June 2026

Tuckerton Elementary School Travel Plan

Tuckerton Borough, NJ

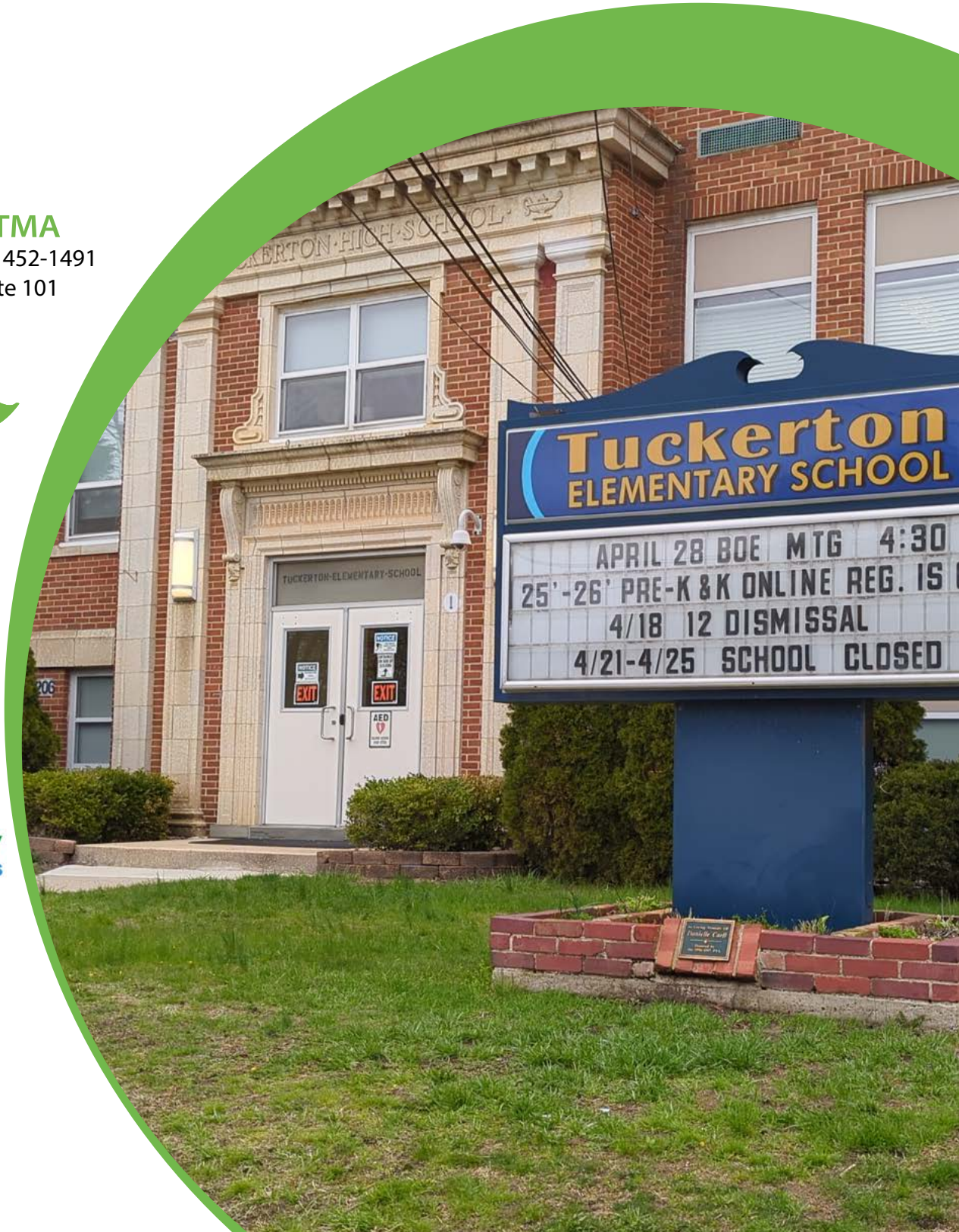
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Introduction

This Safe Routes to School (SRTS) travel plan is for Tuckerton Elementary School, located in Tuckerton, Ocean County. This plan was prepared by Greater Mercer Transportation Management Association, a nonprofit, public-private partnership dedicated to promoting and providing transportation choices designed to reduce congestion, improve mobility, increase safety, and further sustainability in Mercer and Ocean County. Established in 1984, the association consists of large and small employers, local governments, metropolitan planning organizations, and state agencies who share a commitment to providing transportation choices that are good for the community, commuters, businesses, and the environment. Tuckerton and Tuckerton Elementary School were interested in creating a school travel plan to explore ways to support and encourage safe walking and biking to school.

Travel Plan Goals

A School Travel Plan documents specific challenges to walking and biking to school and identifies short-term and long-term solutions to address these issues. The School Travel Plan aims to create a safer walking and bicycling environment for students so that more students and their parents can comfortably choose active transportation for the trip to school. An increase in students walking and biking contributes to additional Safe Routes to School goals, including improving children's overall health through increased physical activity and reducing congestion and the accompanying negative environmental impacts of automobile trips to school.

Safe Routes to School

Safe Routes to School is a federal, state, and local program that aims to make it safer and more accessible for students to walk and bike to school. To achieve its goals, Safe Routes to School programs incorporate the Five E's: engagement, engineering, encouragement, education, and evaluation.

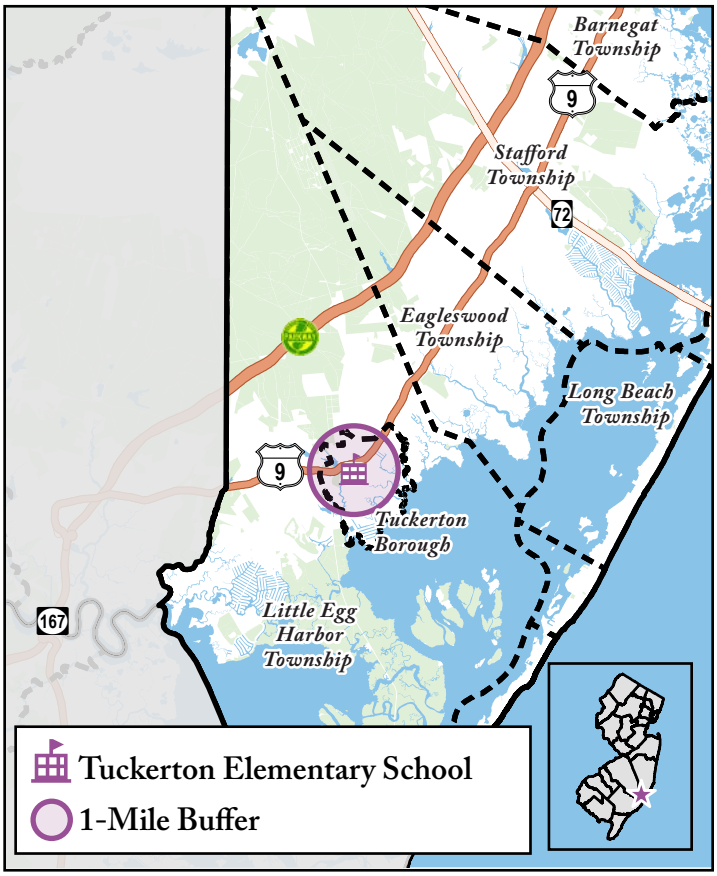
The NJ Safe Routes to School Program, provided by Greater Mercer TMA in Mercer and Ocean Counties, and the NJ Safe Routes to School Resource Center, is sponsored by the New Jersey Department of Transportation with funding from the Federal Highway Administration.

Setting and School Description

Tuckerton Borough is a small coastal municipality located in Ocean County, New Jersey, with a population of approximately 3,200 residents. Nestled between the Pine Barrens and the Barnegat Bay, the borough offers a mix of residential, commercial, and recreational opportunities and reflects a range of income levels and lifestyles. Known for its maritime heritage, Tuckerton was historically a thriving seaport community and continues to feature walkable streets, local businesses, and access to outdoor activities such as biking, kayaking, and fishing.

Tuckerton Elementary School, located at 213 Marine Street, serves approximately 300 students in grades PreK–6. The school is situated within a compact community setting that includes residential streets, local businesses, and community destinations such as the Tuckerton Seaport and other historic points of interest. The school is located just off US Route 9, a busy state highway that influences traffic patterns and presents safety considerations for students traveling to and from school.

The surrounding area includes a mix of older



Map 1 - Location of Tuckerton Elementary School

homes (34% of Tuckerton homes were built before 1960[1]) and a grid street layout, which present both opportunities and challenges for pedestrian and bicycle travel. While the borough's size and layout create potential for walking and biking to school, factors such as aging infrastructure, proximity to a high-traffic corridor (US Route 9), limited pedestrian facilities, and vulnerability to coastal flooding—highlighted during Superstorm Sandy—impact travel behavior. Many students rely on school transportation or being driven, but there are clear opportunities to improve safety and accessibility to support increased active transportation such as walking and biking.

Table 1 - Students Per Grade (2024-2025 School Year)

Grade	Students
Pre-K	54
Kindergarten	36
1st Grade	30
2nd Grade	33
3rd Grade	36
4th Grade	41
5th Grade	40
6th Grade	38
Total	***308***

School Demographics

For the 2024-2025 school year, there were 308 students enrolled at Tuckerton Elementary School. Table 1 summarizes the number of students by grade. Table 2 shows the school bell schedule for Tuckerton Elementary School.

According to the NJ Department of Education 2022-23 School Performance Report:

- 16.1% of students had disabilities
- 18.1% of students were Hispanic
- 3.0% of students were Black or African American
- 71.6% of students were White
- 5.7% of students were of two or more races
- 1.7% of students were Asian
- 7.4% of students with Spanish as their home language
- 48.8% were economically disadvantaged

Table 2 - Tuckerton Elementary School Bell Schedule

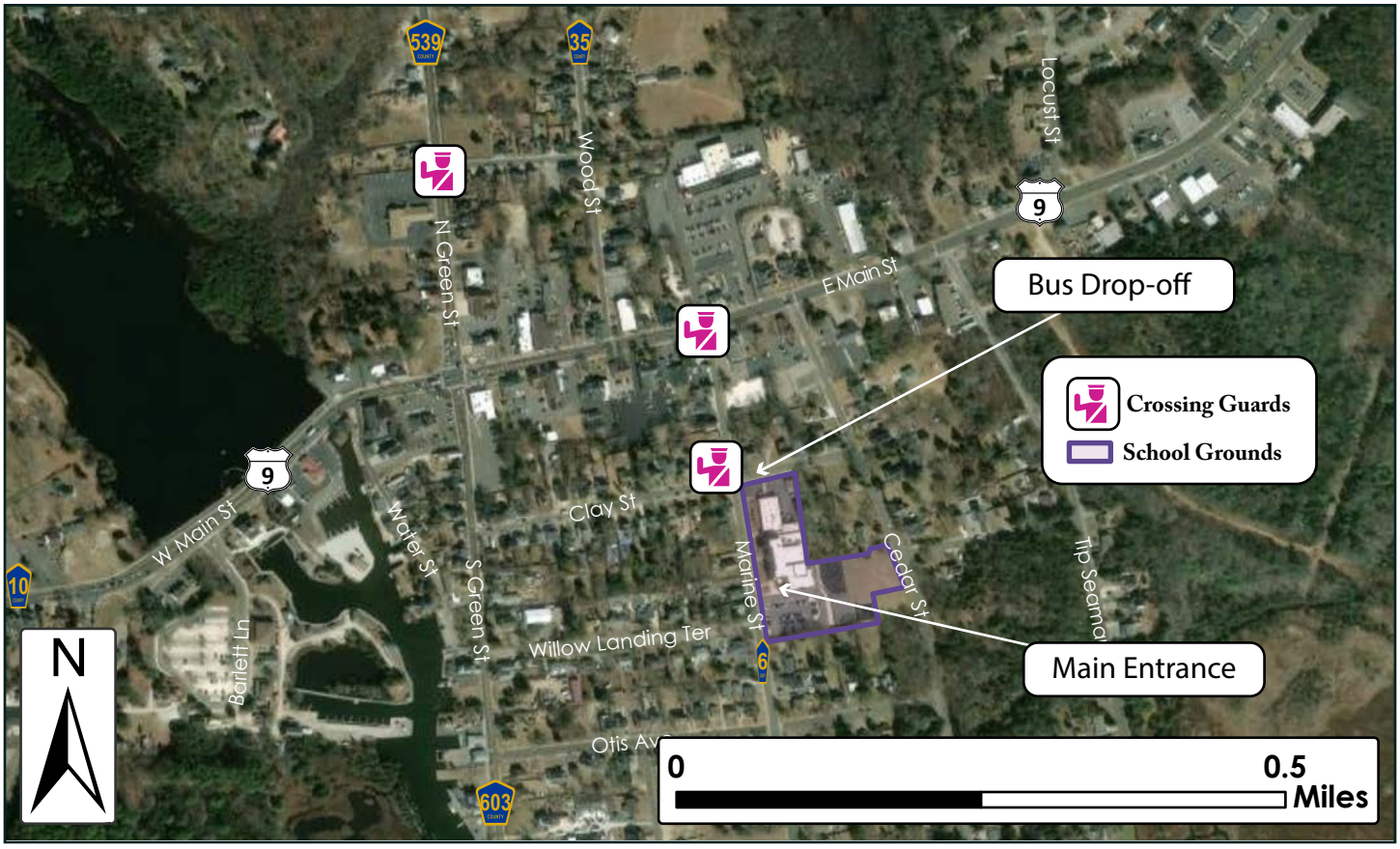
Grade	Start Time	End Time
K-6 Full Day	8:00 AM	2:35 PM
PreK Full Day	8:30 AM	2:15 PM
K-6 2 Hour Delay	10:00 AM	2:35 PM

1 2024 American Community Survey 5-Year Estimates

Map 2 - Project Study Area



Map 3 - Tuckerton Elementary School Grounds



Working Groups and Partnerships

Greater Mercer TMA developed this plan in partnership with the Working Group shown below. Key partners for implementation are also listed. An asterisk (*) indicates which members also participated in the May 29th walk audit.

Table 4 - Working Groups and Partnerships

Organization	Role/ Responsibility	Contact
Greater Mercer Transportation Management Association	Key Partner	Cheryl Kastrenakes, Executive Director ckastrenakes@gmtma.org
Greater Mercer Transportation Management Association	Key Partner	Steven daCosta*, Senior Planner sdacosta@gmtma.org
Greater Mercer Transportation Management Association	Key Partner	Kathleen Ebert*, Bicycle and Pedestrian Safety Coordinator kebert@gmtma.org
Greater Mercer Transportation Management Association	Key Partner	Chris Townley*, Transportation Planning Specialist ctownley@gmtma.org
Greater Mercer Transportation Management Association	Key Partner	Ian Murphy, Transportation Planner imurphy@gmtma.org
Borough of Tuckerton	Key Partner	Greg Kuri*, Municipal Engineer gkuri@owenlittle.com
Borough of Tuckerton	Key Partner	Brian Martin*, Councilman bmartin@tuckertonborough.com
Tuckerton Police Department	Key Partner	Cpl. John Sanzari*, SRO Tuckerton Elementary School JSanzari@TuckertonBorough.com
Ocean County Department of Engineering		Zach Dehl*, Assistant County Engineer ZDehl@co.ocean.nj.us
Ocean County Department of Engineering		Gregory Smith*, Assistant County Engineer GregorySmith@co.ocean.nj.us
Tuckerton Elementary School / Tuckerton School District		Siobhan Grayson*, Principal / Superintendent sgrayson@tesnj.com
		*Participated in the May 29th, 2025 walk audit

Existing School Travel Conditions

Arrival

Student arrival was observed on Friday, December 12, 2025. Tuckerton Borough provides three dedicated crossing guards: one at East Main Street (US Route 9) and Marine Street, one at Clay Street and Marine Street, and one at North Green Street and Church Street (See Map 3 on page 3). In addition, a Tuckerton Police Officer was stationed on Marine Street directly in front of the school's main entrance to help manage drop-off traffic and assist students crossing Marine Street from the Willow Landing Terrace neighborhood.

Clay Street serves as the primary bus drop-off location during arrival. Three Type C school buses were observed turning from Marine Street onto Clay Street and staging alongside the school parking lot. Students exited in an orderly manner and proceeded up the ramp to a side entrance of the school. At the intersection of Clay Street and Marine Street, the crossing guard assisted students walking from US Route 9 and nearby neighborhoods.

Additional observations were conducted at the intersection of East Main Street and Marine Street. During the observation period, only a small number of families crossed at this location, and traffic volumes were light. No vehicles were observed using the shoulder to pass stopped traffic, a behavior previously identified by school officials as a concern. It should be noted, however, that these observations occurred during the winter. According to residents and school officials, traffic conditions at this intersection become significantly more congested during the summer months when seasonal population increases occur.

No students were observed bicycling to school during the visit on the cold December morning. The principal noted that students do bike to school during milder weather.

Dismissal

Dismissal was observed on June 15th, 2026. The Tuckerton Elementary School day ends at 2:30 p.m., with a separate dismissal for Pre-Kindergarten students beginning at 2:15 p.m. Parents began staging for dismissal shortly after 2:00 p.m., and students were released at approximately 2:15 p.m. During the observation period, an estimated 13 students either



Figure 1 - Marine Street in front of Tuckerton Elementary School



Figure 2 - Family walking to school on Marine Street



Figure 3 - Front exit of Tuckerton Elementary School

walked home or were escorted to family vehicles parked nearby.

By approximately 2:30 p.m., vehicles were queued along Marine Street waiting to enter the parent pick-up loop. During the observation period, approximately 35 students were observed walking from school, while one student departed by bicycle. By 2:41 p.m., the majority of student walkers had departed the school grounds.

The crossing guard stationed at the intersection of Marine Street and US Route 9 reported that approximately six to seven students typically use the crossing each day. During the observation period, six students crossed US Route 9 with the assistance of the crossing guard. Traffic along US Route 9 remained steady throughout the dismissal period, with continuous vehicle movements associated with nearby commercial properties. Although all student crossings were completed safely under the crossing guard's supervision, several motorists were observed bypassing vehicles waiting to make a left turn into the shopping center on the northeast corner of the intersection by passing on the right. This behavior was observed among multiple passenger vehicles as well as a school bus and has the potential to create unexpected conflicts for motorists, pedestrians, bicyclists, and other roadway users near the intersection.

Existing Policies

Complete Streets Policy

Tuckerton Borough does not currently have a formally adopted Complete Streets policy in place, indicating an opportunity to incorporate planning and design strategies that support safer access for all roadway users, including pedestrians and bicyclists.

School District Transportation Policy

Section XI of the Tuckerton Borough School District Guide for Standard Operating Procedures and Internal Controls states that transportation to and from school is essential to the promotion of education. The Board of Education recognizes its responsibility to provide transportation for all eligible students between their homes and school.

The document focuses exclusively on transportation services provided by the district and does not address walking or biking to school. It outlines provisions for bus transportation for eligible students, as well as transportation for field trips, athletic events, and aid-in-lieu of transportation for non-public school students.

The Tuckerton School District eliminated courtesy busing for the 2026-2027 school year due to budget constraints.

School Bike Policy

The district permits students to ride bicycles to school in accordance with established Board of Education policies and school rules.[1] Students wishing to bicycle to school must have parent or guardian permission on file with the school office. Bicycles must be parked in designated bike racks, and students are responsible for providing their own locking devices, as the district assumes no responsibility for lost, stolen, or damaged bicycles. Mechanized bicycles, motorcycles, and mopeds are prohibited on school grounds. Bicycles may only be used as transportation to and from school and may not be ridden on school grounds during the school day. Students are also required to follow all applicable state laws, including helmet requirements, and failure to comply with school bicycle rules may result in the loss of bicycling privileges.

School Wellness Policy

The Tuckerton School District promotes and encourages physical activities such as walking, walk-a-thons, and walking clubs in its' Wellness Policy section in the District Policy document under the section, 8505 - SCHOOL NUTRITION (M).[2]

Safe Routes to School Programming

Tuckerton Elementary School has participated in Safe Routes to School (SRTS) Programming. Recent program activities are summarized below:

- May 29, 2025 - Walk Audit surrounding Tuckerton Elementary School by GMTMA staff, Principal/ Superintendent, Ocean County Engineers, Tuckerton councilman, Municipal Engineer, Police Officer-SRO
- December 12, 2025 - Observation of arrival of students by GMTMA staff
- 2026 - 2028 Tuckerton was awarded a First Step level award for the Safe Routes Recognition program

1 https://www.straussesmay.com/seportal/Public/DistrictPolicy.aspx?policyid=5514&id=fd678b85980d4d29840b4341d8eb5150

2 https://www.straussesmay.com/seportal/Public/DistrictPolicy.aspx?policyid=8505&id=fd678b85980d4d29840b4341d8eb5150



Figure 4 - Parents waiting in line on Marine Street during arrival



Figure 7 - School bike rack

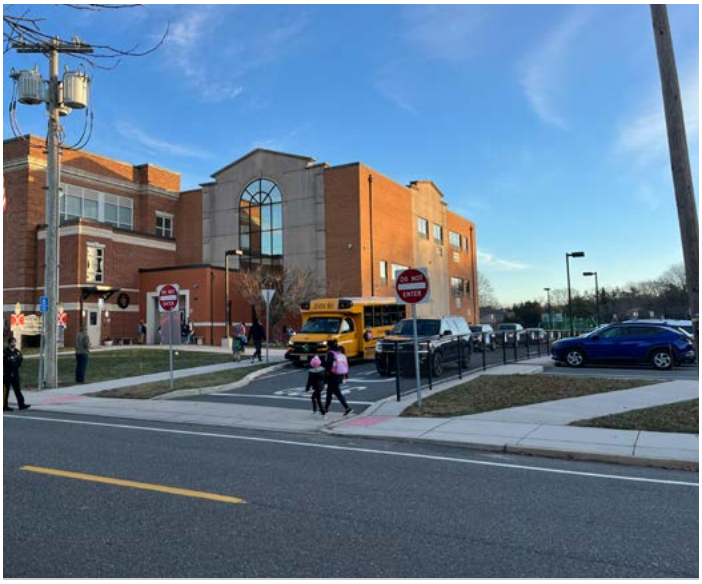


Figure 5 - Students walking towards southwest entrance



Figure 8 - Students crossing over US Route 9 at Marine St



Figure 6 - Students and parents crossing over Marine Street to reach Tuckerton Elementary School



Figure 9 - Bus passing on the shoulder at the US Route 9 and Marine St intersection

Crossing Guards

The borough of Tuckerton employs three dedicated crossing guards to manage key pedestrian points: US Route 9 and Marine Street, Clay Street and Marine Street, and North Green Street and Church Street. Specifically, guards are positioned at the northeast corners of the US Route 9 and Clay Street intersections with Marine Street (see Map 3 on page 3).

Furthermore, a Tuckerton Police Officer is stationed at the school's main entrance to facilitate traffic flow within the drop-off loop and ensure the safety of students arriving from the Willow Landing Terrace neighborhood.

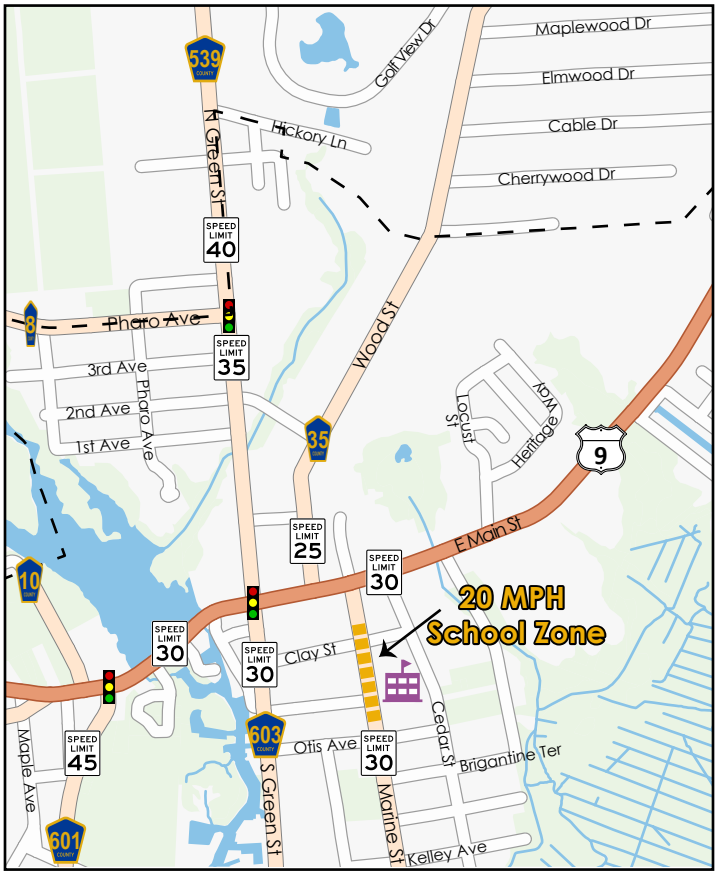
Catchment Area and Student Locations

Anonymized student location data was shared with GMTMA by Tuckerton Elementary School. Map 5 shows the home location of current students of Tuckerton Elementary School and Map 6 shows the walksheds towards the school. The densest cluster of students is located at the Harbor View Plaza Apartments on E Main Street (US Route 9). There are 62 students living in this apartment complex. At approximately 1.5 miles from the school, this may be too far to walk for some students, however, it is within a reasonable biking distance. The route is currently affected by gaps in the sidewalk network (See map 7 on page 12); however, completing the missing sidewalk segments would improve connectivity and safety for students traveling between the complex and the school.

Using this data, GMTMA was able to create estimates on how many current students are within walking distance to the school. As shown in table 5, approximately 91 students, or 33%, are within a half mile of the school. For reference, a 3rd grader can walk a half mile in around 15 minutes.

Speed Limits

Map 4 illustrates the posted speed limits on major roadways surrounding Tuckerton Elementary School.

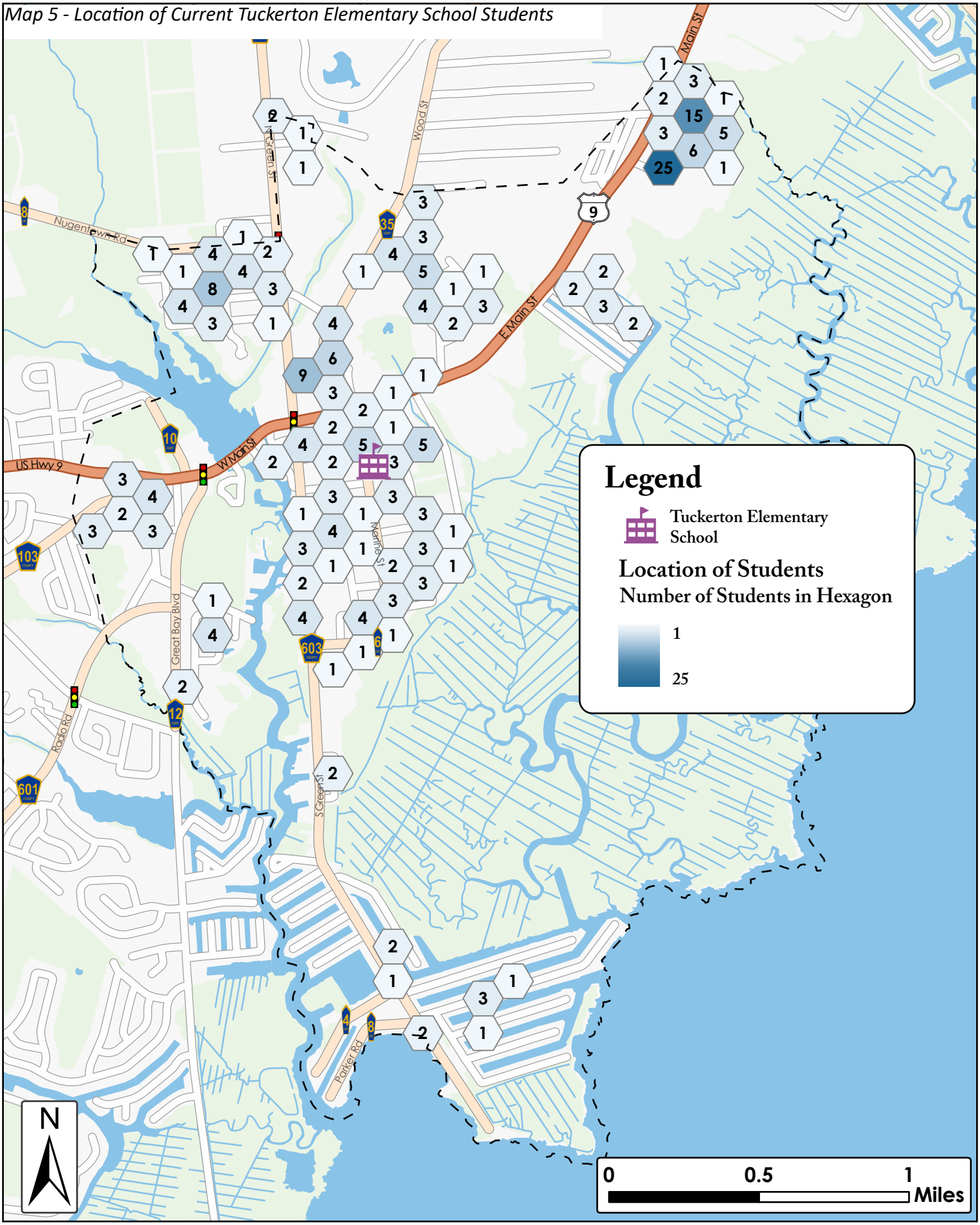


Map 4 - Speed Limits Around Tuckerton Elementary School

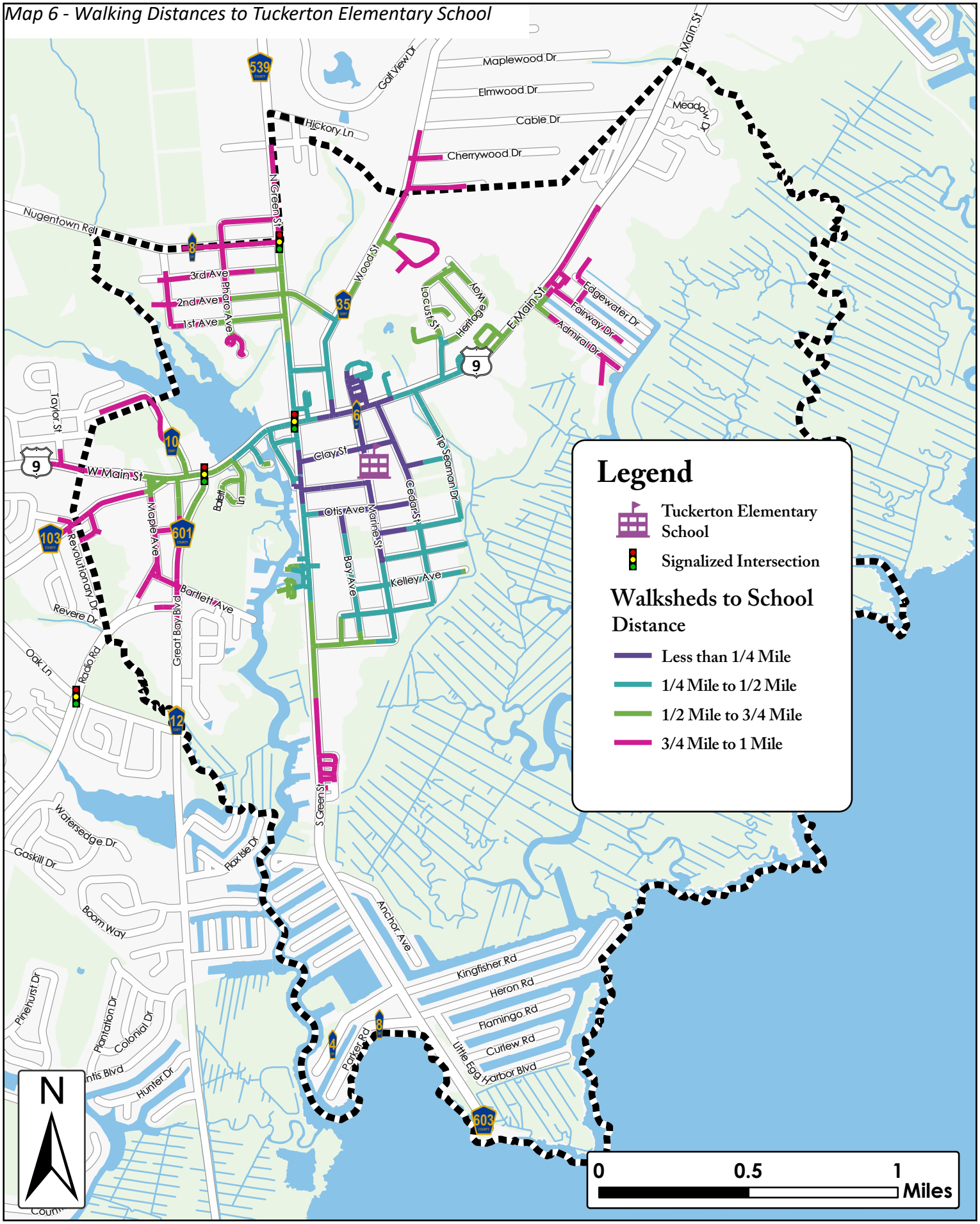
Table 5 - Current Student Walking Distance From School

Distance from Tuckerton Elementary School	Number of Students	% of Students	Number of Students (Cumulative)	% of Students (Cumulative)
Less than 1/4 Mile	37	14%	37	14%
Between 1/4 mile and 1/2 mile	54	20%	91	33%
Between 1/2 mile and 3/4 mile	29	11%	120	44%
Between 3/4 mile and 1 mile	57	21%	177	65%
Greater than 1 mile	95	35%	272	100%

Map 5 - Location of Current Tuckerton Elementary School Students



Map 6 - Walking Distances to Tuckerton Elementary School



The highest posted speed limit in the study area is along Great Bay Boulevard (County Route 601) at 45 mph. It should also be noted that there is an incomplete sidewalk network along Great Bay Boulevard.

Along Marine Street (County Route 6) in front of Tuckerton Elementary School, the posted speed limit is 30 mph, with a reduced 20 mph school zone speed limit in effect when children are present.



Figure 10 - Vehicles turning left onto Marine Street

Speed Data

Using equipment provided by the Ocean County Department of Engineering, a speed study was conducted along N Green Street near 242 N Green Street in Tuckerton Borough. Data was collected between April 7, 2026, and April 20, 2026. The speed limit of N Green Street is 35 MPH.

Speeding was identified as a concern on North Green Street. On weekdays, the 85th percentile speed[3] was 39.8 MPH northbound and 39.1 MPH southbound, while the average speed was 33.9 MPH northbound and 33.1 MPH southbound. The percentage of drivers exceeding the speed limit was 43% northbound and 39% southbound. The percentage of vehicles traveling 5 MPH or more above the speed limit, was 12% northbound and 9% southbound.

Additionally, during the morning hours when students would typically be walking to school, an average of two vehicles per day were recorded traveling faster than 56 MPH. According to pedestrian crash survivability research, a pedestrian struck at that speed faces an approximately 90% to 95% risk of fatal injury.[4] The full speed study can be found in appendix B.



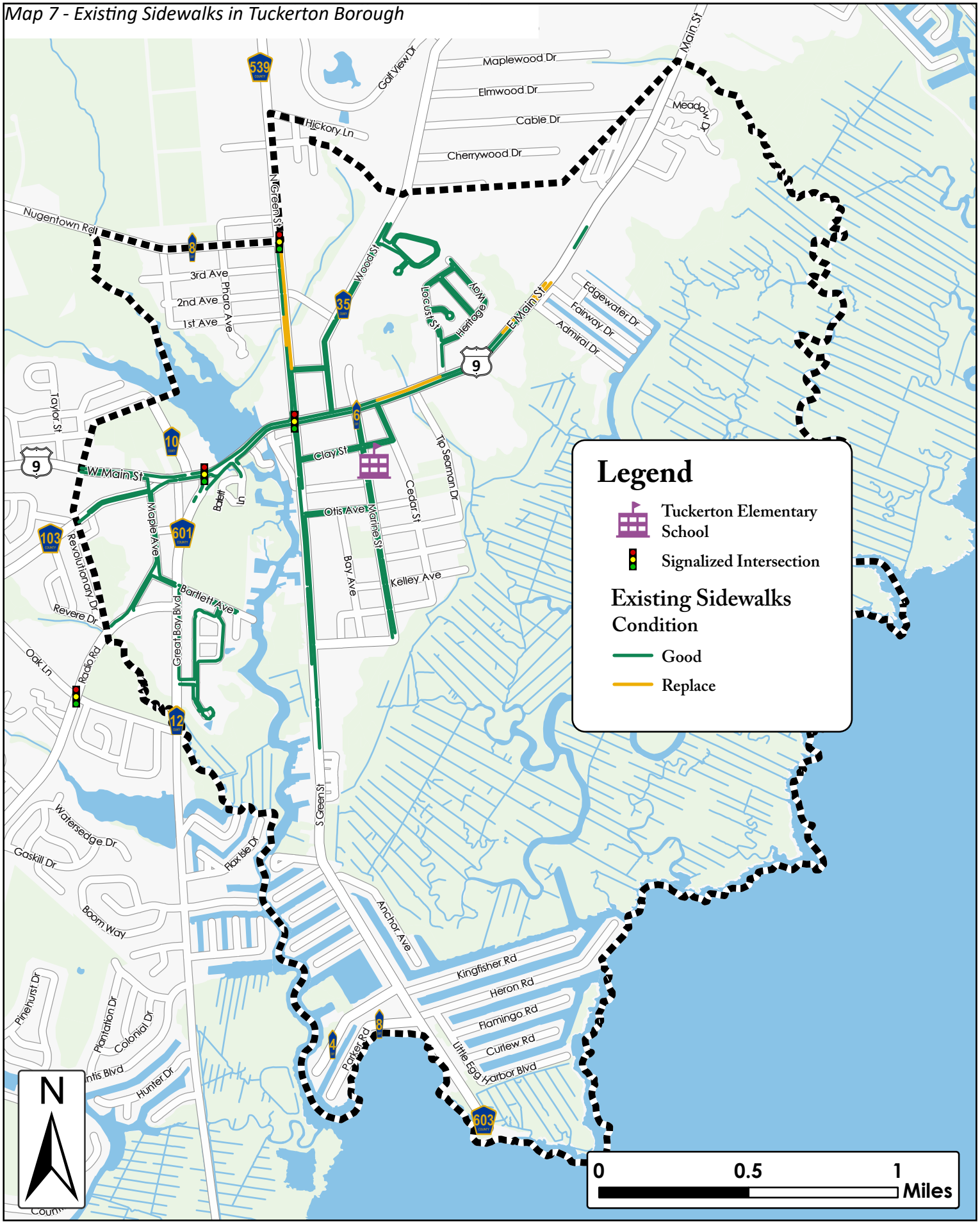
Figure 11 - Officer directing traffic on Marine St

Existing Pedestrian Infrastructure

Tuckerton Borough has a limited sidewalk network, though most main streets have nearly continuous sidewalks. Many of these sidewalks are older and, in some locations, are in poor condition and may require repair or replacement. In contrast, newer neighborhoods within the Borough generally feature more complete sidewalk networks. See map 7 on page 12 to see the existing sidewalk network in Tuckerton.

3 85th Percentile Speed: The speed at or below which 85 percent of vehicles are traveling. In other words, only 15 percent of vehicles exceed this speed.
4 https://aaafoundation.org/wp-content/uploads/2026/02/2011PedestrianRiskVsSpeedReport.pdf

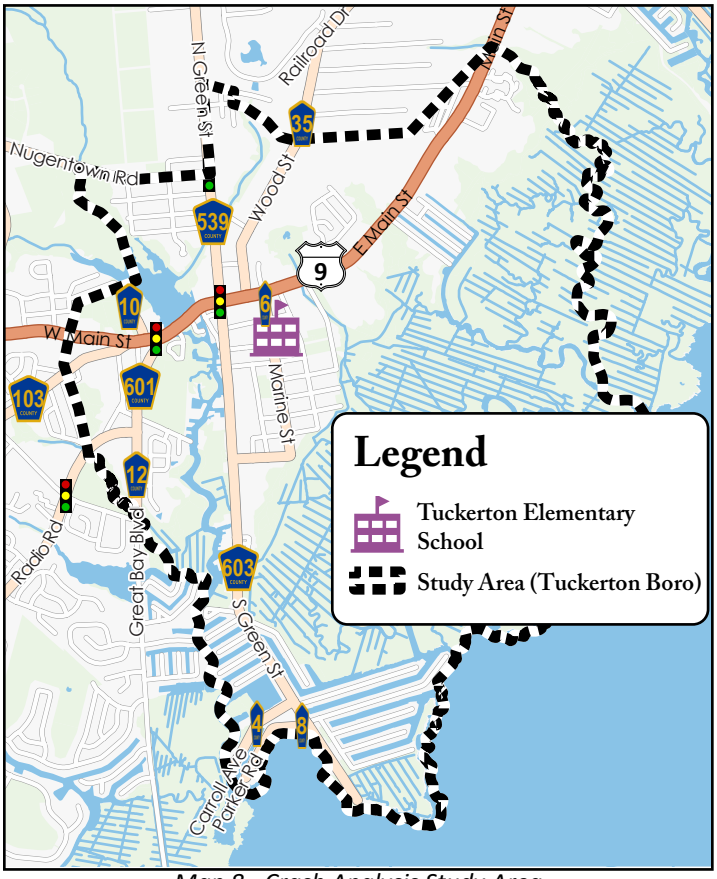
Map 7 - Existing Sidewalks in Tuckerton Borough



Crash Data

Data Set & Study Area

A crash analysis was conducted using data from Numetric. Crash records were used for the most recent five years of complete data, 2021 through 2025. The study area includes the entirety of Tuckerton Boro (Map 8). Only crashes that can be connected to a specific location were included in this analysis. In total, there were 354 crashes from 2021 through 2025.



Map 8 - Crash Analysis Study Area

Crash Overview

Of the 354 crashes in the study area, one was fatal, 65 involved injuries, and 288 caused property damage only. This is a count of crashes, not people.

The one fatal crash resulted in one death. The 65 injury crashes resulted in five suspected serious injuries, 48 suspected minor injuries, and 35 possible injuries.

Crash Severity and Crash Types

The one fatal crash was caused by an opposite direction (head on, angular) crash along US Route 9. There were four suspected serious injury crashes: one from a right-angle crash, one from a pedestrian crash, and two from fixed object crashes. The other injury crashes are fairly evenly distributed; only right-angle crashes and rear-end crashes stand out in these two categories.

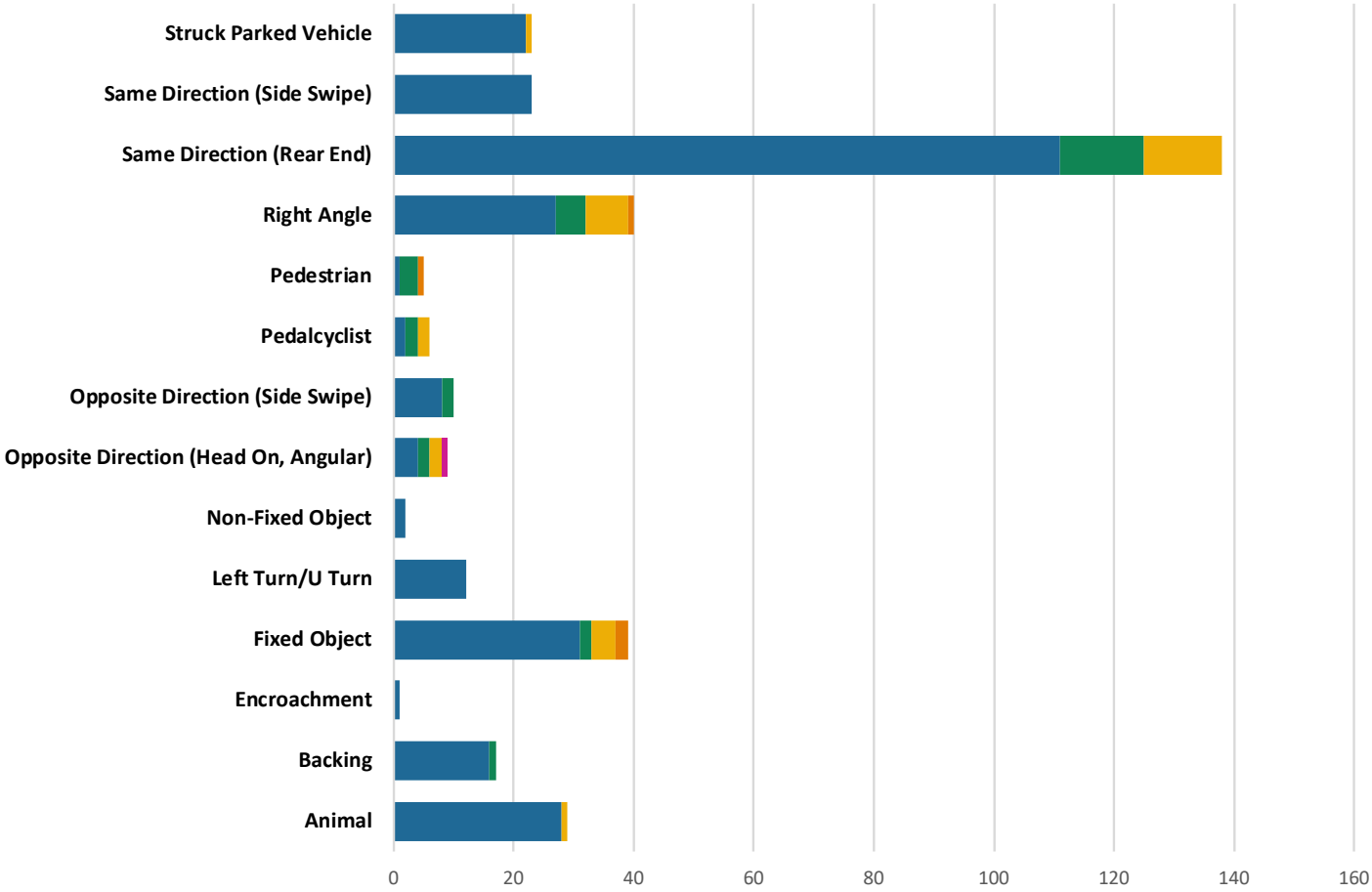
Many of the property damage only (PDO) crashes are the result of drivers striking parked cars. In the study area, 39% of all crashes involved rear-end crashes. The second and third largest categories are right-angle crashes (10.9%) and fixed object crashes (10.7%), respectively. Right-angle crashes (often called a t-bone crash) are when two cars collide while traveling in non-opposing directions and commonly occur when one car fails to stop at a stop sign or red light. Map 9 shows the location of crashes that resulted in injury in the study.

Pedestrian and Cyclist Crashes

Between 2021 and 2025, there were five pedestrian crashes and six cyclist crashes in Tuckerton Borough. Of the five pedestrian crashes, one resulted in no apparent injury, three resulted in possible injury, and one resulted in suspected serious injury. Of the six cyclist crashes, two resulted in no apparent injury, two resulted in possible injury, and two resulted in suspected minor injury.

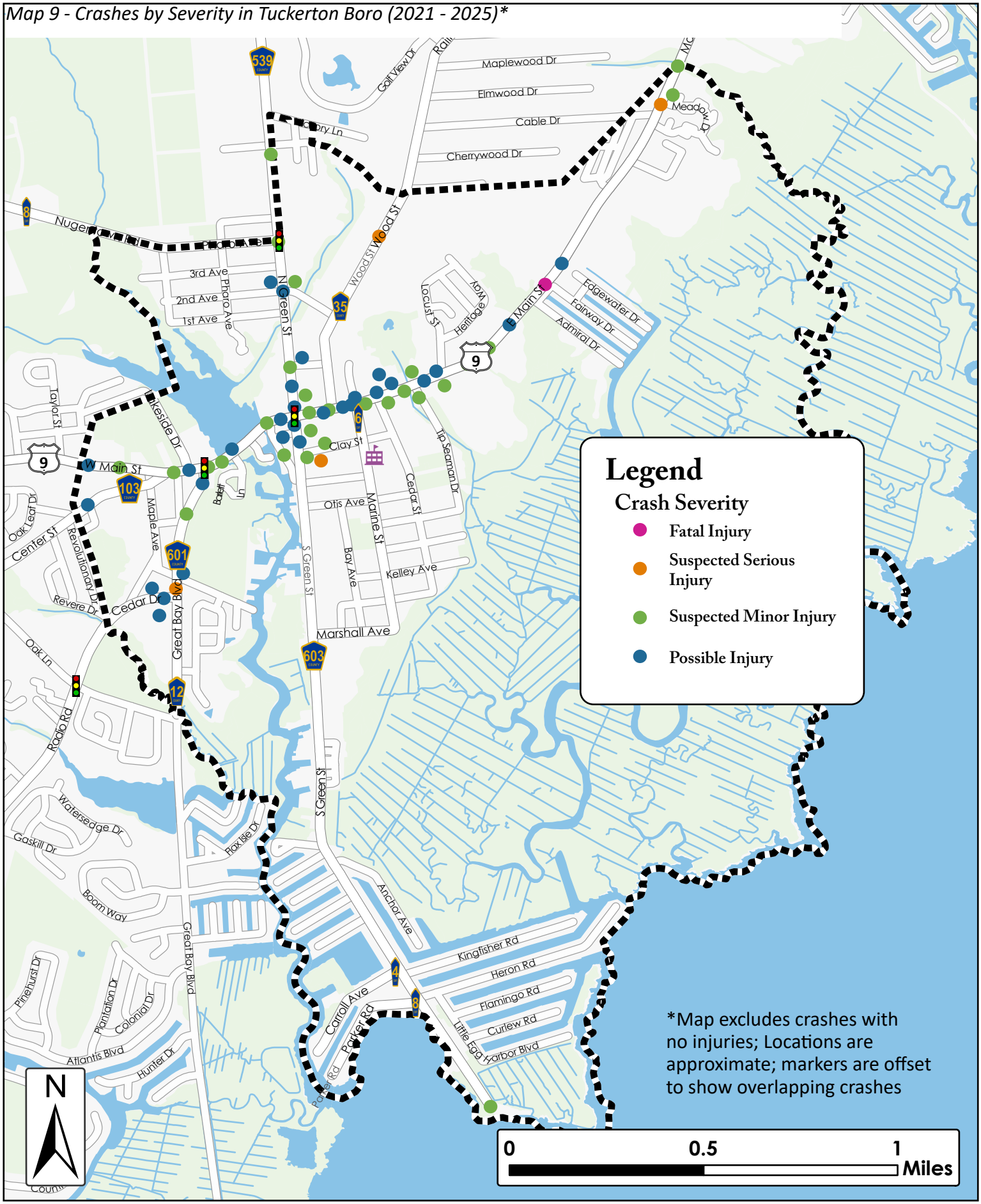
With the exception of one cyclist crash, all pedestrian and cyclist crashes occurred along US Route 9. Additionally, all crashes occurred during daylight hours except for one pedestrian crash. Map 10 illustrates the location and severity of pedestrian and cyclist crashes within the study area.

Figure 12 - Crash Type By Severity in Tuckerton Boro (2021-2025)

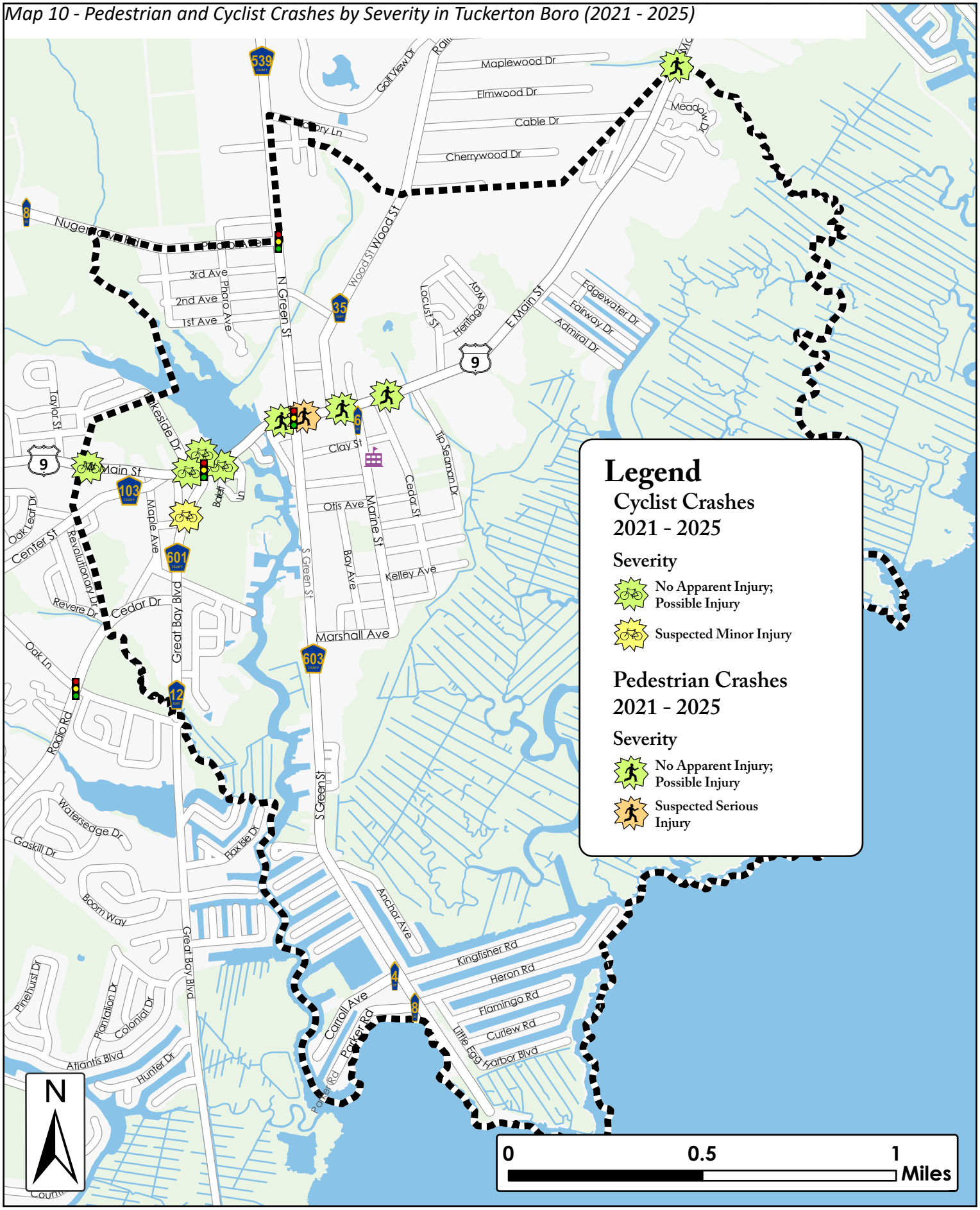


	Animal	Backing	Encroachment	Fixed Object	Left Turn/U Turn	Non-Fixed Object	Opposite Direction (Head On, Angular)	Opposite Direction (Side Swipe)	Pedalcyclist	Pedestrian	Right Angle	Same Direction (Rear End)	Same Direction (Side Swipe)	Struck Parked Vehicle
No Apparent Injury	28	16	1	31	12	2	4	8	2	1	27	111	23	22
Possible Injury (C)		1		2			2	2	2	3	5	14		
Suspected Minor Injury (B)	1			4			2		2		7	13		1
Suspected Serious Injury (A)				2						1	1			
Fatal Injury							1							

*Map 9 - Crashes by Severity in Tuckerton Boro (2021 - 2025)**



Map 10 - Pedestrian and Cyclist Crashes by Severity in Tuckerton Boro (2021 - 2025)



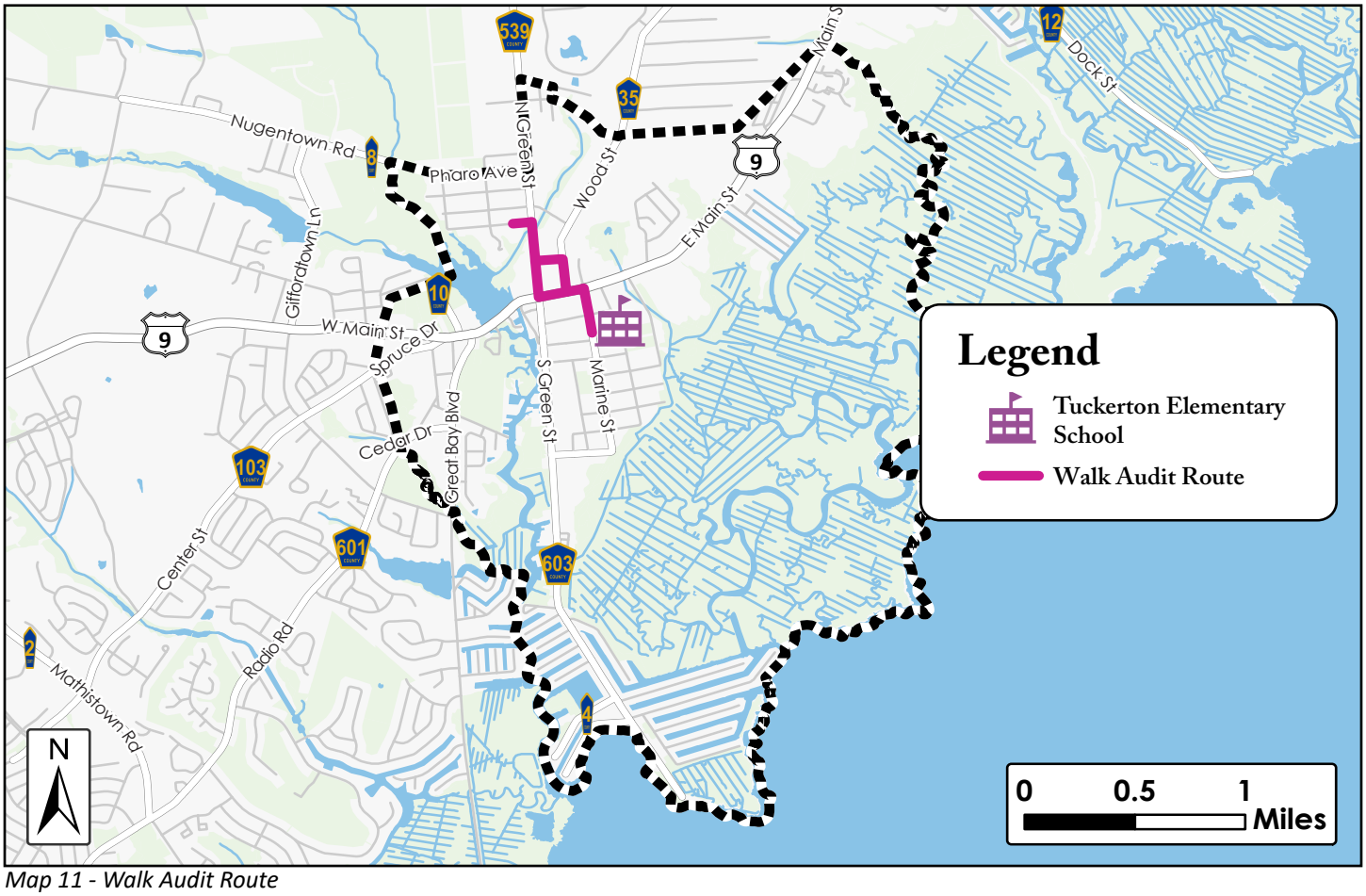
Audit Findings and Recommended Infrastructure Improvements

The following sections discuss the findings of the walk audit. It is divided up into two sub-sections. The first section provides a general overview of the walk audit conducted. The following two sections, "General Findings and Recommendations" and "Intersection & Corridor Findings and Recommendations," summarize the issues and recommendations found during the walk audit. The "General Findings and Recommendations" section summarizes issues observed multiple times during the audit or not on a major corridor. The "Intersection & Corridor Findings and Recommendations" describes issues and recommendations at key intersections and corridors.

Walk Audit Study Area

Pedestrian safety conditions near Tuckerton Elementary School in Tuckerton Borough were assessed by conducting a pedestrian road safety audit on May 29th, 2025. See Table 4 (page 4) for details about who attended the walk audit. The audit aims to identify strengths and weaknesses of the existing infrastructure available to students to walk or bike to school and offer recommendations based on the findings.

The walk audit began at the front of Tuckerton Elementary School. From there, the audit team walked north along Marine Street before turning left onto E Main Street (US Route 9). The team continued west until reaching Wood Street. They then briefly traveled north along Wood Street until turning left onto Church Street. The audit team walked the length of Church Street until reaching and turning right onto N Green Street (County Route 539). The team walked north along N Green Street until reaching 1st Avenue. The team then turned around and walked south along N Green Street until reaching the interesction of N Green Street and E Main Street. The audit team then walked along E Main Street until turning right onto Marine Street and concluded at the front of Tuckerton Elementary School.



Map 11 - Walk Audit Route

General Findings and Recommendations

Sidewalks and shared-use paths

Well-designed and maintained sidewalks improve the safety and mobility of pedestrians and provide dignity to those who travel without a vehicle. People should have a comfortable, direct, and connected network of walking routes to desired destinations without gaps or abrupt changes, especially students trying to reach their school. Sidewalks provide a 65% - 89% reduction in crashes involving pedestrians walking along the roadway.[1]

Sidewalks were present and in mostly good condition along most major streets in Tuckerton Borough. However, there were still large segments that need replacement, and areas with gaps in the sidewalk network. This was mostly along N Green Street (County Route 539) and E Main Street (US Route 9). Sidewalks along local streets were less consistent, and mainly found on streets that are part of newer developments.

In addition, there are some key sidewalk segments missing, mostly along E Main Street and Great Bay Boulevard (County Route 601). There is also a small segment missing on Locust Street, that would otherwise connect that neighborhood to E Main Street. The largest missing segment is along E Main Street between Fairway Drive and Meadow Drive, completing the sidewalk network here would provide better access for approximately 62 students who are currently living in Tuckerton Meadows by the Bay and Village on the Green Apartments. Sidewalks should be added to both sides of E Main Street, however, the priority should be adding the sidewalks to the southeast side of E Main Street. There are very few houses on the northwest side of E Main Street. Table 6 below and Map 12 on the following page show the locations of sidewalks that need to be replacement and new segments.

Lastly, sidewalk condition was only evaluated for sidewalks along the walk audit route. There may be other segments in Tuckerton that may need replacement.

Recommendations

- Replace deteriorating sidewalks along N Green Street and E Main Street; total: 3,907 linear feet
- Install new sidewalks along E Main Street, Great Bay Boulevard, and Locust Street; total 6,806 linear feet
- Conduct a sidewalk inventory to determine condition of sidewalks throughout the entirety of Tuckerton

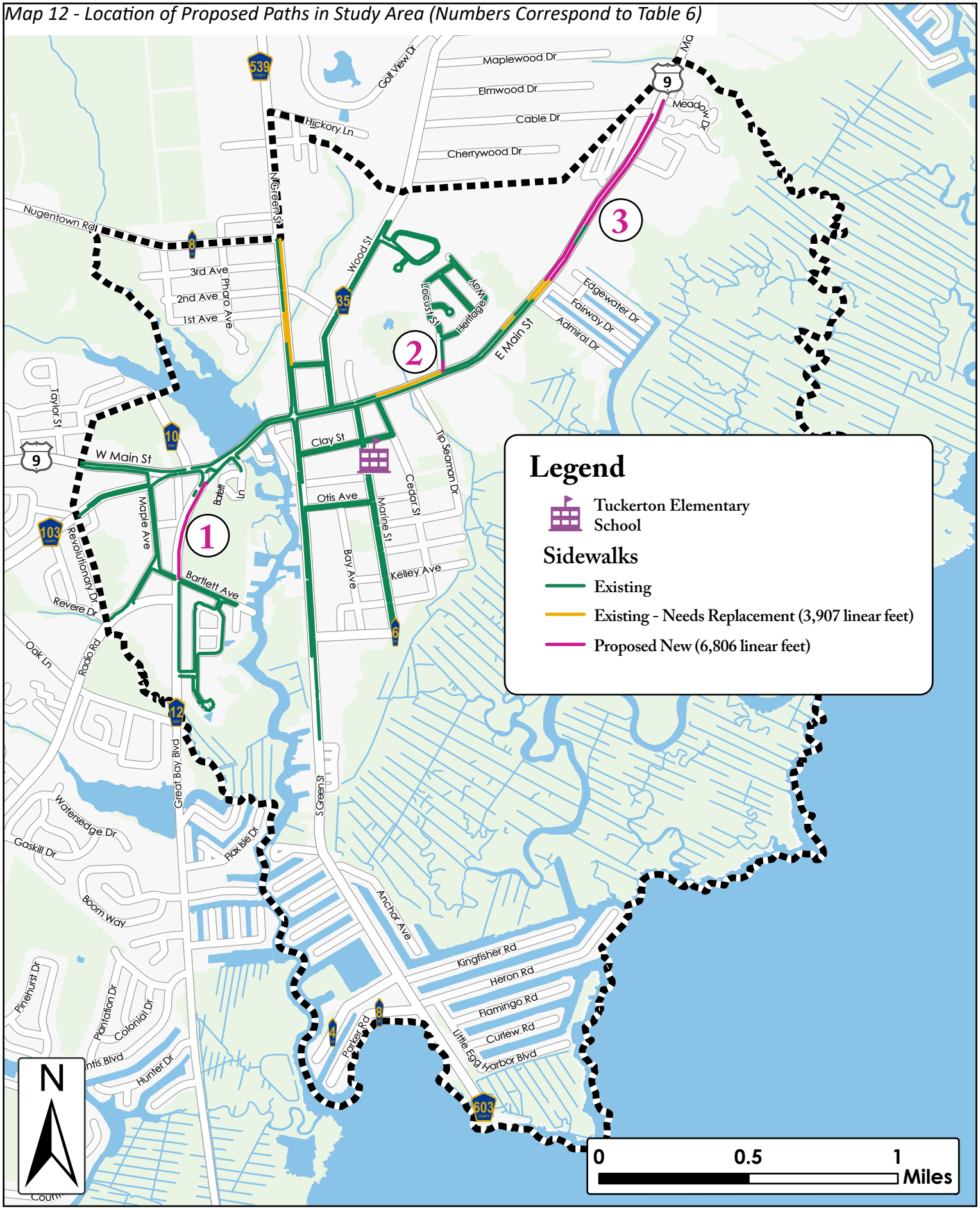
1 https://highways.dot.gov/safety/proven-safety-countermeasures/walkways

Table 6 - Proposed New Sidewalks in Tuckerton Borough (See Map 12*)

Segment Number	Road Name	Road Owner	Length (In Feet)	Description
1	Great Bay Blvd (CR 601)	Ocean County	1,403	Fills in sidewalk gap, providing a connection for students living in Bartlett Landing.
2	Locust Street	Tuckerton Borough	130	Fills in small sidewalk gap to connect Locust Street neighboorhood to US Route 9.
3	E Main Street (US Route 9)	NJDOT	5,273	Completes sidewalk network along US Route 9. Provides a connection for students living in Tuckerton Meadows by the Bay and Village on the Green Apartments.
3 - alt	E Main Street (US Route 9)	NJDOT	2,575	Add sidewalks to only the southeast side of US Route 9. This is the side of the street where a majority of students would be walking from.

*Segment number corresponds to Map 12 on page 19.

Map 12 - Location of Proposed Paths in Study Area (Numbers Correspond to Table 6)



Crosswalks

Where they are present, the crosswalks in the study area are typically longitudinal bar crosswalks (continental style), which is considered a high visibility crosswalk type. According to the FHWA, high-visibility crosswalks like those shown in Figure 13 can reduce pedestrian injury crashes by up to 40%.[1]

In the study area, there are contiental-style crosswalks located at all intersections with major roads. Major roads include: N Green Street, E Main Street (US Route 9), and Marine Street. Crosswalks are missing along N Green Street when crossing over side streets.

Raised crosswalks and Rectangular Rapid Flashing Beacon (RRFB) can help slow vehicle speeds and make crossing for pedestrians more comfortable. There are currently no RRFBs or raised crosswalks in the study area.

Recommendations

- Add continental-style crosswalks at all intersections along N Green Street, 3 total

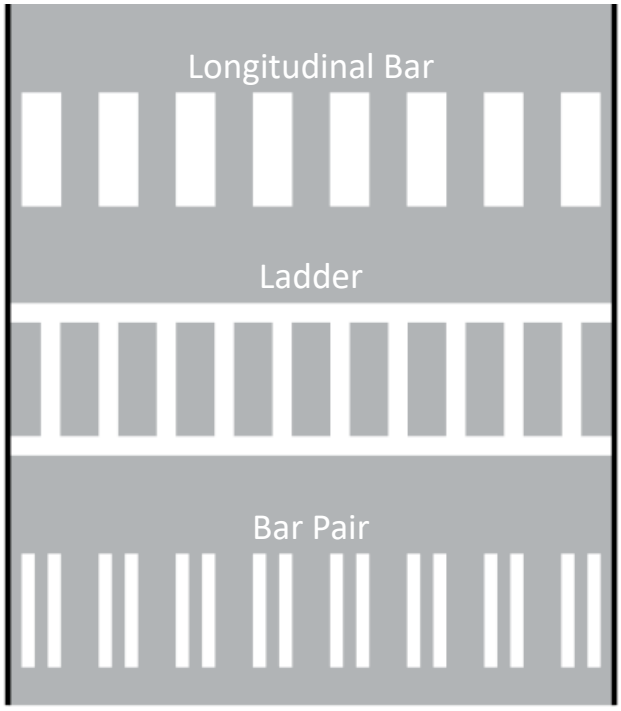


Figure 13 - High-visibility crosswalk examples from MUTCD Figure 3C-1 Crosswalk Markings



Figure 14 - Crosswalks at N Green St and US-9

1 https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements

Lane Widths

Lane widths in an suburban setting should be as narrow as possible to encourage slower vehicle speeds and increase safety for all road users. Currently, there are no bike lanes on any roads in Tuckerton Borough. On E Main Street there are edge lines and 12 foot travel lanes. There are no edge lines on N Green Street despite the right-of-way being 28 feet, with 14 foot travel lanes in each direction. Adding edge lines will help visually narrow the street and direct drivers to stay closer to the centerline, encouraging slower speeds. Marine Street also does not have any edge lines, however, the road is already quite narrow at approximately 22 feet wide.

Recommendations

- Add edge line striping to reduce travel lanes to 11’ on N Green Street



Figure 15 - No edge lines on N Green St



Figure 16 - Centerline and edge lines present on Main St (US 9)

Lighting

With the overwhelming majority of pedestrians being killed in the dark, pedestrian-scale lighting is very important. Schoolchildren often leave for school early in the morning while it may still be dark in the winter, and if they stay late for after-school activities, they could be walking home near dusk. Well-lit sidewalks and crosswalks are vitally important. Intersection lighting can reduce pedestrian crashes up to 40%[1]

Recommendations

- Evaluate current lighting at crosswalk locations and add pedestrian scale lighting where necessary.

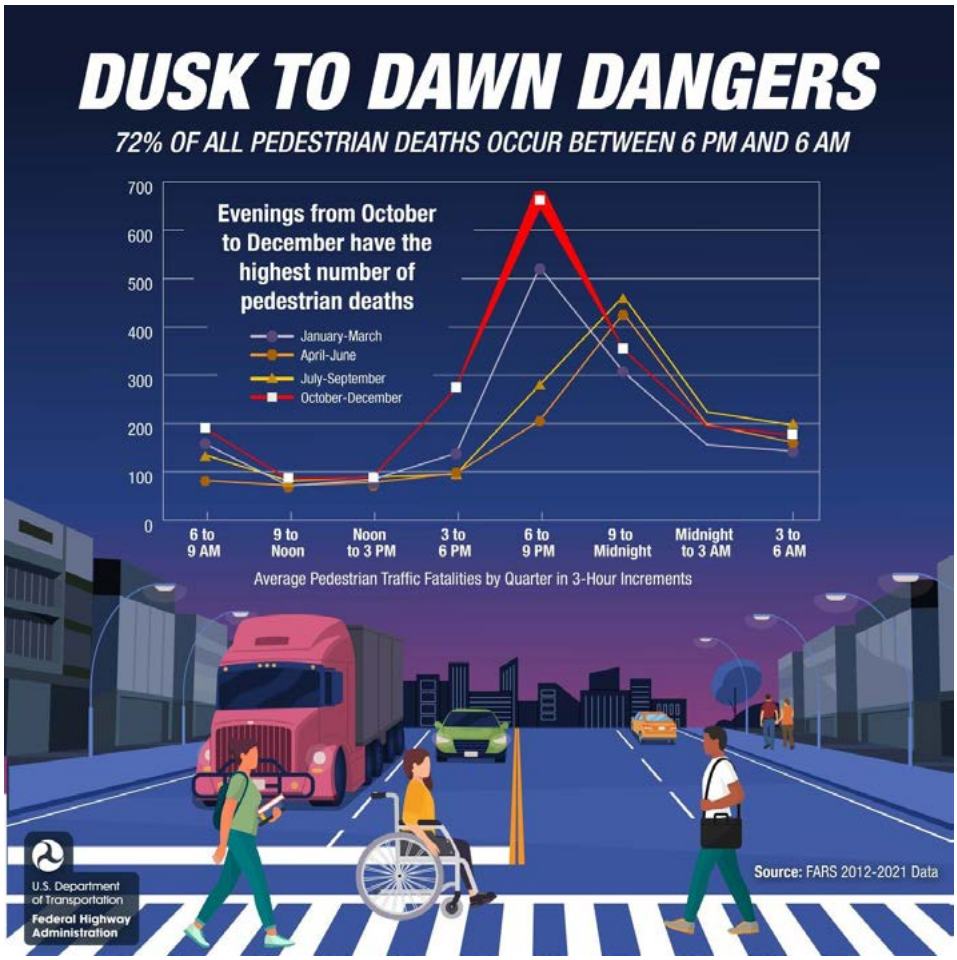


Figure 17 - FHWA night-time crash data

1 https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements

Specific Intersection and Corridor Findings and Recommendations

This section addresses more specific issues observed at key corridors and intersections near Tuckerton Elementary School. The recommendations presented are conceptual and will require further engineering evaluation, design, and approval by the appropriate roadway owner or governing agency—including state, county, or municipal jurisdictions—prior to implementation.

Intersection of E Main Street (US Route 9) and Marine Street

This intersection is the primary location where students walk or bike across US Route 9 while traveling to and from the school. The intersection includes high-visibility ladder-style crosswalks on all four approaches, and school crossing signs are present on US Route 9 in both directions. US Route 9 consists of one travel lane and an approximately 8-foot-wide shoulder in each direction. A crossing guard is stationed at the intersection during school arrival and dismissal periods.



Figure 18 - Intersection of E Main St (US 9) and Marine St

The north side of the intersection serves as one of two entrances to the Seaport Plaza shopping center, although the driveway is technically classified as a municipal roadway. Both shopping center driveways allow entering and exiting traffic movements. Anecdotal observations suggest that a significant portion of the shopping center traffic, particularly during the morning hours, is associated with the Dunkin' located at the front of the plaza. In addition to regular parking activity, the restaurant's drive-thru queue begins and ends at the plaza's west driveway. Delivery vehicles and customers waiting for takeout orders also temporarily stop within this driveway area.

The most critical safety concern at this intersection occurs when eastbound vehicles on US Route 9 stop in the travel lane while waiting for a gap to make a left turn into the shopping center's west driveway. Drivers approaching from behind frequently use the wide shoulder to bypass stopped or queued vehicles, creating a hazardous condition in the crosswalk area. Because pedestrians are often obscured from the view of the passing drivers, vehicles may travel through the crossing with limited visibility, placing students and other pedestrians at significant risk. Consequently, the highest-priority safety improvement is to prevent vehicles from using the shoulder to pass queued traffic.

One potential solution would be the installation of curb extensions along US Route 9 immediately adjacent to the intersection, particularly on the eastbound shoulder west of the intersection. Restricting shoulder access in this area would prevent drivers from passing stopped vehicles on the right, directly addressing the most critical safety concern. In addition to improving pedestrian visibility, curb extensions on all four corners would help reduce turning speeds and shorten pedestrian crossing distances, improving overall pedestrian safety at the intersection. These improvements could initially be implemented as temporary pilot projects using materials such as cones, flexible delineators, hay bales, or jersey barriers to allow for rapid deployment and evaluation before considering permanent curb reconstruction.

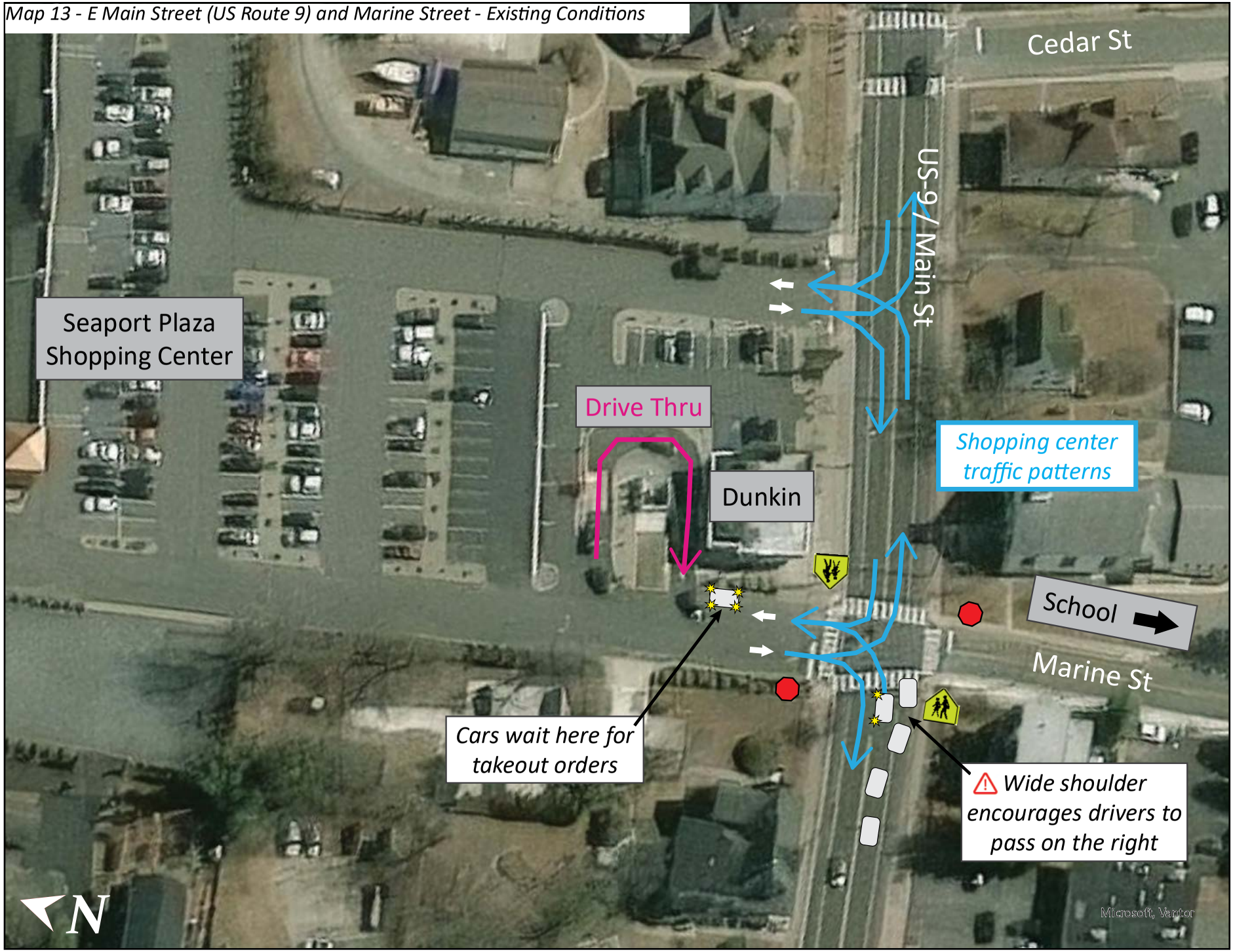
Another potential improvement would be converting the shopping center driveways to a one-way circulation pattern, with the east driveway designated as entrance-only and the west driveway designated as exit-only. This change would eliminate the need for eastbound vehicles on US Route 9 to stop at the Marine Drive

intersection while waiting to turn left into the west driveway. Although left-turn movements into the plaza would still occur at the east driveway, that location is situated mid-block and does not include a marked crosswalk, reducing the direct conflict with pedestrians. A one-way circulation pattern would also simplify traffic operations at both driveways, reducing potential conflict points for pedestrians, cyclists, and motorists. To ensure compliance with the new traffic pattern, a physical barrier or similar treatment should be installed to block the former inbound side of the west driveway and discourage illegal entry movements.

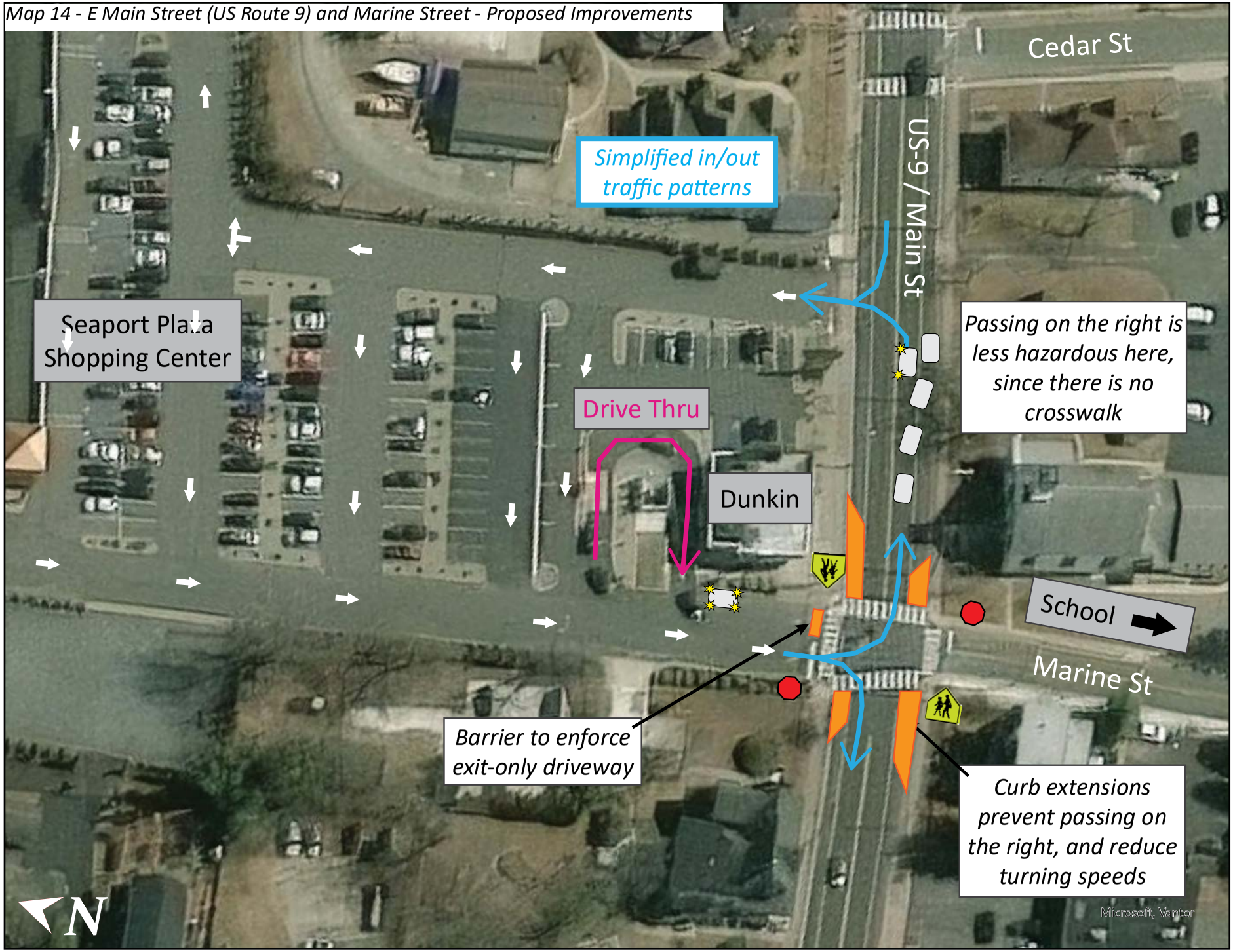
Recommendations:

- Install curb extensions on US Route 9 adjacent to the intersection, particularly along the eastbound shoulder west of the intersection, to prevent drivers from passing stopped vehicles on the right.
- Consider implementing temporary curb extension pilot projects using materials such as cones, delineators, hay bales, or jersey barriers prior to permanent construction.
- Install curb extensions on all four corners to reduce turning speeds and shorten pedestrian crossing distances.
- Investigate conversion of the shopping center driveways to a one-way circulation pattern, with the east driveway operating as entrance-only and the west driveway operating as exit-only.
- Install a physical barrier or other treatment at the west driveway to prevent illegal entry movements and reinforce one-way circulation.

Map 13 - E Main Street (US Route 9) and Marine Street - Existing Conditions



Map 14 - E Main Street (US Route 9) and Marine Street - Proposed Improvements



N Green Street and Crosstown Connection

N Green Street (County Route 539) is a major thoroughfare, and has a posted speed limit of 35mph between US Route 9 and 3rd Avenue, and 40mph north of 3rd Avenue. A speed study conducted by Greater Mercer TMA found the percentage of drivers exceeding the speed limit was 43% northbound and 39% southbound. The percentage of high-speeding vehicles, defined as traveling 5 MPH or more above the speed limit, was 12% northbound and 9% southbound (Full report can be found in the appendix). Within the borough of Tuckerton, sidewalks mostly exist along both sides of Green Street, although many segments of the sidewalk are in poor enough condition that walking is difficult and wheelchair or bicycle use is not feasible. A crosswalk on Green St exists at 4th Avenue, although this one is not particularly useful for traveling in the direction of the school. There are currently no other crosswalks until Church Street. The existing crosswalks at 4th Avenue and Church Street are continental style.

A full set of four crosswalks with walk signals exists at the intersection of Green Street and US Route 9. This intersection is unpleasant for pedestrians and cyclists, as it has high traffic volumes, long crossing distances, and relatively long wait times for the walk signal. During the May walk audit, the audit team was nearly struck by a pickup truck trying to make a left turn while crossing US Route 9. In addition, as shown in Map 10, there were two pedestrian involved crashes at this intersection. An alternative is for students is to cross Green Street at Church Street and walk through residential areas. To reach the school, students would walk along Church Street and Wood Street, both of which have existing sidewalks in acceptable condition. There is, however, a lack of crosswalks at the intersection of Church Street and Wood Street. Students would then proceed along the sidewalk on the north side of US Route 9 to Marine Street, where they would cross with the benefit of the safety improvements recommended in this plan for the intersection of US Route 9 and Marine Street.

The neighborhood in northwestern Tuckerton bounded by N Green Street, 1st Avenue, Lake Street, and 4th Avenue is expected to lose



Figure 19 - Grass growing over sidewalk on N Green St



Figure 20 - Marked crosswalk at Church St and N Green St



Figure 21 - Overgrown trees and sidewalks in need of replacement on N Green St

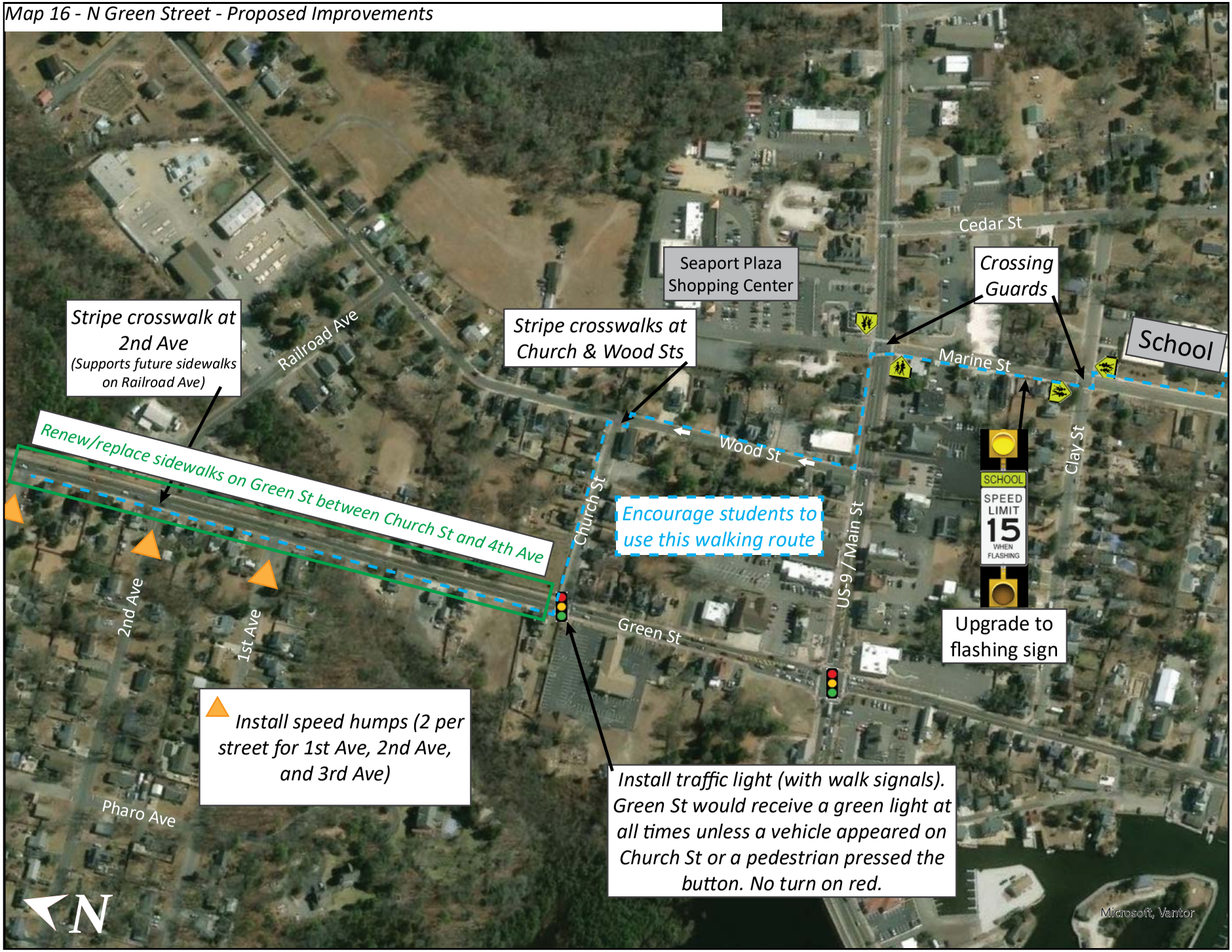
school bus service due to the elimination of courtesy busing. The neighborhood is about 15 minutes from the school on foot and about 5 minutes by bike, making the trip achievable for elementary school students. However, the existing conditions of the walking route present safety hazards that could discourage students and their parents from walking or biking to school.

Recommendations

- Replace existing sidewalks on Green Street that are in poor condition (See Map 19)
- Investigate whether a traffic signal is warranted at N Green Street and Church Street. A full traffic signal will provide greater safety for young children crossing the busy county road, especially in the dark. Given the speed and driver behavior patterns on Green Street, a rectangular rapid flashing beacon (RRFB) may be inadequate to ensure safe crossing conditions for students.
    - » If a traffic signal is determined to be warranted a leading pedestrian interval and “No Turn On Red” restrictions should be considered
- Alternative to Traffic Signal - As an alternative to a new traffic signal, a Rectangular Rapid Flashing Beacon should also be considered.
- Add continental-style crosswalks at the intersection of Church Street and Wood Street.
    - » The crosswalk across Church Street already has curb ramps on both ends, so only the striping is needed.
    - » To cross Wood Street, a private driveway obstructs the alignment of a potential crosswalk on the north side of the intersection, so the crosswalk should be installed on the south side. A new curb ramp will need to be installed on the east side of Wood Street.
- Add a radar speed sign to N Green Street to provide speed feedback for vehicles entering Tuckerton Borough.


Map 15 - N Green Street - Existing Conditions
No sidewalks on Railroad Ave
Railroad Ave
Seaport Plaza Shopping Center
No crosswalks at Church & Wood Sts
Cedar St
Crossing Guards
School
Marine St
Green St hazards:
-High vehicle speeds and volumes
-Poor sidewalk condition
-No crosswalks at 1st/2nd/3rd Aves
Wood St
Church St
US-9 / Main St
Clay St
SCHOOL
SPEED LIMIT
15
WHEN CHILDREN ARE PRESENT
2nd Ave
1st Ave
Green St
This neighborhood is expected to lose school bus service.
Pharo Ave
US-9 & Green St intersection has large traffic volume and long crossing distances. Not a preferable route for students.
N
Microsoft, Vantor

Map 16 - N Green Street - Proposed Improvements



Marine Street and Vehicle Approaches to Tuckerton Elementary School

Students arrive at and depart from the school using a variety of transportation modes and routes. Most students who walk or bicycle approach via Marine Street and Willow Landing Terrace, entering through the school's main entrance at the southwest corner of the building. Type C (full-size) school buses access the campus via Clay Street, where students are loaded and unloaded on the north side of the school before buses depart via Cedar Street and Otis Avenue. Type A (small) school buses utilize the parent drop-off loop and load and unload students at the front of the wraparound driveway.



Figure 22 - Bus entering school parking lot

Parent vehicles queue along northbound Marine Street to access the school's dedicated drop-off and pick-up loop, which wraps around the parking lot. During observations, vehicles approaching from southbound Marine Street were observed making K-turns in order to join the queue from the northbound side. A small number of vehicles also approached from Willow Landing Terrace and crossed Marine Street to enter the queue. This maneuver presents several operational concerns. The school driveway is not directly aligned with Willow Landing Terrace, requiring drivers to make a slight zigzag movement when crossing Marine Street. Additionally, vehicles entering from Willow Landing Terrace merge into the middle of the queue rather than at its end. While the number of vehicles using this approach is limited, drivers already waiting in the queue may be surprised by vehicles entering at this location, creating the potential for confusion and minor conflicts.



Figure 23 - Officer directing traffic in front of Tuckerton Elementary

Several pedestrian safety measures are already in place around the school. School crossing warning signs are installed on Marine Street near the Clay Street intersection, and a crossing guard is stationed there during arrival and dismissal periods. All four crosswalks at the intersection of Marine Street and Clay Street are marked with high-visibility continental striping. A police officer is positioned near the school's exit driveway where vehicles re-enter Marine Street, and a marked police vehicle with flashing lights is parked along the northbound side of


Figure 24 - Cars lining up on Marine St to drop off students at Tuckerton Elementary School

Marine Street. Field observations suggest that the visible police presence contributes to driver awareness and encourages compliance with school zone traffic regulations.

One opportunity for improvement is the addition of marked crosswalks across Marine Street at Otis Avenue. Existing curb ramps are already present on all four corners of the intersection, making crosswalk installation a relatively straightforward enhancement. Marine Street has a posted speed limit of 30 mph; however, school zone speed limit signs on both approaches reduce the speed limit to 15 mph when children are present.

Recommendations

- Reduce conflicts and improve pedestrian safety by discouraging parent vehicles and Type A school buses from approaching via southbound Marine Street and Willow Landing Terrace.
    - » Install a short section of centerline delineators on Marine Street at Willow Landing Terrace and the school driveway. This treatment would make Willow Landing Terrace right-out only and the school driveway right-in only, reducing turning conflicts, simplifying traffic movements, and preventing vehicles from entering the middle of the drop-off queue.
    - » Distribute guidance to parents and staff directing vehicles approaching from southbound Marine Street to use Green Street and Otis Avenue to access the drop-off queue. This route eliminates K-turns on Marine Street and provides an alternative to the Willow Landing Terrace approach.
- Add school crossing warning signs at the Marine Street crosswalks at Willow Landing Terrace and at the Clay Street crosswalks at Marine Street to better identify key student crossing locations.
- Stripe continental-style crosswalks across Marine Street on both sides of the Otis Avenue intersection. Existing curb ramps on all four corners allow this improvement to be implemented with pavement markings alone.
- Upgrade the existing 15 mph school zone signs to flashing school speed limit signs displaying “When Flashing.” Program the beacons to operate during arrival and dismissal periods to improve driver awareness and compliance. Solar-powered units may be feasible and could reduce installation costs by eliminating the need for a utility connection.

Map 17 - Tuckerton Elementary School Vehicle Approaches - Existing Conditions



Map 18 - Tuckerton Elementary School Vehicle Approaches - Proposed Improvements



Summary of Infrastructure and Non-infrastructure Recommendations

The recommendations in this travel plan are intended to increase safety for students on their walk or bike ride to and from school and when appropriate, encourage more students to walk or bike. The table below identify those actions and a cost estimate. 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 NJDOT Transportation Alternatives Program 2024 Cost Estimate Guidelines And Recommendations For Pedestrian, Bicycle And Traffic Calming Projects. The estimated costs shown here have been escalated 5% per year for two years (2024 - 2026), and include a 30% allowance on top of construction costs for design fees. No costs are included for Maintenanace and Protection of Traffic, Right-of-Way costs or Utility Relocation costs.

For recommendations that are not listed in the NJDOT Transportation Alternatives Program 2024 Cost Estimate Guidelines And Recommendations For Pedestrian, Bicycle And Traffic Calming Projects, no estimate is given. In several locations, multiple improvement options are presented to address the same safety concern. Recommendations identified with the same number and distinguished by the letters “a” and “b” represent alternative approaches, typically offering different costs, levels of effectiveness, or implementation requirements, allowing the Borough and School District to select the option that best aligns with available funding and project priorities.

Table 7 - Summary of Recommendations

ID	Recommendation	Location	Priority	Estimated Cost
1	Curb Extension, total 4	Marine St and US 9	High	$45,864
2	Jersey Barrier, total 1	US 9 Dunkin Entrance	High	NA
3	Paint Arrows for one-way flow in Dunkin Parking lot, total 15	US 9 Dunkin Parking Lot	Medium	$3,010
4	Speed Humps, total 6	1st Ave, 2nd Ave, 3rd Ave	Low	$85,995
5	Crosswalks, total 3	N Green St	Medium	$12,899*
6	Curb cut, total 1	N Green St	Medium	$2,867
7	Detectable Surface, total 5	N Green St	Medium	$2,508
8	Replace Sidewalks, total 2,074 linear ft	N Green St	High	$252,668
9 a	Traffic Signal	N Green St and Church St	Medium	$394,144
9 b	Rectangular Rapidly Flashing Beacon (RRFB)	N Green St and Church St	Medium	$28,665
10	Radar Feedback Sign, total 1	N Green St	Medium	$8,600
11	Add edge lines, total 4,920 linear feet, 1,640 square feet	N Green St	Low	$16,454
12	School Crosswalk Signs, total 4	Marine St	High	$1,433
13	Flashing School Zone Speed Limit Signs, total 2	Marine St	Medium	$1,290
14	Crosswalks, total 2	Marine St	Medium	$8,600*
15	Detectable Surface, total 7	Marine St	Low	$3,511
16	Plastic Delineators, total 24	Marine ST	High	NA
17	Crosswalks, total 11	US-9	Medium	$47,297*
18	Detectable Surface, total 48	US-9	Medium	$24,079

Table 7 - Summary of Recommendations				
ID	**Recommendation**	**Location**	**Priority**	**Estimated Cost**
19	Curb cut, total	US-9	Medium	$40,131
20	Replace Sidewalks, total 1,834 linear feet	US-9	High	$223,429
21 a	Install new sidewalks, total 5,273 linear feet	US-9	High	$642,390
21 b	Install new sidewalks, east side only, total 2,575 linear	US-9	High	$313,703
22	Install new sidewalks, total 130 linear feet	Locust St	High	$15,837
23	Install new sidewalks, total 1,403	Great Bay Blvd (CR 601)	Medium	$170,922

*Cost estimate assumes a continental style crosswalk (10’ wide, 40’ long, 1’ lines every 2’) using thermoplastic

Conclusion

Tuckerton Elementary School is located within a compact community that has many characteristics that support walking and bicycling to school. The school is surrounded by residential neighborhoods, a significant portion of students live within walking distance, and key pedestrian infrastructure already exists along many of the routes used by students. The school, Borough, Police Department, and community stakeholders have also demonstrated a strong commitment to student safety through the provision of crossing guards, traffic management efforts, and participation in the Safe Routes to School program.

At the same time, this School Travel Plan identified several barriers that limit the comfort and safety of students walking and bicycling to school. These include gaps in the sidewalk network, deteriorating sidewalk conditions, high vehicle speeds on key roadways, limited crossing opportunities, and operational issues related to school arrival and dismissal traffic. Crash data and field observations further highlight the need to improve conditions for pedestrians and cyclists, particularly along major corridors such as US Route 9 and North Green Street.

The recommendations contained in this plan provide a roadmap for addressing these challenges through a combination of infrastructure improvements, policy initiatives, and ongoing education and encouragement efforts. Many recommendations, such as installing crosswalks, adding school zone warning devices, improving pavement markings, and repairing sidewalks, can be implemented incrementally as funding becomes available. Recommendations along county routes (Marine Street and N Green Street) and state routes (E Main Street) , including new pedestrian crossing treatments and traffic control improvements, will require coordination with Ocean County and New Jersey Department of Transportation.

Implementation of these recommendations will help create a safer and more connected transportation network for students and families. Beyond improving safety, these investments can encourage more students to walk and bicycle to school, promoting healthier lifestyles, reducing traffic congestion during arrival and dismissal periods, and strengthening connections between the school and the surrounding community.

This School Travel Plan is intended to serve as a living document that guides future transportation and safety improvements around Tuckerton Elementary School. Continued collaboration among the school district, Tuckerton Borough, Ocean County, the New Jersey Department of Transportation, law enforcement, parents, and community members will be essential to advancing these recommendations and ensuring that all students have safe and accessible routes to school.

Appendix A: Proven Safety Countermeasures

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

For more information, see: https://highways.dot.gov/safety/proven-safety-countermeasures

Below is the complete list.



Appendix B: N Green Street Speed Study

A speed study was conducted in April 2026 for N Green Street (County Route 539). The following pages display the full study.



Speed Study

N Green Street (CR 539) - Tuckerton Borough, NJ
April 2026

Greater Mercer TMA
www.gmtma.org | (609) 452-1491
15 Roszel Rd. South, Suite 101
Princeton, NJ 08540

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Introduction

This study was prepared by the Greater Mercer Transportation Management Association (GMTMA), a nonprofit, public-private partnership dedicated to promoting and providing transportation choices designed to reduce congestion, improve mobility, increase safety, and further sustainability in Mercer and Ocean County. Established in 1984, the association consists of large and small employers, local governments, metropolitan planning organizations, and state agencies who are committed to providing good transportation choices for the community, commuters, businesses, and the environment.

This study aims to help Tuckerton Borough learn more about speeding by collecting speed data using a Jamar Technologies Black Cat II Plus. This study summarizes the data collected for N Green Street (County Road 539). N Green Street is a county two-lane major collector road with a speed limit of 35 MPH at the location of the automated traffic recorder. The road serves as the primary road for entering Tuckerton Borough from the north. The road is 28 feet wide, with a double-yellow centerline and no painted edge lines.

Lastly, while the data presented in this study is helpful for understanding speeding generally, it should not be used as a replacement for a speed study conducted and signed by a licensed engineer.

Why Speed Matters?

Speed plays a critical role in the cause and severity of a crash. This is particularly true for pedestrian-involved crashes. Studies have shown that a pedestrian's average risk of death reaches 10% at an impact speed of 23 mph, 25% at 32 mph, 50% at 42 mph, 75% at 50 mph, and 90% at 58 mph[1].

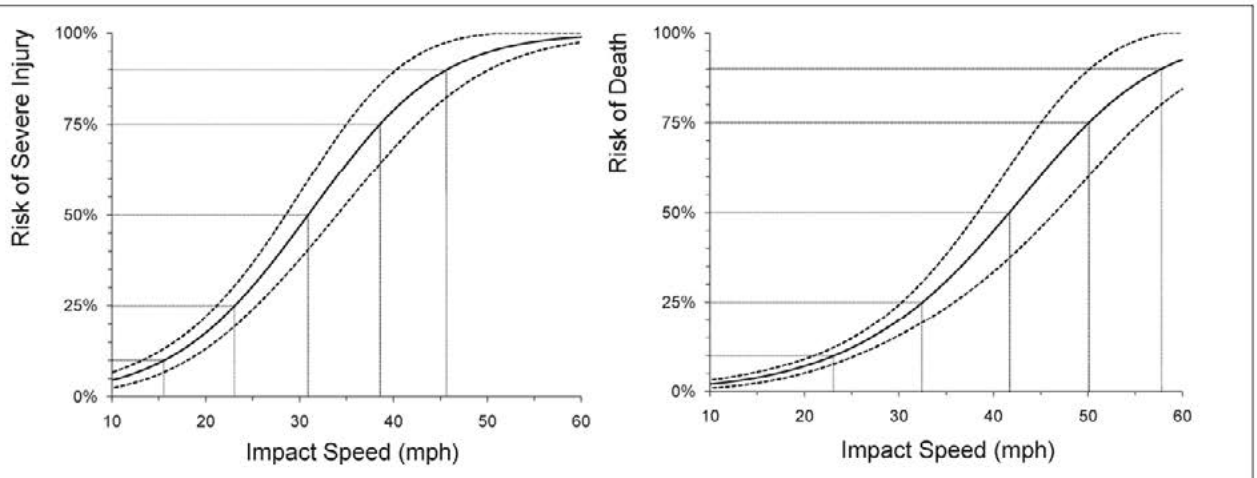


Figure 1. Risk of severe injury (left) and death (right) in relation to impact speed in a sample of 422 pedestrians aged 15+ years struck by a single forward-moving car or light truck model year 1989–1999, United States, 1994–1998. Risks are adjusted for pedestrian age, height, weight, body mass index, and type of striking vehicle, and standardized to the distribution of pedestrian age and type of striking vehicle for pedestrians struck in the United States in years 2007–2009. Dotted lines represent point-wise 95% confidence intervals. Serious injury is defined as AIS score of 4 or greater and includes death irrespective of AIS score.

In addition to increasing the severity of a pedestrian-involved crash, speeding also makes it more likely for a crash to occur in the first place. This is because as a driver's speed increases, their stopping distance and field of vision is reduced. At 10 - 15 miles per hour (mph), a car will need 25 feet of distance to be able to stop. If the speed is increased to 30 - 35 mph, the

[1] Impact Speed and a Pedestrian's Risk of Severe Injury or Death, AAA; https://aaafoundation.org/wp-content/uploads/2018/02/2011PedestrianRiskVsSpeedReport.pdf

stopping distance increases to 75 feet. At 40 mph, the distance is 118 feet. Similarly, an increase in driver speeds causes a decrease in their awareness and peripheral vision. This is illustrated in the figure below.

Effects of increased speed on a driver's visual focus (Source: NACTO)



As a result, even small decreases in vehicle speeds can result in large safety gains. The Highway Safety Manual states that just a 1 MPH reduction in operating speeds can result in a 17% decrease in fatal crashes[2]. An additional study found that a 10% reduction in the average speed resulted in 19% fewer injury crashes, 27% fewer severe crashes, and 34% fewer fatal crashes.[3]

Additional Resources:

Urban Street Design Guide – Design Speed (NACTO)
https://nacto.org/publication/urban-street-design-guide/design-controls/design-speed/

City Limits: Setting Safe Speed Limits on Urban Streets (NACTO)
https://nacto.org/wp-content/uploads/2020/07/NACTO_CityLimits_Spreads.pdf

[2] American Association of State Highway and Transportation Officials (2010). Highway Safety Manual. http://www.highwaysafetymanual.org/
[3] Traffic safety dimensions and the Power Model to describe the effect of speed on safety; https://lup.lub.lu.se/search/ws/files/4394446/1693353.pdf

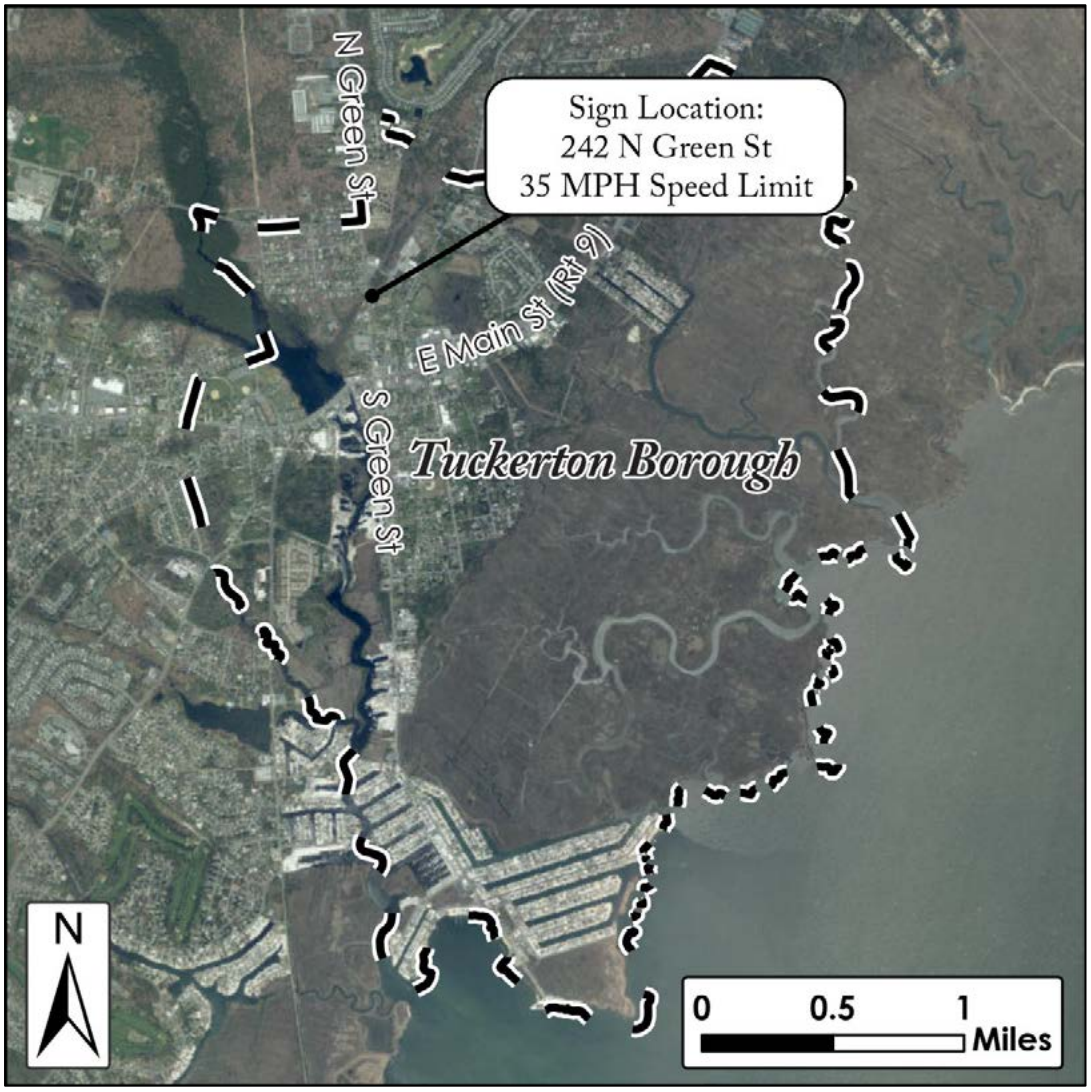
Speed Sign Parameters and Location Schedule

Between April 7th, 2026, and April 20th, 2026, a Jamar Technologies Black Cat II Plus automated traffic recorder (ATR) was installed at 242 N Green Street (County Route 539) in Tuckerton Borough, New Jersey. Speed data was collected for both north and south directions of N Green Street for a period of two weeks. Table 1 presents the dates and times during which the speed sign was active. Map 1 on the following page shows the location of the speed sign.

Table 1: Data Collection Dates

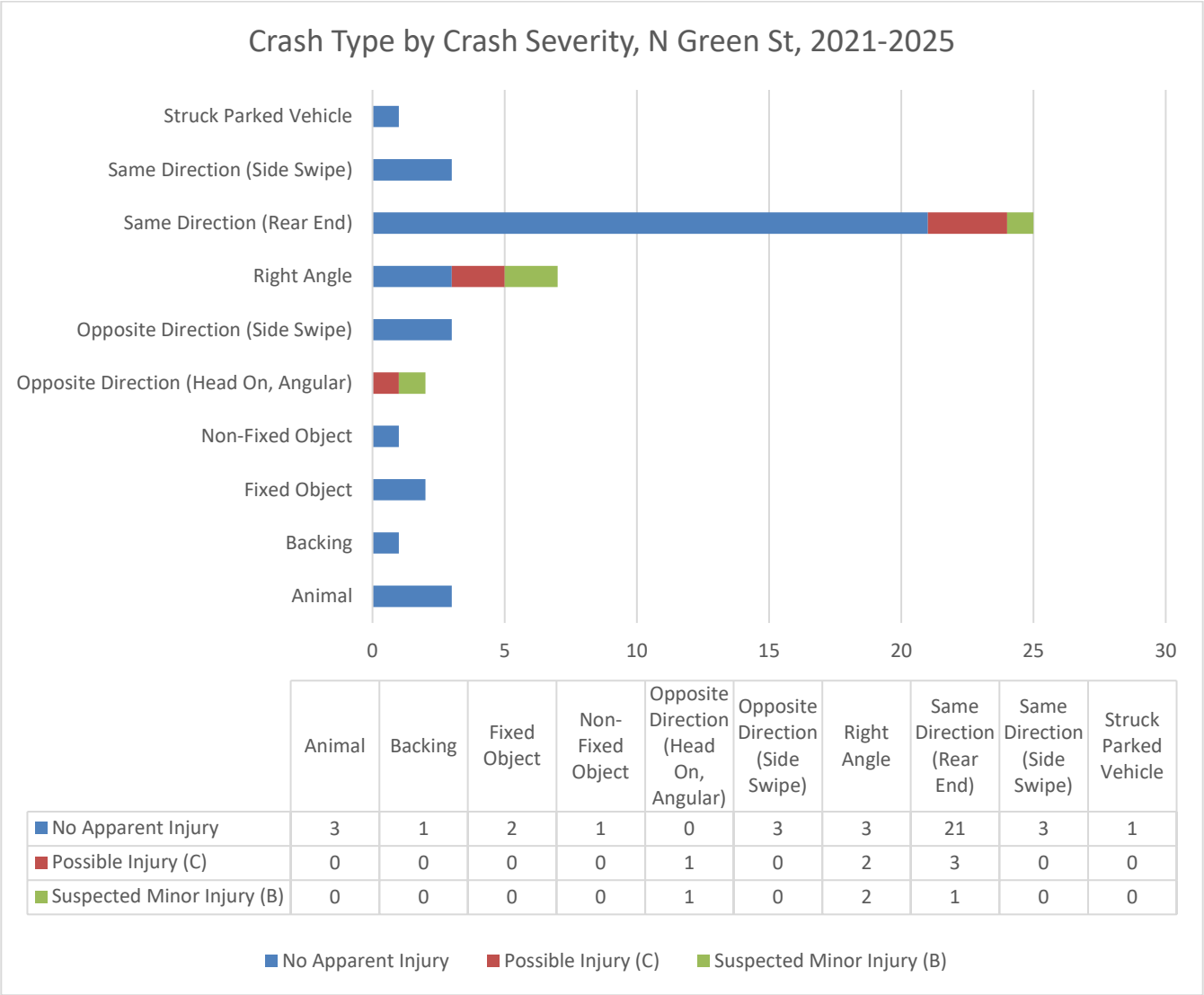
Data Collection Period	*Start Date*	*End Date*	*Number of Days*
Data Collection	4/7/2026	4/20/2026	20

Map 1: Location of Radar Speed Sign in Tuckerton Borough



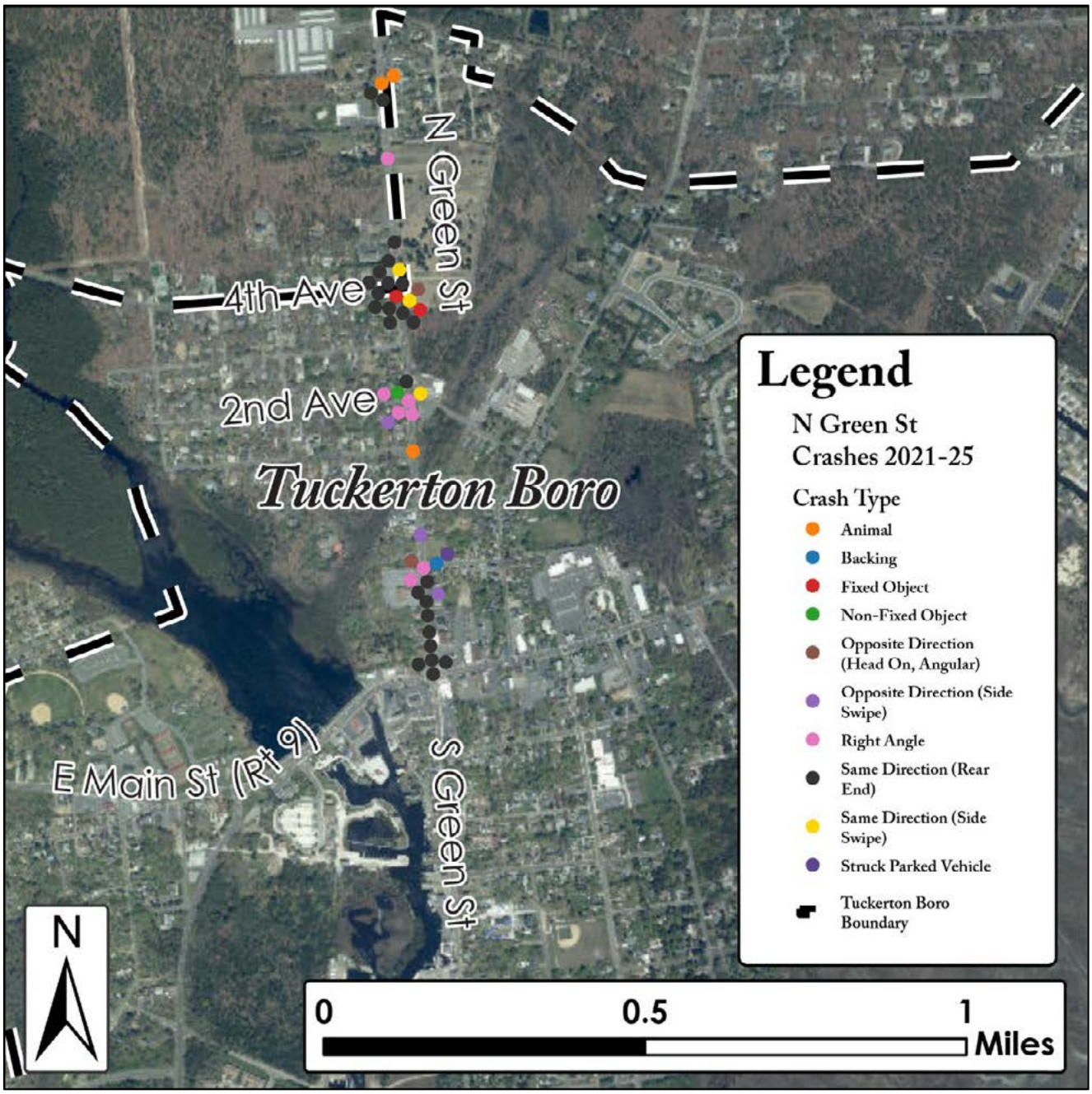
N Green St Crash Analysis

In April 2026, five years of crash data were collected from Numetric for N Green Street in Tuckerton Borough. The data does not include any crashes at the intersection of US Route 9 and N Green Street. The data indicates 48 reported motor vehicle crashes from 2021 to 2025 (the most current year available). The majority, 38, of these crashes resulted in no apparent injury, while six resulted in possible injury, and four resulted in suspected minor injury. No crashes resulted in serious injury, and none were fatal. None of the crashes had speed listed as a contributing factor by the responding officer. This does not, however, exclude the possibility that speed was a factor. The chart below shows the crash type by crash severity. Map 2, on the next page, shows the locations and types of crashes.



	Animal	Backing	Fixed Object	Non-Fixed Object	Opposite Direction (Head On, Angular)	Opposite Direction (Side Swipe)	Right Angle	Same Direction (Rear End)	Same Direction (Side Swipe)	Struck Parked Vehicle
No Apparent Injury	3	1	2	1	0	3	3	21	3	1
Possible Injury (C)	0	0	0	0	1	0	2	3	0	0
Suspected Minor Injury (B)	0	0	0	0	1	0	2	1	0	0

*Map 2: N Green St Crashes by Crash Type, 2021-2025**



*Locations are approximate; markers are offset to show overlapping crashes on N Green St.

Data Collection

The automated traffic recorder (ATR) collects data on the total number of vehicles traveling on the roadway and their respective travel speeds in both directions. Due to the signs' proximity to side streets and residential housing, to account for turning vehicles, this report includes two sets of tables. The first will use all data collected, and the second will only include vehicles traveling more than 16 MPH.

In addition, this report uses two metrics to measure the number of speeders. The first, % of Speeders, is the percentage of vehicles traveling over the speed limit, and the second, % of High Speeders, is the percentage of vehicles traveling more than 5 MPH over the speed limit. The following formulas were used:

$$\%\ of\ Speeders = \frac{Number\ of\ Vehicles\ Traveling\ Above\ Posted\ Speed\ Limit}{Total\ Number\ of\ Vehicles}$$

$$\%\ of\ High\ Speeders = \frac{Number\ of\ Vehicles\ Traveling\ 5\ MPH\ Above\ Posted\ Speed\ Limit}{Total\ Number\ of\ Vehicles}$$

For the second set of tables that do not include vehicles traveling less than 16 MPH, this report calculated the "% of speeders" and "% of High Speeders" fields using the following formulas:

$$\%\ of\ Speeders = \frac{Number\ of\ Vehicles\ Traveling\ Above\ Posted\ Speed\ Limit}{Number\ Vehicles\ Traveling > 16\ MPH}$$

$$\%\ of\ High\ Speeders = \frac{Number\ of\ Vehicles\ Traveling\ 5\ MPH\ Above\ Posted\ Speed\ Limit}{Number\ Vehicles\ Traveling > 16\ MPH}$$

Another metric calculated in this study is the 85th percentile speed. The 85th percentile speed is a measure often used by traffic engineers to determine the speed limit of a roadway. It is defined as the speed at or below which 85% of drivers travel on a road segment. This assumes that most drivers (85%) drive within reasonable limits. The posted speed limit is usually the 5 – mph increment just below the 85th percentile speed. For example, if the 85th percentile speed has been determined by an engineering survey to be 57 mph, the posted speed would be 55 mph. The logic behind this method of determining the posted speed limit is that it allows for a reasonable posted speed limit that can be enforced by local agencies, without creating a speed trap. In addition, it helps reduce the disparity between the slowest and fastest vehicles on a roadway. This method reflects roadway design, rather than road context, i.e. downtown, residential, etc. Therefore, using this method frequently ignores other factors, such as pedestrian and bicyclist safety.

The 85th percentile speed is calculated by multiplying 85% by the number of vehicles in the study. Then, the vehicle's speeds are ordered from smallest to largest. The vehicle speed that corresponds with the integer from the first step is the 85th percentile speed. The difference between the speed limit and the 85th percentile speed can help highlight that the road's design speed is inappropriate for the posted speed limit. When the 85th percentile speed is higher than the posted speed limit, this likely indicates that the road design should be altered to better suit the needs and safety of all road users.

Findings

Overall, speeding was a significant issue on N Green Street. The 85th percentile speed and average speed on weekdays were 39.8 MPH and 33.9 MPH for northbound traffic and 39.1 and 33.1 for southbound traffic, respectively. The percent of

speeders and high speeders was highest on weekends, where both northbound and southbound traffic had 48% and 14% traveling over the speed limit and 5 MPH over the speed limit, respectively.

The following tables summarize this data.

Table 2: Percent of Speeders, High Speeders, Average Speed, and 85% Speed (All data)

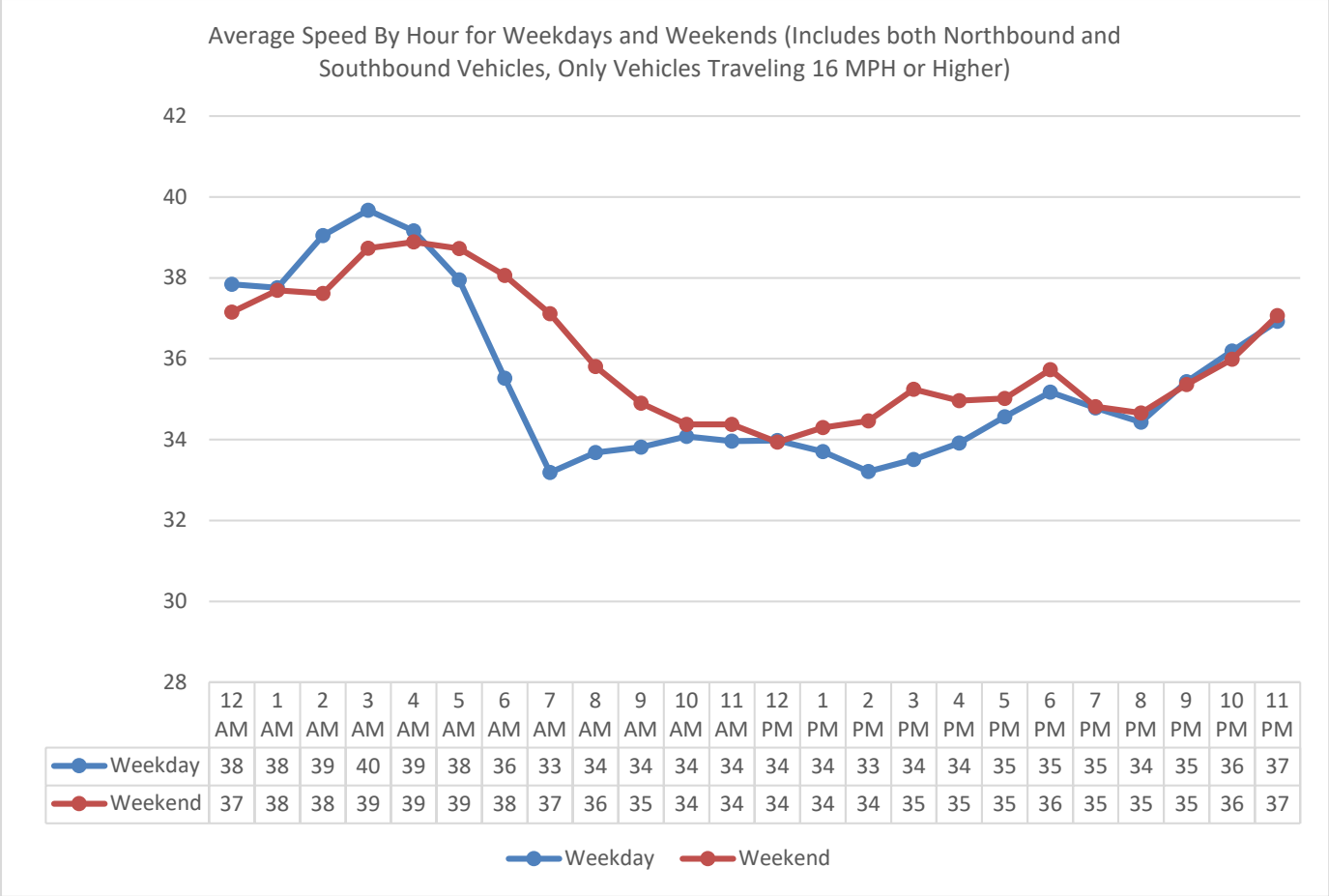
Direction	*Day of Week*	*% Speeders*	*% High Speeders*	*Average Speed*	*85% Speed*
Northbound	Weekday	43%	12%	33.9	39.8
	Weekend	48%	14%	34.6	39.8
Southbound	Weekday	39%	9%	33.1	39.1
	Weekend	48%	14%	33.9	39.8

Table 3: Percent of Speeders, High Speeders, Average Speed, and 85% Speed (Vehicles Traveling Over 16 MPH)

Direction	*Day of Week*	*% Speeders*	*% High Speeders*	*Average Speed*	*85% Speed*
Northbound	Weekday	45%	13%	34.7	39.8
	Weekend	49%	14%	35.3	39.8
Southbound	Weekday	41%	10%	34.0	39.1
	Weekend	50%	15%	34.9	39.8

Average Speed By Hour (Weekdays Only)

The following graph shows the average speed by hour for N Green Street for weekdays and weekends. Speeds generally remain stable throughout the day, with the highest average speeds occurring overnight between 12 AM and 6 AM.



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Weekday	38	38	39	40	39	38	36	33	34	34	34	34	34	34	33	34	34	35	35	35	34	35	36	37
Weekend	37	38	38	39	39	39	38	37	36	35	34	34	34	34	34	35	35	35	36	35	35	35	36	37

Average Weekday and Weekend Number of Vehicles by Speed Category by Time of Day Tables

The following tables show the average number of vehicles by speed category and time of day. The last two columns show the average percentage of speeders for each hour and the average percentage of high speeders for each hour (High speeders are defined as those traveling more than 5 MPH over the speed limit). Cells shaded red are the top five speeding hours for each location. The first two tables include weekday data and the third and fourth includes weekend data.

N Green St Average Weekday Speed Counts | Speed Limit: 35 MPH | Direction: Northbound

Time	≤ 35 MPH	36-40	41-45	46-50	51-55	> 56 MPH	Hourly Average		Hourly Average Speeders	Hourly Average High Speeders	% Over Speed Limit	% 5 MPH Over Speed Limit
12 AM	5	7	4	1	0	0	16		12	5	70%	30%
1 AM	3	6	2	1	0	0	12		9	3	75%	25%
2 AM	4	5	4	2	0	0	15		11	6	73%	40%
3 AM	7	13	9	2	2	0	32		26	13	79%	40%
4 AM	16	44	32	9	1	0	101		86	42	85%	41%
5 AM	66	116	55	10	1	0	249		183	66	74%	27%
6 AM	249	208	50	5	0	0	513		264	55	51%	11%
7 AM	399	153	28	3	0	2	585		186	33	32%	6%
8 AM	305	132	25	2	0	1	464		159	28	34%	6%
9 AM	262	127	22	2	0	1	414		152	24	37%	6%
10 AM	230	121	24	2	0	0	379		149	27	39%	7%
11 AM	228	113	25	3	1	1	370		142	29	38%	8%
12 PM	230	118	28	2	0	1	379		149	32	39%	8%
1 PM	252	108	21	2	1	1	384		132	24	34%	6%
2 PM	283	102	20	2	1	1	409		125	23	31%	6%
3 PM	194	113	26	3	0	1	338		144	30	43%	9%
4 PM	196	122	29	2	0	1	350		154	32	44%	9%
5 PM	188	125	34	3	0	1	350		162	37	46%	11%
6 PM	133	110	31	3	1	0	279		146	36	52%	13%
7 PM	107	73	20	2	0	0	201		94	22	47%	11%
8 PM	97	44	8	1	0	0	150		53	10	35%	6%
9 PM	67	38	10	1	0	0	116		49	11	42%	9%
10 PM	38	30	7	1	0	0	78		39	9	51%	12%
11 PM	18	15	6	1	1	0	41		23	8	57%	19%
Daily Average	***3,576***	***2,041***	***518***	***64***	***10***	***13***	***6,222***		***2,647***	***605***	***43%***	***10%***

*Cells shaded red are the top five speeding hours

N Green St Average Weekday Speed Counts | Speed Limit: 35 MPH | Direction: Southbound

Time	≤ 35 MPH	36-40	41-45	46-50	51-55	> 56 MPH	Hourly Average		Hourly Average Speeders	Hourly Average High Speeders	% Over Speed Limit	% 5 MPH Over Speed Limit
12 AM	12	16	6	2	0	0	37		24	8	67%	22%
1 AM	7	9	3	1	0	0	20		14	5	67%	23%
2 AM	3	5	3	1	0	0	13		9	4	74%	32%
3 AM	3	3	2	1	0	0	11		8	4	69%	39%
4 AM	12	8	3	1	0	0	24		13	4	52%	18%
5 AM	22	16	7	3	0	0	49		27	11	55%	22%
6 AM	65	49	20	3	0	0	136		71	22	52%	16%
7 AM	181	87	19	2	0	0	288		108	21	37%	7%
8 AM	208	102	21	4	0	0	334		127	25	38%	7%
9 AM	212	107	21	2	0	0	341		129	23	38%	7%
10 AM	246	115	23	2	0	0	385		140	25	36%	6%
11 AM	236	119	24	2	0	0	381		145	26	38%	7%
12 PM	261	131	22	2	0	0	416		155	24	37%	6%
1 PM	259	127	23	2	0	0	411		152	25	37%	6%
2 PM	307	128	20	1	0	0	456		149	21	33%	5%
3 PM	373	130	21	1	0	0	525		152	22	29%	4%
4 PM	389	179	31	2	0	0	601		212	33	35%	5%
5 PM	350	199	38	3	0	0	590		240	41	41%	7%
6 PM	259	179	40	2	0	0	481		222	42	46%	9%
7 PM	218	124	23	1	0	0	366		148	24	40%	7%
8 PM	150	90	16	1	0	0	257		107	17	42%	6%
9 PM	85	65	16	1	0	0	168		82	17	49%	10%
10 PM	52	52	13	1	0	0	118		67	15	56%	12%
11 PM	32	39	10	2	0	0	84		52	13	62%	15%
Daily Average	***3,940***	***2,080***	***426***	***41***	***4***	***1***	***6,492***		***2,552***	***472***	***39%***	***7%***

*Cells shaded red are the top five speeding hours

N Green St Average Weekend Speed Counts | Speed Limit: 35 MPH | Direction: Northbound

Time	≤ 35 MPH	36-40	41-45	46-50	51-55	> 56 MPH	Hourly Average		Hourly Average Speeders	Hourly Average High Speeders	% Over Speed Limit	% 5 MPH Over Speed Limit
12 AM	15	18	4	2	1	0	39		24	7	62%	17%
1 AM	8	10	4	2	0	0	23		15	6	66%	24%
2 AM	4	7	3	1	0	0	16		12	4	73%	27%
3 AM	4	6	3	1	0	0	15		11	5	73%	32%
4 AM	9	18	9	4	1	0	42		33	15	78%	35%
5 AM	20	36	20	6	1	0	83		63	27	76%	32%
6 AM	38	70	35	5	1	0	149		111	41	74%	27%
7 AM	73	93	40	5	0	0	210		137	45	65%	21%
8 AM	143	125	29	3	0	0	299		157	32	52%	11%
9 AM	196	144	28	5	0	0	373		177	33	47%	9%
10 AM	240	131	31	3	1	0	405		164	34	41%	8%
11 AM	239	134	28	3	1	0	403		165	31	41%	8%
12 PM	247	132	21	2	1	0	402		155	23	38%	6%
1 PM	223	129	33	3	0	0	387		165	36	43%	9%
2 PM	223	132	21	4	0	1	380		157	26	41%	7%
3 PM	168	137	33	6	1	0	345		177	40	51%	11%
4 PM	162	127	31	3	1	0	324		161	35	50%	11%
5 PM	171	107	32	5	1	0	316		145	38	46%	12%
6 PM	128	108	30	5	0	0	271		143	35	53%	13%
7 PM	131	78	17	2	0	0	228		97	19	42%	8%
8 PM	98	46	10	2	0	0	156		58	12	37%	8%
9 PM	71	44	11	1	0	0	127		56	11	44%	9%
10 PM	41	33	11	1	0	1	87		46	13	53%	15%
11 PM	21	23	8	2	0	0	53		32	9	60%	17%
Daily Average	***2,673***	***1,886***	***489***	***71***	***9***	***3***	***5,130***		***2,457***	***571***	***48%***	***11%***

*Cells shaded red are the top five speeding hours

N Green St Average Weekend Speed Counts | Speed Limit: 35 MPH | Direction: Southbound

Time	≤ 35 MPH	36-40	41-45	46-50	51-55	> 56 MPH	Hourly Average		Hourly Average Speeders	Hourly Average High Speeders	% Over Speed Limit	% 5 MPH Over Speed Limit
12 AM	24	29	7	3	1	0	64		40	11	63%	18%
1 AM	13	17	7	1	0	0	37		25	8	66%	22%
2 AM	7	9	5	1	0	0	22		15	6	67%	27%
3 AM	4	7	4	1	0	0	16		12	5	77%	31%
4 AM	6	5	1	0	0	0	12		7	2	55%	16%
5 AM	9	13	9	1	1	0	32		24	11	74%	34%
6 AM	23	28	16	6	1	0	74		50	23	68%	31%
7 AM	59	51	26	6	1	1	143		84	33	59%	23%
8 AM	94	90	34	4	0	0	222		129	38	58%	17%
9 AM	144	110	26	2	0	0	281		138	28	49%	10%
10 AM	210	120	32	4	0	0	365		155	35	42%	10%
11 AM	235	141	34	6	0	0	415		180	39	43%	9%
12 PM	264	122	34	3	0	0	423		158	37	37%	9%
1 PM	242	130	36	2	0	0	410		168	38	41%	9%
2 PM	212	141	31	2	0	0	385		173	33	45%	8%
3 PM	209	148	35	3	0	0	395		186	38	47%	10%
4 PM	199	126	36	4	0	0	365		166	40	45%	11%
5 PM	173	130	28	4	0	0	336		162	32	48%	10%
6 PM	145	132	32	4	1	0	314		169	37	54%	12%
7 PM	148	93	21	2	0	0	263		115	23	44%	9%
8 PM	110	67	16	2	0	0	194		84	18	43%	9%
9 PM	77	63	12	1	0	0	154		77	13	50%	9%
10 PM	59	55	12	1	0	0	127		69	14	54%	11%
11 PM	29	40	11	3	1	0	83		54	14	65%	17%
Daily Average	***2,691***	***1,864***	***503***	***62***	***6***	***2***	***5,128***		***2,437***	***573***	***48%***	***11%***

Potential Funding Sources to Assist with Complete Streets, Placemaking, and Infrastructure Improvement Projects

Name	Funding Agency	Purpose	Eligibility Description
Local Bicycle and Pedestrian Planning Assistance Program	NJDOT	Provides municipalities with consultant expertise to develop circulation elements and other transportation-related initiatives.	New Jersey municipalities
Local Lead	NJDOT	Provides funding for design, right-of-way, or construction of projects located on roads with functional classifications other than rural minor collector, rural local collector, or urban local, or part of the National Highway System (NHS).	New Jersey municipalities and counties
Local Scoping	NJDOT	Funds projects located on the National Highway System or an eligible Federal Aid road through preliminary engineering and the National Environmental Policy Act.	New Jersey municipalities and counties
Locally Initiated Pedestrian Projects	NJDOT	Provides funds for municipalities and counties for pedestrian access construction.	New Jersey counties and municipalities
Safe Routes to School	NJDOT	Enables safer and more appealing transportation alternatives.	New Jersey municipalities or counties
Bikeway Grant Program	NJDOT	Provides funding to construct dedicated bike paths.	New Jersey counties and municipalities
Comprehensive Traffic Safety Program	New Jersey Division of Highway Traffic Safety	Addresses traffic safety concerns.	New Jersey municipalities and counties, law enforcement agencies, and non-profits
Local Aid Infrastructure Fund	NJDOT	Provides funding for emergencies as well as for pedestrian safety and bicycle projects.	New Jersey municipalities and counties
Local Technical Assistance Program – New Jersey	NJDOT	Provides municipalities with consultant expertise to address local transportation and quality-of-life issues.	New Jersey municipalities