

G Harold Antrim Elementary School



Point Pleasant Beach, NJ School Travel Plan June 2018

Prepared by Greater Mercer TMA



NEW JERSEY
Safe Routes to School



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Introduction

Point Pleasant Beach, a 1.74 square mile shore community in Ocean County New Jersey, is home to Antrim Elementary School. The permanent population of the town numbered 4,655 in the 2010 Census, though the population fluctuates due to the seasonal increase from summer tourists. The mile-long boardwalk is one of the largest draws to the area. In order to accommodate the swells of summer visitors, parking is situated throughout the borough and traffic flow patterns are affected by summertime activities such as fireworks. Antrim is the home to the district athletic fields, so any modifications that increase walkability and bikeability would have a dramatically larger impact due to older students who use its facilities.

Greater Mercer Transportation Management Association, a private transportation non-profit was able to assess the current pedestrian facilities and propose improvements to not only increase Antrim's green commutation, but to do so safely.

This document, a school travel plan, identifies background and context about the school, observed traffic hazards, some suggested improvements and an estimated timeline/cost breakdown.

Goals

Using the "Six E's" of Safe Routes to School (Evaluation, Engineering, Education, Encouragement, Enforcement, Equity), Point Pleasant Beach would like to increase the number of bicycle riders and walkers at Antrim Elementary School.

School Description

Antrim Elementary School Description

- Antrim is located at 401 Niblick St., Point Pleasant Beach, New Jersey 08742.
- For the 2017-2018 school years, there were 406 students in grades Pre-K to 8:
 - 7 Pre-K ,33 Kindergarten
 - 34 first grade
 - 44 second grade
 - 37 third grade
 - 39 fourth grade
 - 39 fifth grade
 - 53 sixth grade
 - 59 seventh grade
 - 59 eighth
 - 2 ungraded
- The school day runs from 8:10am to 3:00pm.

Current Safe Routes to School Programming

- 2018 "First Steps" Point Pleasant Borough Municipal Recognition
- Annual Walk to School events

Working Groups and Partnerships

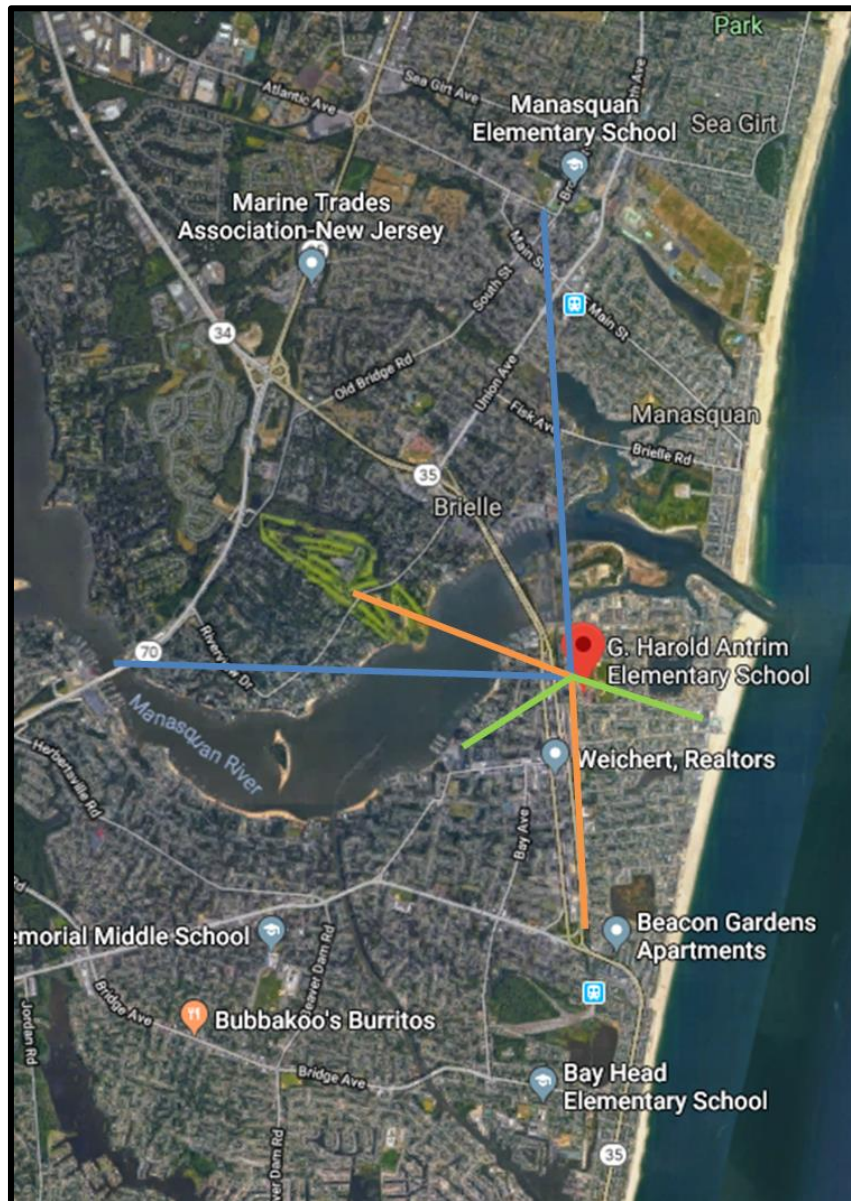
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Point Pleasant Beach Municipal SRTS Champion	Community Partner	Paul Kanitra Point Beach Councilman pkanitra@lobbyit.com
Point Pleasant Beach Municipal SRTS Champion	Community Partner	Chief Joseph Michigan Point Pleasant Beach Police Dept. 732.892.0500
Point Pleasant Beach Municipal SRTS Champion	Community Partner	Captain Matthew Duffy Point Pleasant Beach Police Dept. 732.892.0500
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Point Pleasant Beach SRTS District Champion	Key Partner	William Smith Point Beach Superintendent WSmith@ptbeach.com
Point Pleasant Beach SRTS Champion	Township Planner	Donna Miller T and M Associates Dmiller@tandmassociates.com
Point Pleasant Beach SRTS Champion	Consultant Partner	Gerald Paige T and M Associates Gpaige@tandmassociates.com
Point Pleasant Beach SRTS District Champion	Key Partner	Tom O'Hara Point Beach Principal Ohara@ptbeach.com

Partnerships

- Point Pleasant Beach Police Department
- Point Pleasant Beach School District
- T and M Associates consultants

Existing Conditions- Maps

Fig 1. School Neighborhood

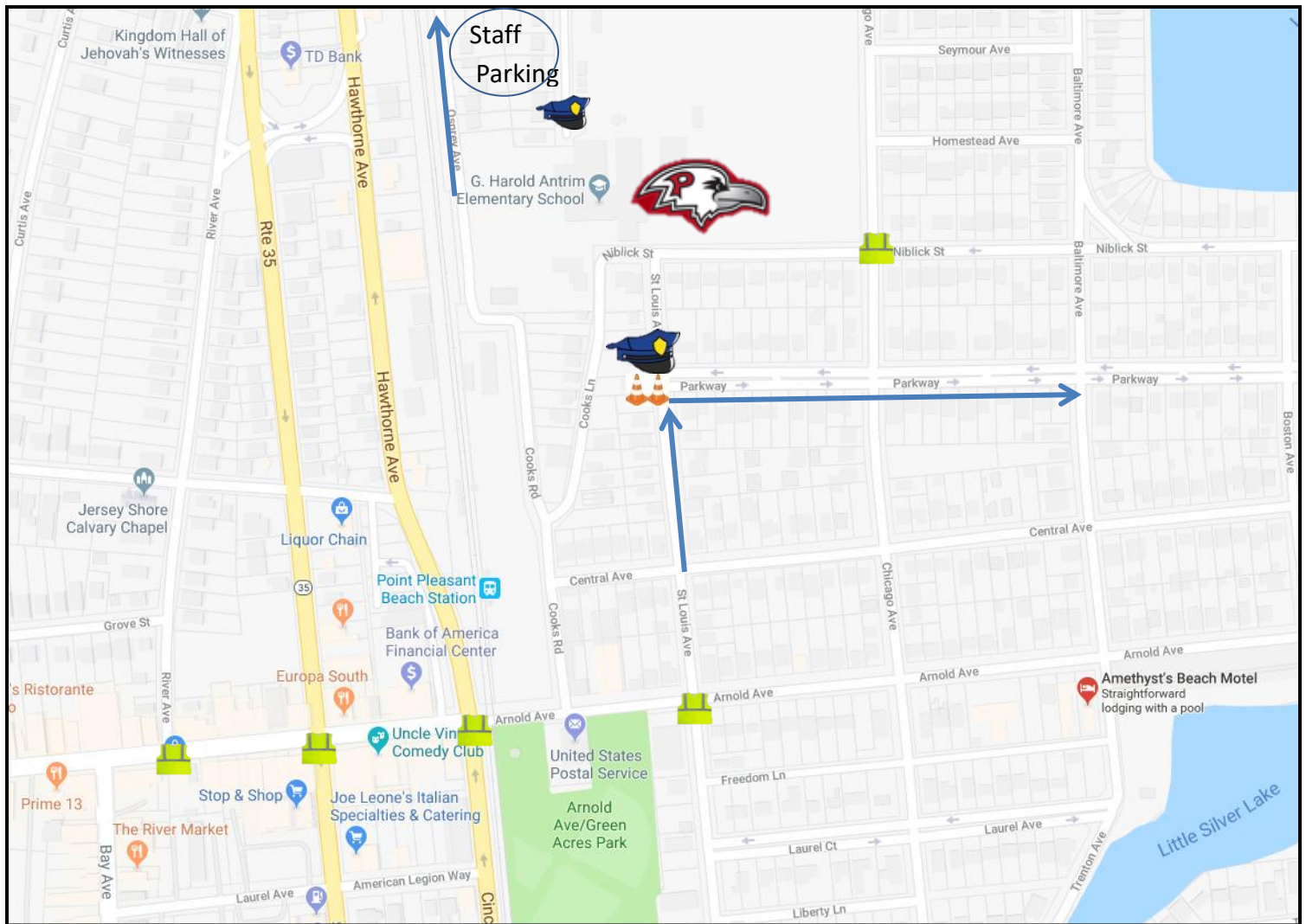


Blue=2 miles, Orange=1 mile, Green=.5 mile

Source: Google Maps

Antrim School is located at 401 Niblick St., Point Pleasant Beach, New Jersey 08742. The school is a half mile from the boardwalk and beach. St. Peter's School, a private K-8 Catholic school, is located along Cincinnati Avenue as well. Gull Island, Lake Louise, and Little Silver Lake lie within Point Beach Borough.

Fig 2. Crossing Guards and Police



Vest= Crossing Guard, Police hats=Police officer, Arrows=Path of driving, Gull Icon= School

Source: Google Maps

In addition to the permanent school resource officer, there are two officers stationed on the perimeter of the elementary school. For the 8:20 arrival time, traffic cones are placed at St. Louis and Parkway to prevent cars entering the school grounds.

Presented from the 2016-2017 Antrim School Parent Handbook:

- Students must cross major streets only at those crossings where crossing guards are posted.
- Students may cross the railroad tracks only at Arnold Avenue and Route 35 or at Atlantic Avenue and Route 35. Crossing guards are posted at these locations.
- **School crossing guards are employed by the Point Pleasant Beach Police** to help insure the safety of all children. Students are to obey their instructions at all times. Students reported by a crossing guard for any disobedience or disrespect will be treated as if they disobeyed or gave disrespect to a teacher. This may be in addition to actions taken by Point Pleasant Beach Police.

Arrival/Parking/Dismissal

During arrival and dismissal, police officers are also stationed at the front and back entrances (Figure 2) for the duration of picking up and dropping off. As previously mentioned, traffic cones guide the traffic flow north on St. Louis Ave and east on Parkway. These officers are separate from the permanent resource officer stationed during the school day.

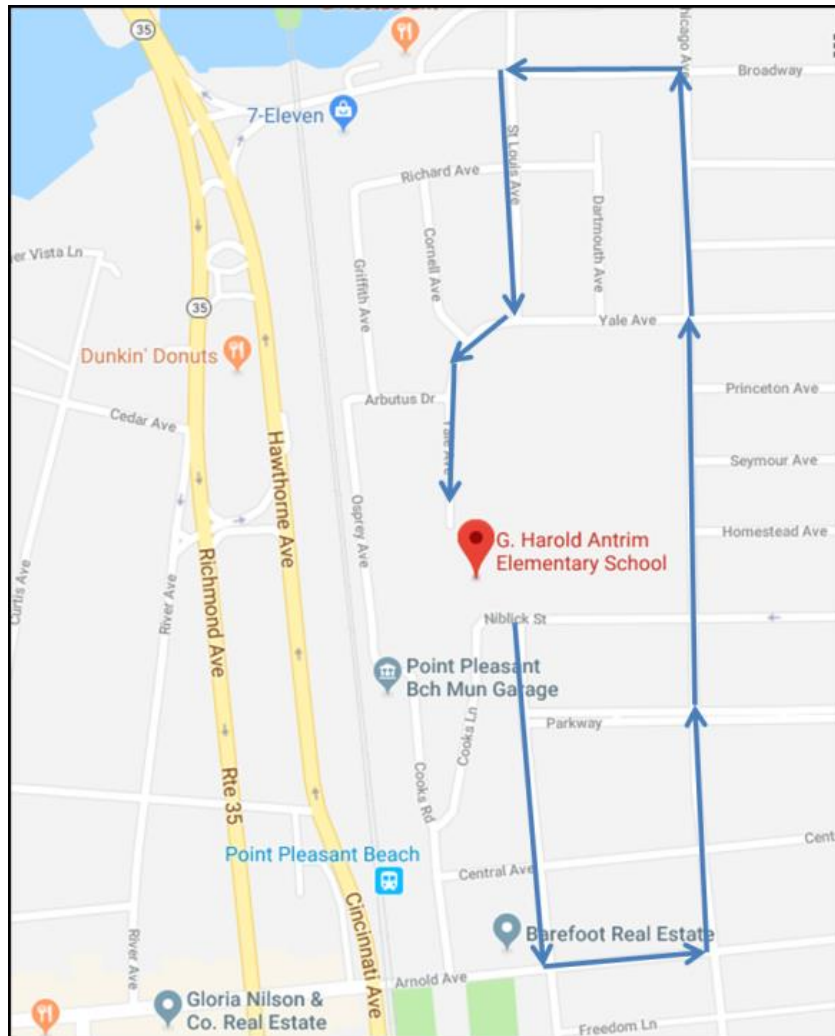
Staff can park in the lot immediately behind the school. Chicago Avenue and Yale Avenue contain extensive street parking along the perimeter of the school.

Arnold Avenue, a major entrance artery in the borough, has four crossing guards stationed in the morning and afternoon, indicating a high safety interest from the police department. Traffic cones are placed during arrival and dismissal to control the flow of traffic north on St. Louis Ave and east on Parkway.

July 16, 2018 Walkability Audit

In order to gather ground-level observations, representatives from Greater Mercer TMA (Jerry Foster, Ian Henderson), T and M Associates (Donna Miller, Gerald Paige), Antrim School (Principal O'Hara), Pt. Pleasant Beach Police (Chief Michigan), and Pt. Beach Town Council (Paul Kanitra) were present for a walkability audit around the school. Photographs taken on the audit are used in the recommendation section found below. The group was able to interview local residents, observe traffic flow and speed, and brainstorm traffic improvements.

The route included a majority of the Antrim School perimeter, north on Chicago Avenue, and across Broadway, a high-speed entrance into Point Pleasant Beach. This covered the most frequently-traveled intersections

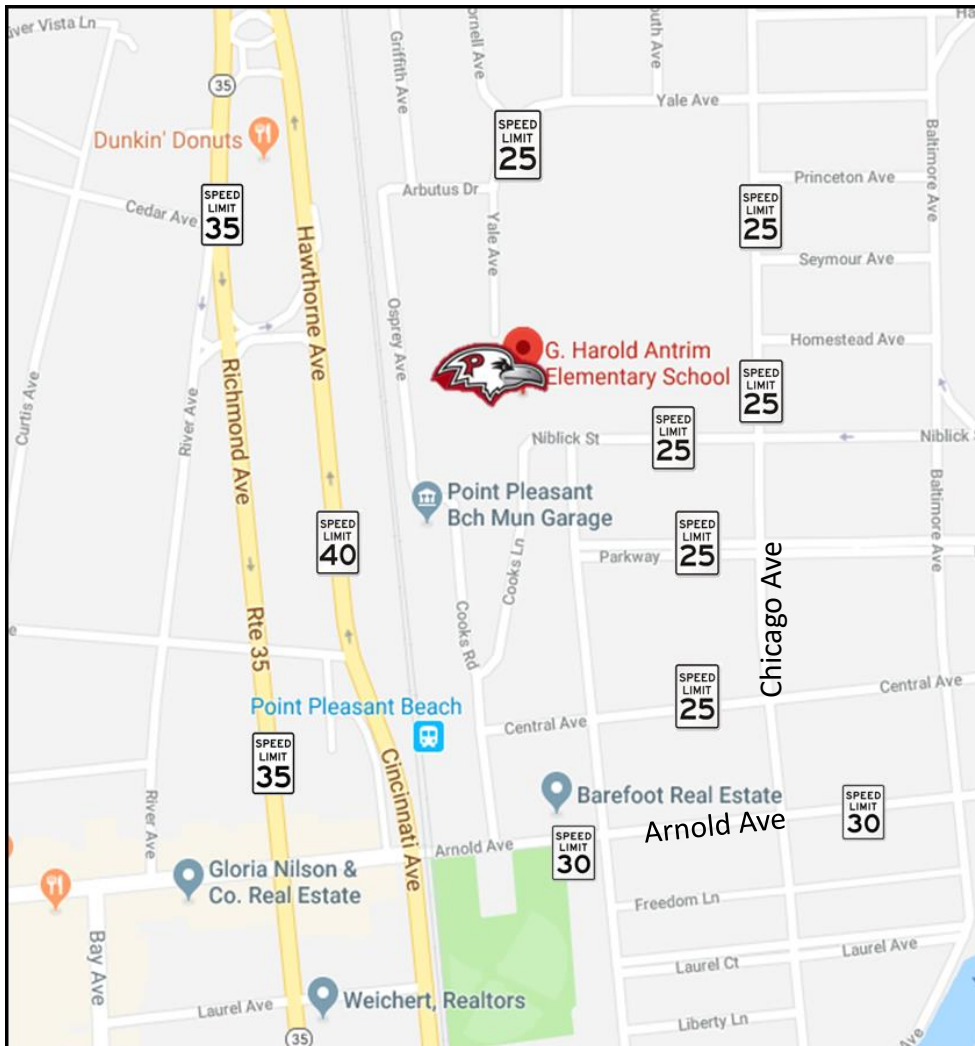


Source: Google Maps

Fig 3. Walkability Audit Route

Walk/ Bike Barriers and Opportunities

Fig 4. Area Speed Limits



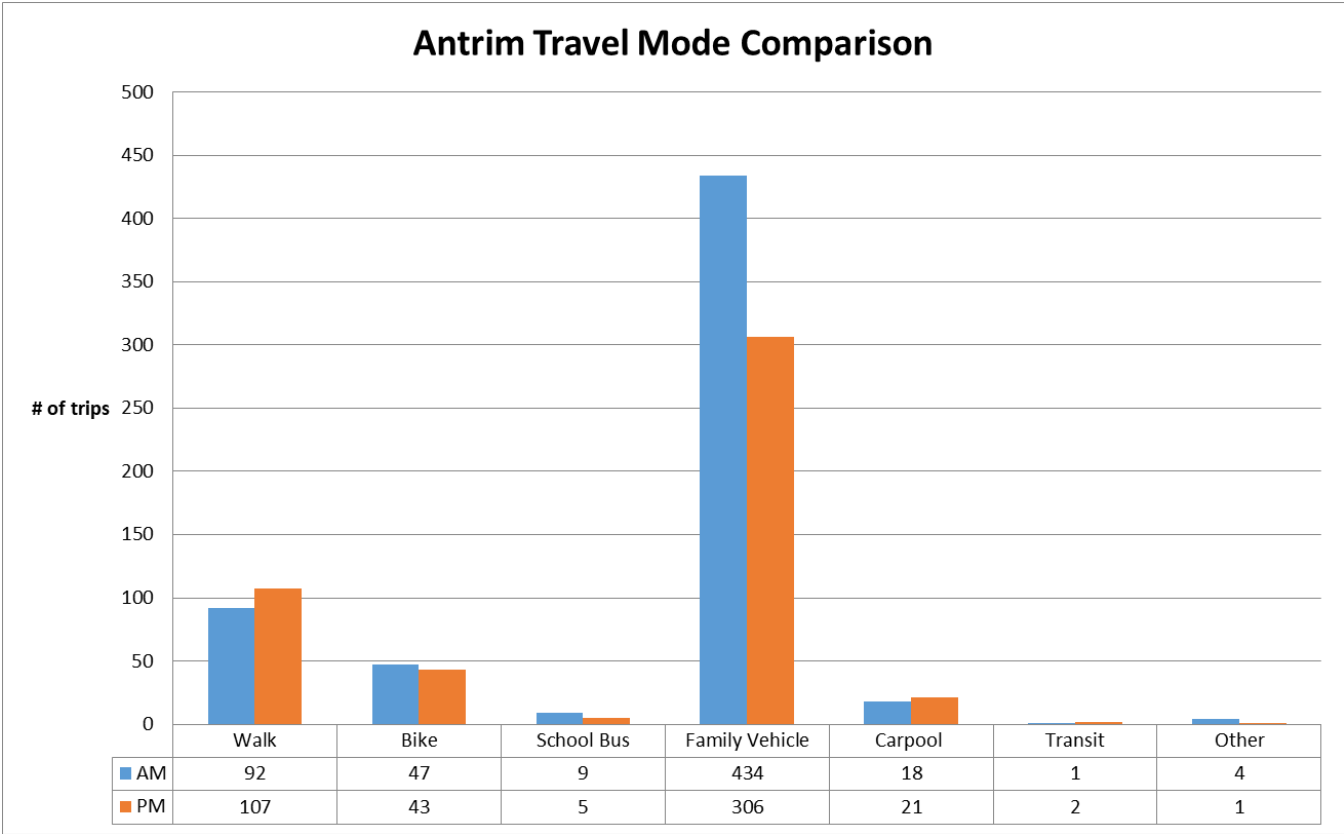
Source: Google Maps

Of note, Arnold Avenue is posted at 30mph, despite running through a downtown area and necessitating four crossing guards at Antrim arrival and dismissal periods. Route 35 splits into Hawthorne/Cincinnati (northbound) and Richmond Avenue (southbound). However, Cincinnati Avenue's speed limit is 5mph higher than Richmond which runs parallel to it.

Travel Tallies

In June 2018, travel mode tallies were taken in classrooms at Antrim Elementary. Between June 5-6 (Tuesday, Wednesday), the students were asked “How did you arrive at school today?” and “How do you plan to leave for home after school?” The students then raised their hands and were counted for each travel mode: walk, bike, school bus, carpool, take a family vehicle, transit or other. Over the three days, student travel trips were recorded and the results can be found on the following chart.

Table 1. Antrim Travel Tallies



Currently, the majority of students travel to and from school in single family vehicles. Walking is the next most popular mode of travel. Increasing and improving bicycle and pedestrian infrastructure may inspire those in family vehicles to try a more sustainable mode.

In New Jersey, a common criterion for elementary school students to receive busing is a door-to-door (home to school) distance greater than 2 miles. Point Beach is small enough that students would fall short of the 2m and be within a suitable walking or biking distance, as long as traffic hazards were tended.

School Policies

Presented from the 2016-2017 Antrim School Parent Handbook:

BICYCLES

1. Bicycles may be ridden to and from school for grades 3 and above.
2. Bicycles must be in good working order.
3. Students under age 17 must wear helmets as required by state law. Students not wearing helmets will be warned. If it is a continuing problem, they will be prohibited from bringing bicycles on school property.
4. Bicycles can only be parked at designated bike racks and must be locked.
5. The school assumes no responsibility for damage to or loss of any bicycle brought to school.
6. Bicycles may not be ridden on school property at any time.
7. Bicycles may not be ridden on Cooks Lane.
8. The school reserves the right to withdraw permission for a student to have a bicycle on school property if the student operates the bicycle in an unsafe manner or fails to wear a helmet.

SKATEBOARDS

1. Skateboards may be ridden to and from school for grades 3 and above.
2. Students under age 17 must wear helmets as required by state law.
3. The school assumes no responsibility for damage or loss of any skateboard.
4. Skateboards may not be ridden on school property.
5. Skateboards may not be ridden on Cooks Lane.
6. The school reserves the right to prohibit any student from bringing a skateboard on school property for unsafe riding, not wearing a helmet, or riding on school grounds.
7. There is no secure storage area for skateboards. Students are expected to secure them in their lockers and/or classroom closets as long as there is room.

WALKING TO AND FROM SCHOOL

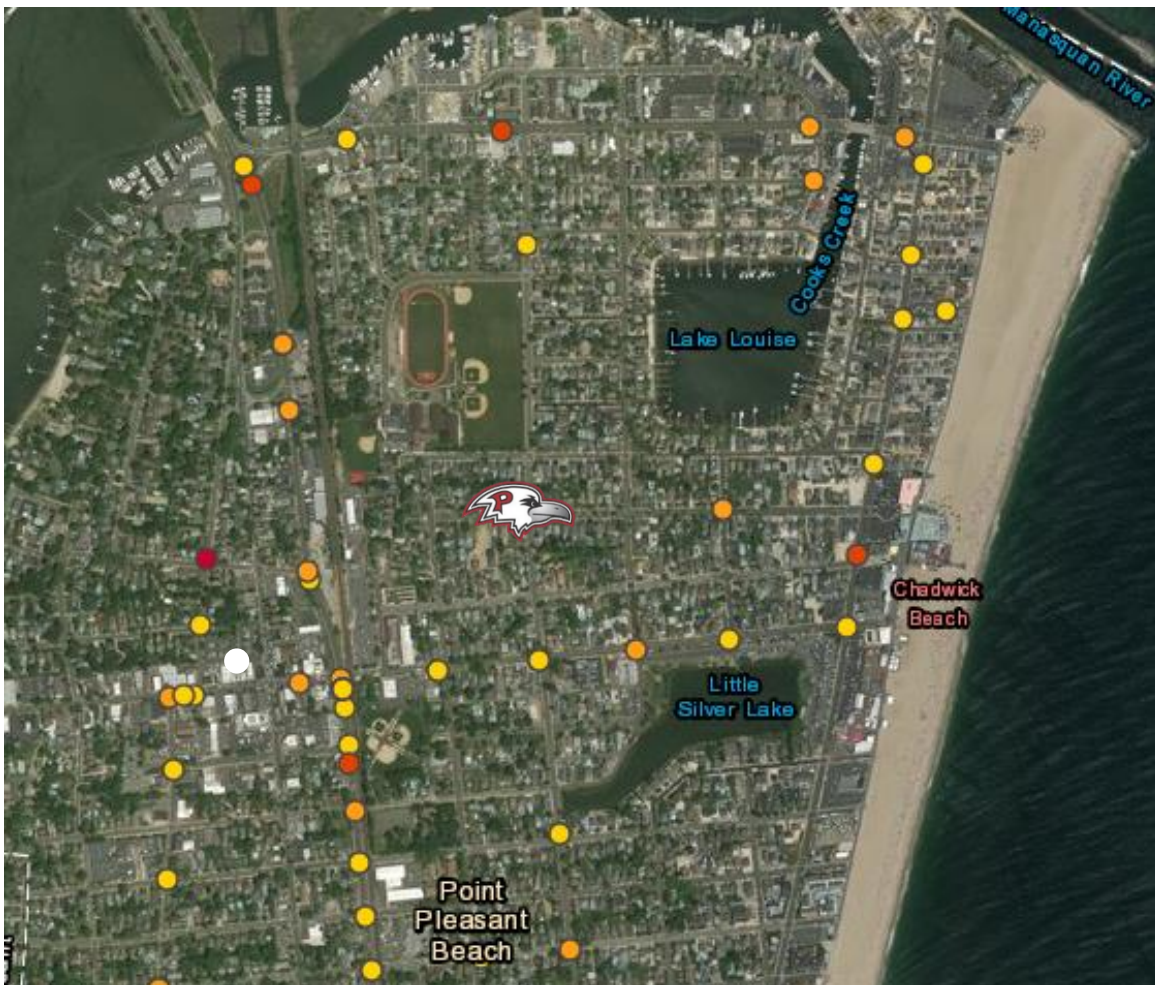
1. Students must cross major streets only at those crossings where crossing guards are posted.
2. Students, who do not live on Cooks Lane, may not walk on Cooks Lane. There is no sidewalk, and it is not safe.
3. Students may cross the railroad tracks only at Arnold Avenue and Route 35 or at Atlantic Avenue and Route 35. Crossing guards are posted at these locations.
4. Students may not walk on or along the railroad tracks at any time!
5. Students are prohibited from entering the railroad parking lot.
6. Students must refrain from walking on private property and must walk on sidewalks.
7. Students are prohibited from walking in the teachers' parking lot, North parking lot, or the football field without adult supervision.

Safe Routes to School-Disabled Student Inclusion

- Maintenance of current ADA-compliant pads and addition of pads to sidewalks to enable access during Walk to School events
- Adjust safety presentation styles for those with ADHD and other learning obstacles
- During schoolwide walk audit events, tailor routes for special needs students
- Train the Trainers approach- Pass along safety education to the aides who have to tailor educational needs based on individual student plans
- Look into funding sources for purchasing specially-tailored bicycles for disabled.

Crash Data

Fig. 6 Antrim Vicinity Pedestrian and Cyclist Crash Data 2006-2016



White= fatality, Red=Incapacitating Injury, Orange= Moderate Injury, Yellow= Pain 2006-2016. School is denoted by eagle icon.

Source: NJDHTS

A full list of Point Beach cyclist and pedestrian crashes from 2006-2016 is listed in Appendix A.

Identification of Problem Areas

Please see Figure 3 for the route map of the walk audit conducted July 16, 2018. There have also been informal walk and bike audits around the school and its neighboring trails to identify both infrastructure improvements to assist current walkers and places to create new spaces for future walking and biking to school.

Parent and administrative input and conversation provided valuable input in determining priority areas.

Recommended Infrastructure Improvements

*Please note that good examples of current infrastructure are included for reference purposes.

In general:

- Greater Mercer TMA would like to see more students walk or bike to school. This could be achieved through street improvements that increase safety.
- Road and lane widths are wide which encourage speeding; therefore traffic-calming measures should be prioritized.
- Continue to host Walk and Bike to School events and work on Safe Routes to School Recognition

The following pages contain infrastructure recommendations. Photographs of current conditions precede a description of suggested improvements.

Fig. 7 and Fig. 8-Parking spaces too close to corner create pedestrian visibility risk



The above images show two instances where car parking space lines are defined close to street corners, reducing visibility for both motorists and pedestrians. Cars too close to crosswalks make it harder for vehicles to spot crossing pedestrians, it could cause peering pedestrians to walk further into intersections, and turning vehicles have a harder time viewing traffic.

NJ Law (emphasis added):

“39A:PKG-3. Places where parking prohibited a. Except when necessary to avoid conflict with other traffic or in compliance with the directions of a traffic or police officer or traffic sign or signal, the operator of a vehicle shall not stand or park the vehicle in any of the following places... **(5) Within 25 feet of the nearest crosswalk** or side line of a street or intersecting highway, except at alleys;”

Parkway

Fig. 9 Parkway Streetscaping



Parkway has pleasant streetscaping which provides shade and narrows the surrounding lanes. This may contribute to traffic calming. Parking is also clearly and boldly delineated.

Fig. 10 St. Louis and Parkway

New sidewalks were installed at this corner along Parkway. The bright, ADA pad is properly located at the corner.

A marked crosswalk needs to be added east across St. Louis Ave.



Perhaps a crosswalk across Parkway could be added. This would require curb cuts on each side of the sidewalk and corresponding ADA pads.

Chicago Avenue

Fig. 11 Chicago Avenue and Niblick St.



This is an ideal intersection. The ladder crosswalks are high visibility and the signage is a reflective yellow-green. Curb cuts are appropriate. “Slow School” is large. While 25mph is marked, perhaps a dynamic speed monitoring sign could be incorporated. Chicago’s large width presently encourages speeding.

The distance between parking space to corner is still less than 25ft. and can cause a visibility risk.

Fig. 12 Chicago Avenue Sidewalk

Some trees along Chicago Avenue can be trimmed.

In general, street trees could be added along Chicago to create a more pleasant atmosphere.

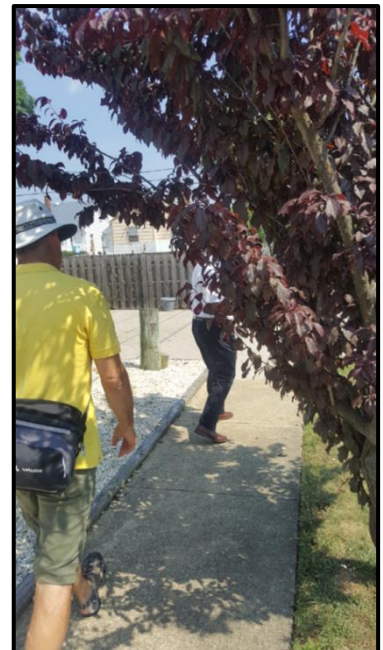


Fig. 13 Chicago Avenue (Northbound)



New sidewalks added in 2017 align the perimeter of Antrim.

Chicago's width is quite pronounced in the above image. During the walkability audit, the overall impression was that cars were traveling faster than the posted 25mph speed limit. A portable speed display or a pole-mounted speed display could be added to help slow down drivers. Lanes could be narrowed. There would be sufficient width for bike lanes as well. Angled parking would narrow the lanes and increase the number of spaces. Street trees would provide shade and provide a pleasing aesthetic.

Fig. 14 Chicago Avenue (Southbound)



Cracked asphalt is found in the crosswalks. The uneven pavement is a hazard, particularly for individuals who are visually-impaired or have difficulty with mobility.

Yale Avenue

Fig. 15 Yale Avenue (Southbound)



Yale Avenue spans the outer perimeter of Antrim around the fields. Extensive sidewalks were added in 2017. However, it lacks crosswalk connections with the opposite side of the street. The current Yale crosswalks are a bit faded. While marked 25mph, the wide and curved nature of the road evokes a “racetrack” feel. Drivers are not necessarily looking for crossing students since there is no crosswalk or curb cut encouraging them to do so. In addition to crosswalk lines, high visibility signage and ADA pads would be ideal. In the longer term, perhaps an island, speed humps, or crosswalk bump outs to decrease crossing length, could slow traffic.

Broadway

Fig. 16 Broadway (Eastbound)



Broadway is a major gateway to the shore area and cars tend to speed upon entry. Marked 35mph, cars appeared to be speeding during walkability observations. Interviews with neighbors confirm speeding behavior.

Point Pleasant Beach could consider a study. Remedies for Broadway could include lane reduction, a “road diet” configuration, roundabouts, gateway treatment, and speed reduction measures. Other possible improvements include a pedestrian island or pedestrian sidewalk bump outs at intersections along Broadway. The current speed of traffic is a deterrent for student walkers.

Cincinnati

Fig. 21 Cincinnati and Forman (Opposite railroad tracks)

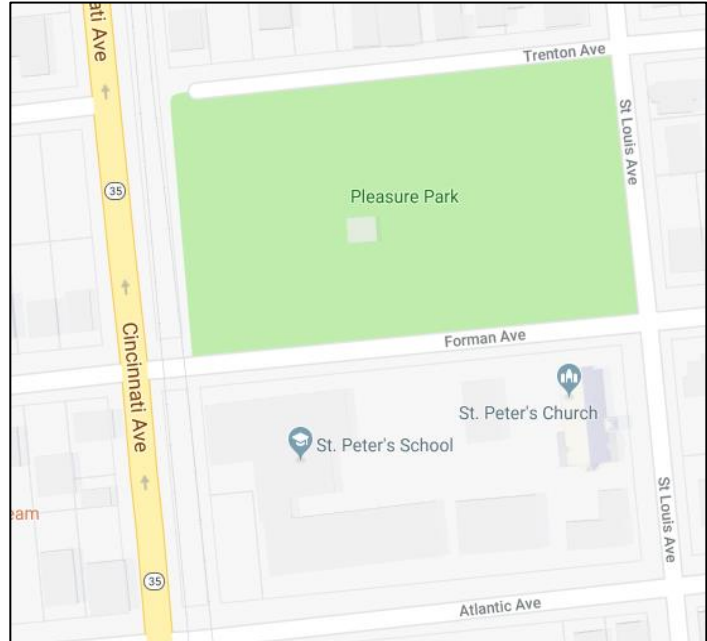


Cincinnati’s speed limit is marked 40 mph, though Route 35 which runs parallel is 35mph. An immediate lowering of the marked speed limit should initiate traffic calming. There are no current marked crosswalks across Cincinnati. Appropriate curb cuts and ADA pads would signal to drivers that pedestrians may cross in the area. A HAWK beacon (High-Intensity Activated crossWalk) would provide pedestrians the right of way.

St. Peter's Elementary School

This private elementary school lies .3 miles south of Antrim along St. Louis Ave. Pleasure Park, adjacent to the school, features extensive playground equipment, tennis and basketball courts, and park facilities.

Due to high traffic volume, Forman Avenue was changed to one-way directionality. The Cincinnati and Forman intersection is a popular entrance for beach activity and attracts higher speed travel. Unfortunately, one-way travel leads to higher speed travel over two-way. Bollards and warning signage at least remedy some of the speed from one-way configuration by warning drivers.



Source: Google Maps

Fig. 17 St. Peter School Map
Fig 18, 19, 20 Forman Ave



Once Forman was converted to a one-way directionality, high visibility signing and arrows were added. Bollards also prevented traffic from entering near the park entrance. These traffic-calming measures are large and visible to drivers.



Goals and Actions:

This plan of action is intended to increase safety for students on their walk to and from school and when appropriate, encourage more students to walk. The table below identifies those actions, a responsible party for implementing them, a time frame, and a level of cost. Many actions identified as “short-term” and “low cost” can make a big difference in a shorter time frame and can be accomplished with the help of local partners. This “low-hanging fruit” can be prioritized for greater impact in a shorter period of time. However, traffic calming measures are key items to address allowing students more time to cross and greater visibility (larger driver field of vision at slow speeds).

Cost estimates are for planning purposes only – a professional engineer should prepare the actual estimates used for grant application. These estimates were prepared using the SRTS Implementation Cost sheet prepared in 2017 by NV5 to support the grant application process.¹

Engineering			
Action	Responsibility	Time Frame	Cost Estimates
Yellow paint to extend “No-parking” zones	Point Beach	Short Term	\$1.60/SQFT
Streetscaping Trees along Chicago Ave (w/ accompanying island)	Point Beach	Ongoing	Trees: \$900 each
St. Louis and Parkway curb cuts and ADA-pads	Point Beach	Medium Term	\$5,000
St. Louis Ave and Parkway crosswalk across Parkway	Point Beach	Medium Term	\$3.20/SF
Chicago Avenue Pole-mounted speed monitoring sign	Point Beach	Short Term	\$20,000
Overhanging brush blocking sidewalk	Homeowners	Short Term	\$1,000
Chicago Avenue asphalt	Point Beach	Medium Term	\$95/SF
Yale Avenue Pole-mounted speed monitoring sign	Point Beach	Short Term	\$5-6,000
Yale Avenue traffic-calming pedestrian island	Point Beach	Medium Term	\$7,500
Pedestrian sidewalk bump outs (various)	Point Beach	Medium Term	\$6,000 each
Reduce Cincinnati speed limit from 40mph to 35mph	Point Beach	Short Term	\$500-1,000
Cincinnati and Forman curb cuts, ADA-pads, and crosswalk paint	Point Beach	Medium Term	\$3.20/SF

¹ <http://www.saferoutesnj.org/wp-content/uploads/2013/07/SRTS-Costs-August-2017-update.pdf>

Education			
Action	Responsibility	Time Frame	Cost
Educate students, family members, bus drivers and school employees about drop-off/ pick up zones. Make sure everyone knows the best way to keep students safe and to quickly dismiss students from school.	School, School District	Short Term / Ongoing	Low
Increase community outreach about the health benefits of walking and biking to school.	School, PTO	Short Term	Low
Conduct community wide outreach about Safe Routes to School actions such as walking and biking safety.	School, GMTMA	Short Term/ Ongoing	Low
Establish a program to encourage students to walk and/or bike to school. Examples: Golden Sneaker Award, Walking Wednesday, Walking School Bus, Bike Train	School, GMTMA	Short Term/ Ongoing	Low
Educate community and responsible parties about snow removal on sidewalks near schools.	Public Works	Short Term/ Ongoing	Low

Encouragement			
Action	Responsibility	Time Frame	Cost
Establish main walking routes, safety corridors, walking school buses – safety in numbers.	School, PTO, GMTMA, Community Groups	Ongoing	Low
Conduct student and parent surveys to see what actions and rewards could encourage them to walk to school more – and feel safer walking to school.	School, PTO, GMTMA	Short Term	Low

Enforcement			
Action	Responsibility	Time Frame	Cost
Enforce speed limits (in general and specifically in school zones), pedestrians walking safely, drivers watching for pedestrians especially at times when students are going to/ from school.	Police	Ongoing	Low / Medium
Enforce motorist compliance with crossing guard instructions	Police	Ongoing	Low / Medium
Enforce parking laws.	Police	Ongoing	Low / Medium
Conduct Street Smart safety enforcement campaigns.	Police	Ongoing	Low / Medium

Evaluation			
Action	Responsibility	Time Frame	Cost
Conduct student travel tallies on annual basis	School	Annual	Low
Conduct bikeability audit of walking area	School, Township, GMTMA	Short Term	Low

*Explanation of funding- Greater Mercer TMA is funded through the New Jersey Department of Transportation to offer advice and assistance in starting safe Routes to School programs and projects. Greater Mercer TMA can help with walk and bike to school events, walking school bus programs, youth bicycle and pedestrian education, school travel plans, and surveys that provide evaluation and feedback on local programs.

Evaluation

Task Force Timeline

Greater Mercer TMA will be in discussion with participating organizations about implementation progress.

Conclusion

Antrim Elementary is home to over 400 students. Based on the catchment area, routes for many students are within two miles door to door from home to school. This is commonly deemed a length suitable for elementary students. The travel tallies reveal however that the majority of students travel to and from school in the family car. It is likely that a perception of road safety from parents plays into this decision. With just 23% of the students reporting that they traveled to school by walking or biking in the morning and 31% in the afternoon, there is clear potential for shifting many more students out of vehicles. Generally speaking, traffic calming should be prioritized. As referenced in this report, there are several wide roads that by design, encourage higher speeds and would benefit from traffic calming measures. There is also the opportunity to reduce the posted speed limit on roads such as Cincinnati and Arnold and to add marked crosswalks to increase awareness of pedestrian crossings. Lastly, while summer parking is a concern, visibility for turning vehicles should be addressed. Several spots were closer than the New Jersey 25 ft. legal distance from the corner. Traffic safety improvements are welcome modifications that will not only increase the safety of the neighborhood surrounding Antrim School, but slower speeds can boost the community feeling in town.

Appendix A: Point Borough Pedestrian and Cyclist Crashes from New Jersey Department of Traffic and Highway Safety, 2006-2016

Crash Year	Severity	Crash Type	Crash Location
2016	Moderate Injury	Pedalcyclist	OCEAN COUNTY 633
2016	Moderate Injury	Pedalcyclist	NJ 35
2016	Incapacitating Injury	Pedestrian	OCEAN COUNTY 635
2016	Moderate Injury	Pedestrian	NJ 35
2016	Incapacitating Injury	Pedestrian	NJ 35
2016	Pain	Pedalcyclist	NJ 35
2015	Pain	Pedalcyclist	NJ 35
2015	Pain	Pedestrian	NJ 35
2015	Pain	Pedalcyclist	OCEAN COUNTY 633
2015	Moderate Injury	Pedalcyclist	OCEAN COUNTY 633
2014	Pain	Pedalcyclist	NJ 35
2013	Moderate Injury	Pedalcyclist	NJ 35
2013	Incapacitating Injury	Pedestrian	NJ 35
2013	Moderate Injury	Pedalcyclist	NJ 35
2013	Moderate Injury	Pedalcyclist	OCEAN COUNTY 635
2013	Moderate Injury	Pedalcyclist	NJ 35
2012	Moderate Injury	Pedalcyclist	CHICAGO
2012	Incapacitating Injury	Pedalcyclist	NJ 35
2012	Pain	Pedalcyclist	NJ 35
2012	Pain	Pedalcyclist	ARNOLD AVE
2011	Pain	Pedestrian	BROADWAY AVE
2011	Moderate Injury	Pedalcyclist	OCEAN COUNTY 635
2010	Moderate Injury	Pedalcyclist	NJ 35
2010	Moderate Injury	Pedalcyclist	NJ 35
2010	Moderate Injury	Pedalcyclist	RIVER AVE
2010	Moderate Injury	Pedalcyclist	NJ 35
2010	Moderate Injury	Pedalcyclist	NEW JERSEY AVE
2010	Moderate Injury	Pedalcyclist	ARNOLD AVE
2010	Pain	Pedalcyclist	NJ 35
2009	Moderate Injury	Pedalcyclist	OCEAN COUNTY 635
2009	Moderate Injury	Pedalcyclist	NJ 35
2009	Pain	Pedalcyclist	WASHINGTON AVE
2009	Pain	Pedestrian	PARKWAY AVE
2009	Pain	Pedestrian	RIVERSIDE PLACE
2009	Pain	Pedalcyclist	NJ 35
2009	Moderate Injury	Pedalcyclist	CHICAGO
2008	Incapacitating Injury	Pedestrian	OCEAN COUNTY 635
2008	Moderate Injury	Pedalcyclist	NJ 35
2008	Moderate Injury	Pedalcyclist	NJ 35
2008	Moderate Injury	Pedalcyclist	OCEAN COUNTY 635

2008	Moderate Injury	Pedestrian	OCEAN COUNTY 635
2008	Pain	Pedalcyclist	NJ 35
2008	Pain	Pedalcyclist	OCEAN COUNTY 633
2008	Pain	Pedalcyclist	NJ 35
2008	Pain	Pedalcyclist	OCEAN COUNTY 604
2008	Moderate Injury	Pedalcyclist	OCEAN COUNTY 604
2008	Pain	Pedestrian	OCEAN COUNTY 604
2007	Moderate Injury	Pedalcyclist	CHICAGO AVENUE
2007	Moderate Injury	Pedalcyclist	NJ 35
2007	Incapacitating Injury	Pedestrian	NJ 35
2007	Moderate Injury	Pedestrian	OCEAN COUNTY 635
2007	Moderate Injury	Pedalcyclist	NJ 35
2007	Moderate Injury	Pedestrian	OCEAN COUNTY 635
2007	Moderate Injury	Pedestrian	DANBY PLACE
2007	Moderate Injury	Pedalcyclist	OCEAN COUNTY 635
2007	Moderate Injury	Pedestrian	OCEAN COUNTY 604
2006	Moderate Injury	Pedestrian	OCEAN COUNTY 633
2006	Pain	Pedalcyclist	NJ 35
2006	Fatal	Pedalcyclist	RIVER AVE
2006	Pain	Pedalcyclist	WASHINGTON AVENUE
2006	Pain	Pedalcyclist	NJ 35
2006	Pain	Pedestrian	OCEAN COUNTY 635
2006	Pain	Pedalcyclist	NEW JERSEY
2006	Moderate Injury	Pedalcyclist	OCEAN COUNTY 633
2006	Moderate Injury	Pedalcyclist	OCEAN COUNTY 633
2006	Moderate Injury	Pedestrian	NJ 35

Appendix B: FHWA Proven Safety Countermeasures

The Federal Highway Administration is promoting safety through proven roadway design features.

For a full list, see: <https://safety.fhwa.dot.gov/provencountermeasures/>

The following local examples show bicycle and pedestrian safety features from the list of countermeasures and should be considered when analyzing traffic safety solutions.

Refuge Islands

Link: https://safety.fhwa.dot.gov/provencountermeasures/ped_medians/



- Reduces pedestrian crossing distance
- Greater pedestrian visibility
- Narrower lanes reduces driver speeding
- Flashing beacon alerts drivers
- Islands can be landscaped

Clarksville Rd, CR638, West Windsor NJ

Roundabouts

Link: <https://safety.fhwa.dot.gov/provencountermeasures/roundabouts/>



- Raised splitter island raised to form a pedestrian refuge
- Reduction in severe crashes
- Urban, rural, suburban options

George Dye Rd and Estates Blvd, Hamilton NJ

Hybrid Pedestrian Beacon (HAWK Signal)

Link:

https://safety.fhwa.dot.gov/provencountermeasures/ped_hybrid_beacon/



- Pedestrians can cross midblock or uncontrolled intersections
- Pedestrians activate the signal
- Motorists stop completely

State Road 35, Seaside Heights NJ

Road Diet

Link: https://safety.fhwa.dot.gov/provencountermeasures/road_diets/

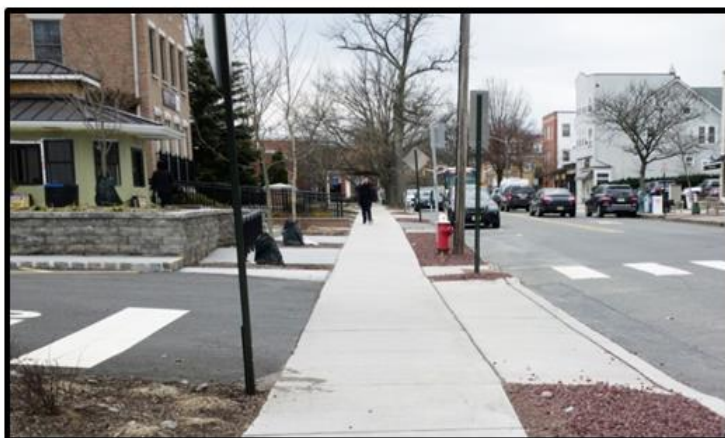


- Reconfigure four general travel lanes:
 - Two general travel
 - Center turn lane
 - Bike lanes

West Windsor, NJ

Walkways

Link: <https://safety.fhwa.dot.gov/provencountermeasures/walkways/>



- Shared-use paths
- Streetscaping opportunities

Nassau Street, Princeton NJ

Leading Pedestrian Interval

Link: https://safety.fhwa.dot.gov/provencountermeasures/lead_ped_int/



- Pedestrian given time prior to motorist green signal

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