## COMMUNITY OUTREACH BICYCLE SAFETY

- Riding School Bus - The OCIS has a "Riding School Bus" program twice a year, which promotes kids riding their bikes to and from school. It encourages a healthier lifestyle, environmental awareness, conservation and bicycle safety. The program is supported by the school district, teachers and faculty, the OCPD Community Policing Unit.
- Walk to School day – Twice a year we participate in National walk to school day. This is usually with the Intermediate School age children. Parents, teachers, faculty members and police officers meet at a predetermined location and walk to school obeying pedestrian traffic laws along the way. This also encourages a healthier lifestyle and environmental awareness.
- Bicycle Helmet Program –Members of the Ocean City Police Department's Community Oriented Policing Unit, working in conjunction with school faculty members, identify children who bicycle to and from school and who are not wearing helmets. These children are provided helmets, free of charge, and only asked that when riding their bicycle to wear the helmet. This is not only for the students but is also available to any community member.
- Bicycle Lock Program -- Members of the Ocean City Police Department's Community Oriented Policing Unit, working in conjunction with school faculty members, identify children who bicycle to and from school and who are not using a bicycle lock to secure their bicycle. These children are provided bicycle locks, free of charge, and only asked to use the bike lock when securing their bicycle. This is not only for the students but is also available to any community member.
- Bicycle Light Program -- Members of the Ocean City Police Department's Community Oriented Policing Unit, working in conjunction with school faculty members, identify children who bicycle to and from school and who are not utilizing a bicycle light. These children are provided bicycle light free of charge and only asked to use the light when bicycling at night. This is not only for the students but is also available to any community member.
- Youth Leadership Program—Officers from the Ocean City Police Department's Community Oriented Policing Unit teach a 12 week course called Youth Leadership to 5th grade students at the Intermediate School. A block of this instruction is dedicated to bicycle safety law. Students are advised that each year bicyclists are killed in motor vehicle collisions and that safety is paramount. They are reminded that children under 17 years of age should be wearing a helmet whether riding a bicycle, skateboard or rollerblades. In New Jersey, bicycles have the same rights and responsibilities as motor vehicles.

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- School Assemblies—Members of the Police Department's Traffic Safety and Community Oriented Policing Units attend school assemblies throughout the year where children are briefed on bicycle and pedestrian safety laws. Questions are presented to the students and if answered correctly they are awarded bicycle safety equipment.
- Boardwalk Bicycle Safety—A thirty second video was added to the OCNJ website reminding visitors that while bicycling on the Ocean City Boardwalk to stay in between the clearly marked lanes and to utilize bicycle helmets at all times.
- Riding School Bus Video—A riding school bus video was created and uploaded to youtube on September 28, 2011. This video shows students, parents, faculty members and police officers riding bicycles to school. The end of the video is a demonstration where a cantaloupe is placed inside a bike helmet and thrown high into the air and crashes to the ground. The cantaloupe receives little to no damage. The presentation is conducted by Officer Reichanek.
- Gardens Civic Association Parade—Every 4th of July the Gardens Civic Association sponsors a parade in the north end of the island. Both pedestrian and traffic safety laws are enforced during the parade. In addition, students at the Primary and Intermediate Schools are challenged to come up with wording and/or artwork to be placed on t-shirts which are distributed to people attending the parade. The winning students receive a gift card and certificate which is followed by a thirty minute presentation on pedestrian/bicycle safety.
- Student Coloring Book – In 2011 the Ocean City Police Department in conjunction with the Ocean City Free Public Library utilized an $18,000 grant and created a pedestrian/bicycle safety coloring book. The images and games in the book were created by students in the Ocean City School District.


- Pedestrian magnetic sign—In 2011 members of the Ocean City Police along with the Ocean City Public Library created the above magnetic placard to create public awareness that motor vehicle should stop for pedestrians in a crosswalk.
- Halloween Bicycle/Pedestrian Safety—During Halloween members of the Ocean City Community Policing Unit hand out glow necklaces to trick or treater's that can be placed around the neck and wrist while bicycling or walking from house to house. The children are advised these glow bands are provided to them so they are visible to motorists during this very busy night.