SOMERS POINT

Bicycle and Pedestrian Circulation Study

December 2014

Parsons Brinckerhoff | New Jersey Department of Transportation | Somers Point City

DISCLAMER

NJDOT provides the information and recommendations contained in these Local Bicycle and Pedestrian Studies as a service to local communities. The Department and its consultants strive to provide quality planning studies that include a range of recommended improvements, but make no claims, promises, or guarantees about the availability of funding to complete the projects recommended.

PARSONS BRINCKERHOFF

SOMERS POINT
NEW JERSEY

SOMERS POINT

BICYCLE AND PEDESTRIAN CIRCULATION STUDY

ABOUT THIS PLAN

The City of Somers Point sought to develop a plan for bicycle and pedestrian circulation that accommodates access and provides connections to key generators of non-motorized traffic. The plan is anticipated as a framework plan to guide the development of improvement concepts and policies, and to support planning and implementation of bicycle and pedestrian improvements for the city. Somers Point has indicated their commitment to improving conditions for non-motorized traffic through their Complete Streets Policy, passed in September 2012.

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1 INTRODUCTION

The City of Somers Point in Atlantic County has undertaken the development of a bicycle and pedestrian circulation plan as part of the New Jersey Department of Transportation's (NJDOT) Local Bicycle/Pedestrian Planning Assistance Program, which seeks to foster the development of non-motorized transportation modes in accordance with statewide goals and local needs.

This study is being conducted concurrently with the City's Master Plan update, and seeks to support its objective of making Somers Point a more walkable and bikeable community. Somers Point adopted a Complete Streets policy in 2012 to provide access for all users in the design and implementation of transportation options in the City; this study furthers the goals of the policy.

This report provides an overview of the existing conditions for bicyclists and pedestrians in Somers Point. It includes an analysis of crash data, identification of key pedestrian and bicycle traffic generators, assessment of existing infrastructure, review of key corridors and intersections for non-motorized traffic within the City, and a review of bicycle compatibility of major roadways within the City. Further, this report highlights the improvement recommendations developed by the project team to improve conditions for bicyclists and pedestrians within the City of Somers Point. These recommendations are based on the analysis in the Existing Conditions Technical Memorandum, and input from the Stakeholder Advisory Committee. The proposed improvement concepts focus on the "4 E's" – Engineering, Education, Enforcement, and Encouragement. Through this holistic approach, the education, encouragement, and enforcement recommendations focus on policy and program options to improve safety and foster bicycle and pedestrian travel throughout the City, while the engineering recommendations identify physical infrastructure improvements at priority locations. These recommendations will improve mobility and safety for all travelers and travel modes.

2 BACKGROUND

Somers Point is a compact, densely populated community along the Jersey Shore. Its proximity to other major Shore destinations, accessibility via the Garden State Parkway, and regional commercial shopping centers along U.S. Route 9 create unique seasonal traffic patterns through the City. Additionally, the City's waterfront, historic district, and location at the hub of a regional off-road multi-use path network spur demand for walking and biking in the City.

Somers Point covers 5.16 square miles (22% of which is water) and has a population of 10,795 residents (2010 U.S. Census). The City's population density, 2,679 persons per square mile, makes it among the most densely populated municipalities in Atlantic County (county population density of 450 persons per square mile), and more than double the statewide average of 1,196 persons per square mile.

Somers Point is located on a peninsula bounded by the Great Egg Harbor Bay to the east and south, Patcong Creek to the west and the City of Linwood to the north. The wetlands and waterfront surrounding the peninsula are a resource that supports recreational and commercial activities, but is also a geographic barrier to regional travel. With the exception of connections to the north, all regional traffic is funneled through several bridge crossings, the most prominent of which for cyclists and pedestrians is the NJ Route 52 Causeway. Somers Point is a gateway for traffic bound to/from Ocean City to the east, which attracts high seasonal volumes of motorists, bicyclists, and pedestrians. The causeway is also linked to Garden State Parkway interchange 30 approximately 1.3 miles to the west via NJ Route 52 and West Laurel Drive, a local roadway. U.S. Route 9 (New Road) is the principal north-south arterial through the City. High traffic volumes and speeds at the approach to the causeway and along the U.S Route 9 corridor are barriers for bicycle and pedestrian circulation through the City.

Somers Point also is at the nexus of the region's off-road trail network. The Somers Point Bike Path, which provides an off-road north-south alternative parallel to U.S. Route 9, terminates 900 feet to the north of the NJ Route 52 Causeway, which has a multi-use path to connect bicyclists and pedestrians from Somers Point to Ocean City. A future multi-use path is planned as a part of the Great Egg Harbor bridge replacement project, which will provide a connection from the southern edge of the city to the south. While the trail network is an immense asset for biking and walking within the city and the region, connections between the trails can be improved.

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FIGURE 2-1 | LOCATION

Somers Point is predominantly residential, with commercial activity generally clustered along the U.S. Route 9 corridor. Residences are generally dense, detached housing. The City is mature and essentially fully built-out; the population reached 10,330 residents by 1980, in-line with the most recent census. Sections of the City, particularly between U.S. Route 9 and the eastern waterfront, were laid out in a traditional neighborhood development pattern, which generally follows a basic grid, offering varying levels of connectivity and mobility options. Other portions of the City have neighborhood development patterns with less connectivity, geographic constraints such as inlets and wetlands, or land uses like the Greate Bay Country Club that limit connectivity and mobility options. Somers Point's location and principal roadways are depicted in Figure 2-1.

PREVIOUS STUDIES

ATLANTIC COUNTY BICYCLE FACILITIES INVENTORY, JUNE 2010

Developed by Cross County Connection, the Atlantic County Bicycle Facilities Inventory is an inventory of existing and proposed bicycle facilities in Atlantic County. It is an update of the 2005 version of the publication. Within Somers Point, the report notes 1.25 miles of off-road paths (Somers Point Bike Path), 0.31 miles of proposed off-road paths (extension of Somers Point Bike Path), and 4.69 miles of proposed on-road facilities (U.S. Route 9, NJ Route 52, NJ Route 152, and West Laurel Drive). Information in the inventory was based on surveys completed by the municipalities.

SOMERS POINT VISION PLAN, FEBRUARY 2012

The Somers Point Vision Plan outlines key goals, objectives, and guidelines for future development, redevelopment, and infrastructure improvements in the City, several of which impact walking and biking. Specific bicycle and pedestrian objectives include completing the sidewalk network along U.S. Route 9, providing more signalized crossings of U.S. Route 9 to improve cross-town mobility, improving pedestrian crossings along Shore Road and Bethel Road, completing the Somers Point Bike Path to the NJ Route 52 Causeway, creating a bicycle and pedestrian crossing of the Greate Bay Country Club to improve connectivity, access management along U.S. Route 9, and traffic calming along Shore Road. The Plan also emphasizes commercial redevelopment along the U.S. Route 9 corridor and redevelopment of Bay Avenue as a harbor-side destination. Improved biking and walking would be an important component of these redevelopment objectives.

BICYCLE AND PEDESTRIAN CONDITIONS ASSESSMENT AND RECOMMENDATIONS FOR US ROUTE 9 – SOMERS POINT-MAYS LANDING ROAD TO GARDEN STATE PARKWAY, 2013

The 2013 study evaluated alternatives for improving pedestrian and bicycle access along U.S. Route 9 from Somers Point-Mays Landing Road to the Garden State Parkway (GSP). Improvements will support access to the planned replacement of the Great Egg Harbor Bay Bridge, which will include bicycle and pedestrian facilities. Recommendations included the installation of sidewalks, cycle track, an enhanced crossing, improved lighting, and reducing the speed limit along U.S. Route 9. Since the 2013 study was recently completed, evaluating the segment of U.S. Route 9 approaching the GSP in detail, this current study will not focus extensively on additional improvements to that area.

BICYCLE AND PEDESTRIAN CONDITIONS ASSESSMENT - SOMERS POINT BIKE PATH GAP, AUGUST 2013

The 2013 study evaluated the missing connection between the Somers Point Bike Path and the NJ Route 52 Causeway and developed recommendations to extend the Somers Point

Bike Path along the northern edge of the Atlantic County Historical Society property and improve wayfinding.

STRATEGIC RECOVERY PLANNING REPORT, JANUARY 2014

The Strategic Recovery Planning Report contains recommendations for rebuilding Somers Point and improving the resiliency of its infrastructure after Superstorm Sandy. The Plan recommended this current study to evaluate bicycle and pedestrian issues City-wide and develop an implementation strategy to enhance accessibility in the community. Consistent with the Vision Plan, it also noted corridor improvements on U.S. Route 9 and Bay Avenue and a harbor-walk linking the NJ Route 52 Causeway to the municipal beach.

SOMERS POINT MASTER PLAN REEXAMINATION, ON-GOING

Concurrent with this study, Somers Point is reexamining its Master Plan. Last updated in 2006, the current reexamination is focusing on the main themes of the 2012 Vision Plan, including commercial redevelopment along U.S. Route 9, an improved waterfront along Bay Avenue, and completing connections between the multi-use path network.

PREVIOUS GRANT APPLICATIONS

Somers Point has previously applied for several grants relating to bicycle and pedestrian issues and improvements within the City. In 2013, the City applied for an NJDOT Bikeway Grant to build the final section of the Somers Point Bike Path, connecting the existing southern terminus of the trail to the NJ Route 52 Causeway. In 2014, the City applied for a Safe Routes to Transit Grant to make improvements to the intersection of U.S. Route 9 at Groveland Avenue, which is adjacent to a NJ Transit bus stop and the chARTer~TECH High School. Proposed improvements included pedestrian signal heads with countdown timers, ADA-compliant ramps, new crosswalks, and electrical upgrades. NJDOT previously committed to the project in 2008, but it has been delayed due to funding constraints.

3

STUDY METHODOLOGY

The study methodology has several components to better understand existing bicycle and pedestrian mobility in Somers Point and to target more detailed field evaluation efforts. The project team gathered information on bicycle and pedestrian attractors and generators, crash history, key elements of the roadway network within the City, and roadway bicycle compatibility. These components of the study were mapped to illustrate the existing bicycle and pedestrian network, to identify crash "hot spots" where bicycle and pedestrian crashes may be clustered, and to determine areas of confluence among the study components that might indicate specific documented problems, inadequate bicycle and pedestrian facilities, or a combination thereof.

ATTRACTORS AND GENERATORS

Locations that could attract or produce a high number of pedestrian or bike trips were inventoried and mapped, as shown in Figure 3-1. Attractors and generators were sorted into the following categories:

- Schools – Children (an age group considered most at-risk) walking or biking to school
- Parks – Many users bike or walk to recreational facilities and many users are children
- Municipal Buildings – Libraries, post offices, and other public facilities
- Transit – Many transit riders arrive at bus stops by foot or bike
- Commercial – Some shoppers arrive on foot or by bike, but many park and still have to access stores by foot
- Marinas – Users of waterfront facilities have the option to walk or bike
- Historic District – Municipal asset where compact development patterns support walking and biking
- Hospital – Some visitors arrive on foot or by bike, but many park and still have to walk into the hospital or between surrounding offices and supporting facilities

As a compact, mature community, Somers Point has bicycle and pedestrian attractors throughout the City within walking or biking distance of residential neighborhoods. The neighborhood elementary schools are easily accessible for many residents, and the middle school is centrally located. High School students attend the Mainland Regional High School in Linwood. The high school is approximately 1.2

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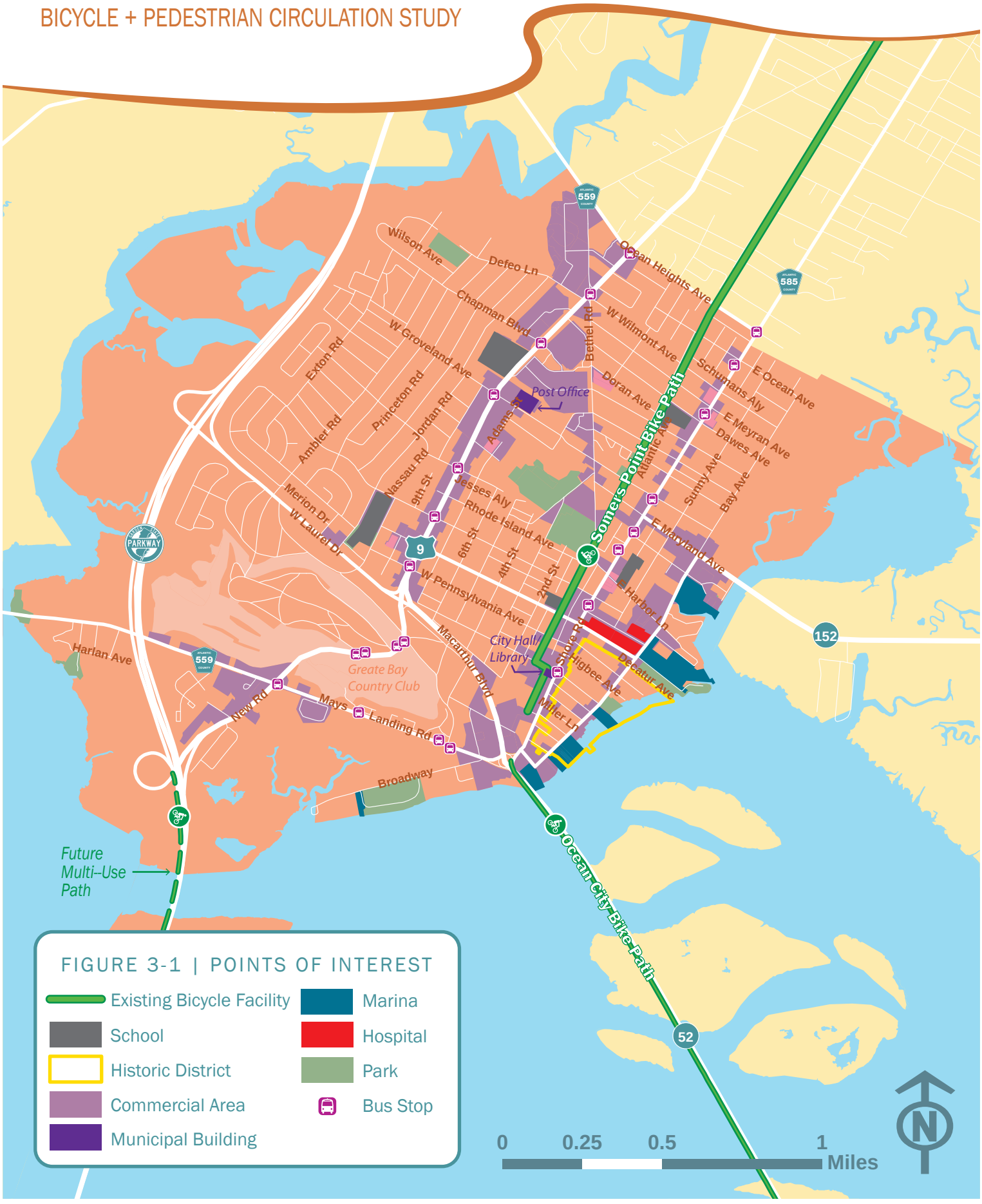

FIGURE 3-1 | POINTS OF INTEREST

- Existing Bicycle Facility
- School
- Historic District
- Commercial Area
- Municipal Building
- Marina
- Hospital
- Park
- Bus Stop

miles north of Somers Point and located along the Somers Point Bike Path, making it accessible by bike. Commercial activity is concentrated along the U.S. Route 9 corridor through the center of the City, with the most active shopping centers located between Groveland Avenue and Ocean Heights Avenue. Land uses within the southeastern section of the city are more varied but likely generate significant amounts of bicycle and pedestrian activity, including commercial properties, the historic district, the Shore Medical Center, waterfront uses, and trail heads for the city's two multi-use paths. Additionally, Ocean City via the NJ Route 52 Causeway is a significant external attractor for both recreational and employment-related trips, influencing seasonal bicycle and pedestrian activity in this section of the City.

There are fewer generators south of West Laurel Drive / NJ Route 52, as development patterns are less dense in that area, and the Greate Bay Country Club separates this area from the rest of the City.

Many transit users walk or bike as part of their journey, making the modes complementary. Somers Point is serviced by two NJ Transit bus routes. The 507 bus traverses Somers Point via Shore Road, providing local connections to Ocean City and Atlantic City. The 509 bus traverses Somers Point via U.S. Route 9 and Somers Point – Mays Landing Road. Service on both routes is approximately hourly, with higher frequency on the 507 line during peak hours. Within Somers Point, stops are denoted only by a post/sign - there are no shelters and few other user amenities such as benches.

CRASH LOCATIONS

The project team reviewed City-wide NJDOT crash data to identify the location of recent bicycle and pedestrian crashes and potential areas where repeated incidents or crash clusters may have occurred. The analysis included data for 2006-2013 (inclusive), during which, 34 crashes involving pedestrians and 31 crashes involving bicyclists (pedalcyclists) were identified.

The crash locations are shown in Figure 3-2, overlaid with the pedestrian and bicycle attractors and generators. The highest concentration of crashes occurred along the City's main arterial (U.S. Route 9). Crashes were generally distributed along roadways rather than occurring in clusters. Intersections with more than two crashes include: NJ Route 52 at Somers Point – Mays Landing Road / Shore Road (three pedestrian crashes, two pedalcyclist crashes), U.S. Route 9 at Chapman Boulevard (two pedestrian crashes, one pedalcyclist crash), and U.S. Route 9 at Bethel Road (four pedalcyclist crashes). However, given the eight-year analysis period, none of these locations are classified as "hot spots."

CRASH ANALYSIS

The project team also analyzed City-wide bicycle and pedestrian NJDOT crash data in order to identify any common roadway, environmental, behavioral, or demographic factors in the data. Trends revealed in this data could indicate areas where targeted engineering or educational strategies might improve pedestrian and bicyclist safety.

As shown in Chart 3-1, approximately 74% of pedestrian crashes (25) occurred at midblock locations, while the remaining 26% (9 crashes) occurred at intersection locations. This is slightly greater than the larger statewide trend during the same analysis period, where 61% of all pedestrian crashes occurred at midblock locations. The trend among pedalcyclist crashes was similar, with 65% (20 crashes) occurring at midblock locations, while 35% (11 crashes) occurred at intersections. This pattern exceeds the statewide trend for all pedalcyclist crashes (45% at midblock locations,

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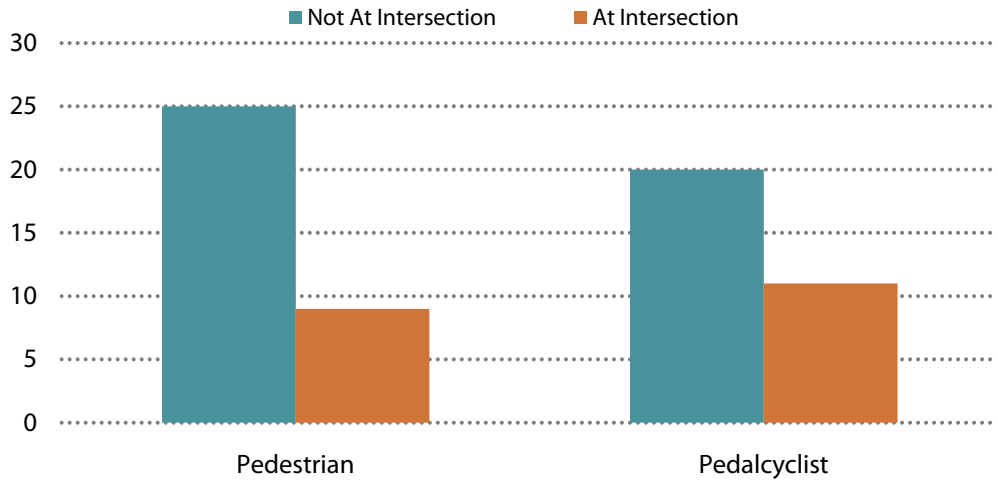
FIGURE 3-2 | CRASH ANALYSIS

2006-2013

- Pedalcyclist
- Pedestrian
- Destination

Chart 3-1 | Crash Distribution by Location Type



55% at intersection).

As shown in Chart 3-2, lighting was not a major factor in pedestrian crashes. Two-thirds (22 crashes, 65%) occurred during daylight conditions. This is comparable to the statewide trend, where 61% of all pedestrian crashes from 2006-2013 occurred during daylight conditions. Similarly, the majority of pedalcyclist crashes occurred during daylight (24 crashes, 77%), consistent with the statewide trend (75%).

The 65 pedestrian and pedalcyclist crashes reported during the analysis period involved 83 victims: the 34 pedestrian crashes involved 50 pedestrians and the 31 pedalcyclist crashes involved 33 pedalcyclists. There were no fatal crashes and one of the pedestrian crashes involved a severe injury.

In general, the crashes involved a higher proportion of males than females. Among pedestrian crashes, 59% involved males, and the proportion was further skewed for pedalcyclist crashes, which involved approximately three times as many males as females. This is generally consistent with statewide and national trends, where males tend to be more frequently involved in pedestrian and pedalcyclist crashes. The proportion of male pedestrian crashes and pedalcyclist crashes in the City are both comparable to the statewide proportion (59% vs. 52% and 76% vs. 82%, respectively). Chart 3-3 illustrates the distribution of crashes by gender.

Crashes were also reviewed by the age distribution of the pedestrian(s) or bicyclist(s) involved. Pedestrian crashes were distributed fairly evenly among different age groups. Young people (ages 5- 24) were involved in 39% of all pedestrian crashes (20 crashes), with an even distribution among different school-age groups. Seniors (65+) were involved in three pedestrian crashes. Pedalcyclist crashes involved both young people and adults. Age groups with the largest number of crashes included ages 45-64 (8, 24%) and middle school aged children (ages 10-14; 6 crashes, 18%). The age distribution of crashes is illustrated in Chart 3-4.

An increase in crashes may be expected during the summer season (June-August) due to an increase in bicycle and pedestrian activity associated with the seasonal attractions and trip generators along the Jersey Shore, as well as warmer weather and school vacation. A review of the crash data indicates that a slightly higher portion of crashes occurred during the summer season; however, it was not significantly higher than the statewide average for the same period. For pedestrian crashes, 24% (8 crashes) occurred during the summer season, compared to 23% statewide. Pedalcyclist crashes tend to peak during the summer months. In Somers Point, June had the highest number of pedalcylist crashes (6). Overall, 14 pedalcyclist crashes (45%) occurred during the summer season, comparable to 42% statewide. The monthly

Chart 3-2 | Crash Distribution by Lighting Condition

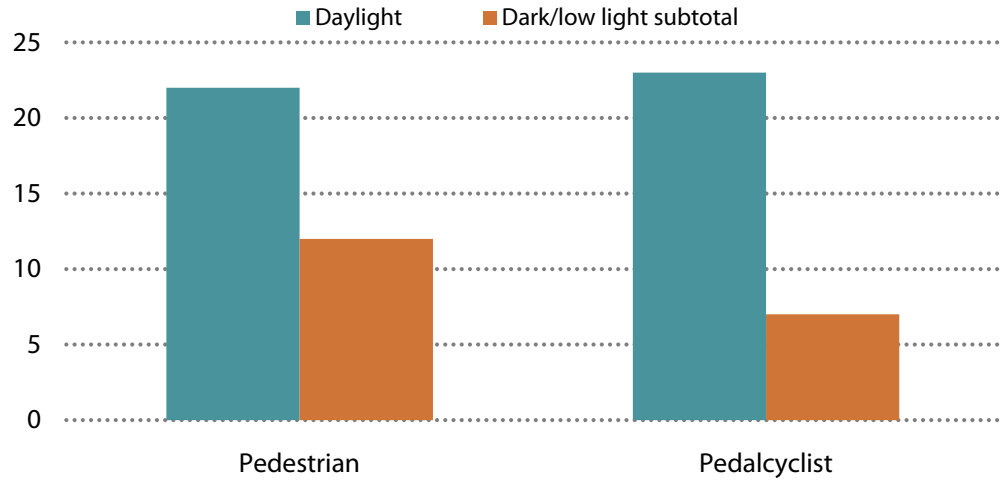


Chart 3-3 | Crash Distribution by Gender

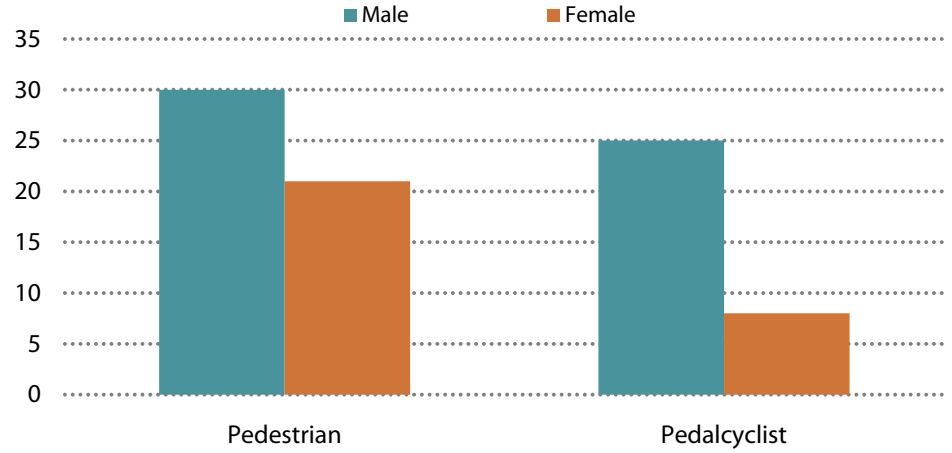


Chart 3-4 | Crash Distribution by Victim Age

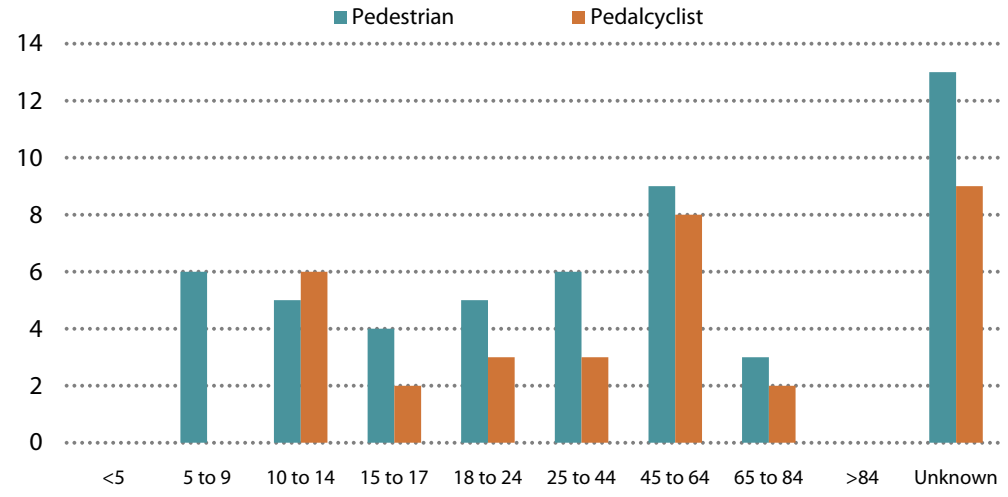
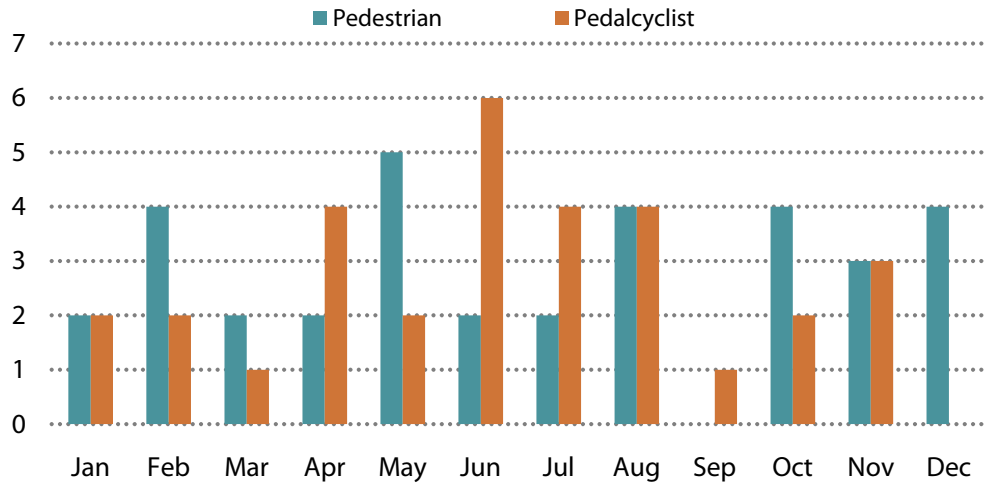


Chart 3-5 | Crash Distribution by Month



distribution of crashes is illustrated in Chart 3-5.

Crash reports identify up to two "contributing factors" by vehicles and up to two "contributing factors" by pedestrians/bicyclists that led to the crash. This information can identify behavioral factors contributing to crashes that could be addressed through engineering or education strategies. Among the 34 pedestrian crashes, 39 driver contributing circumstances were cited – 24 for "driver inattention", 9 for "failed to yield the right of way", 3 for "failed to obey traffic control device", and 2 for "backing unsafely". A variety of pedestrian contributing circumstances were cited, though there was no clear leading factor. Pedestrian factors cited in more than two crashes included: "running/darting across traffic" (4 crashes) and "dark clothing/low visibility to the driver" (3 crashes).

Among the 31 pedalcyclist crashes, 43 driver contributing circumstances were cited – 15 for "driver inattention", 5 for "failed to yield the right of way", 1 for "improper lane change", and 1 for "unsafe speed." Five different pedalcyclist actions were noted as contributing circumstances, including: "driver inattention" (11 crashes), "failed to yield the right of way" (5 crashes), "wrong way" (3 crashes), "failure to keep right" (1 crashes), and "failed to obey traffic control device" (1 crash). The crash data also indicated that alcohol was involved in 1 of the pedestrian crashes, and 1 of the pedalcylist crashes.

Crash data also identifies the "precrash action" of the pedestrian, bicyclist, and vehicle before the crash occurred. Among the 34 pedestrian crashes, 16 involved crossing actions - 7 "crossing at a marked crosswalk (at intersection)", 7 "crossing at an unmarked crosswalk (at intersection)", and 2 "crossing/jaywalking (at midblock)." Other pedestrian precrash actions with more than one instance included "standing/lying/kneeling in road" (3 crashes) and "walking/jogging with traffic" (2 crashes) and "coming from behind parked vehicle" (2 crashes). None of the crashes involved "walking to/from school." The most common vehicle precrash actions were "going straight ahead" (13 crashes), "making left turn" (10 crashes), making right turn (not turn on red) (5 crashes), and "backing" (4 crashes).

Among the 31 pedalcylist crashes, most bicyclists and drivers were typically traveling straight ahead at the time of the crash (17 and 11, respectively). The only other pedalcylist action with more than one occurrence was "merging/entering traffic lane" (2 crashes). Vehicles making left-turns were involved in 7 crashes, and vehicles making right-turns (not on red) were involved in 6 crashes.

The crash data is summarized in Table 3-1.


Historic Bay District
SOMERS POINT
MARINA
609-927-5900
YAMAHA
HONDA marine


BIKE XING


ave sushi


SOMERS POINT
HISTORIC BAY
DISTRICT

Table 3-1 | 2006 – 2013 Pedestrian and Pedalcyclist Crash Data Summary

Crash Type	Total	% of Total
Pedestrian	34	52%
Pedalcyclist	31	48%
Total	**65**	**100%**

Crash Type	Severity	Total	% of Total
Pedestrian	**Incapacitated**	1	2%
	Moderate Injury	15	30%
	Complaint of Pain	20	40%
	Unknown	14	28%
	Total	**50**	**100%**

Crash Type	Severity	Total	% of Total
Pedacyclist	**Incapacitated**	0	0%
	Moderate Injury	5	15%
	Complaint of Pain	12	36%
	Unknown	16	48%
	Total	**33**	**100%**

Crash Type	Location	Total	% of Total
Pedestrian	**At Intersection**	9	26%
	Not At Intersection	25	74%
	Total	**34**	**100%**

Crash Type	Location	Total	% of Total
Pedacyclist	**At Intersection**	11	35%
	Not At Intersection	20	65%
	Total	**31**	**100%**

Crash Type	Lighting	Total	% of Total
Pedestrian	**Daylight**	22	65%
	Dawn, Dusk, or Dark	12	35%
	Total	**34**	**100%**

Crash Type	Lighting	Total	% of Total
Pedacyclist	**Daylight**	24	77%
	Dawn, Dusk, or Dark	7	23%
	Total	**31**	**100%**

Source: 2006-2013 NJDOT crash data

ADDENDUM:

During the course of the study, a pedestrian fatality occurred on Somers Point - Mays Landing Road. The crash occurred in the evening after dusk, and involved a 90-year-old male pedestrian crossing Somers Point - Mays Landing Road in the vicinity of Broadway and the Crab Trap restaurant. A further analysis of contributing factors could not be completed at the time of the study, as the police report for the crash was not available to the public.

PUBLIC INVOLVEMENT

A key element of the study was the involvement of Somers Point residents and stakeholders, who provided invaluable local qualitative information that may not have been represented through the numerous field visits and data analysis. Local input and feedback was gained via the local steering committee meetings and a public information center.

LOCAL STEERING COMMITTEE

The steering committee included representatives from the Somers Point City Council and Administration, the City's consultant engineer and planner, the Police Department, school representatives, Department of Recreation, Atlantic County Planning Department, Cross County Connection Transportation Management Association, and interested residents. The group met formally on three occasions to discuss the project:

- Kick-off Meeting: June 6, 2014 – Discussed goals and objectives of the study, gathered preliminary local input on major bicycle and pedestrian issues in the City, and discussed how the study would be integrated with the City's concurrent Master Plan update.
- Meeting 2: July 31, 2014 – Presented analysis of existing conditions and obtained feedback on data collection efforts, key bicycle and pedestrian generators, existing bicycle and pedestrian deficiencies, and other problem roadways and locations.
- Meeting 3: October 9, 2014 – Presented and gathered feedback on proposed bicycle and pedestrian improvement concepts.

The steering committee also provided anecdotal information throughout the project.

PUBLIC INFORMATION CENTER

A Public Information Center (PIC) was held on November 18, 2014 to provide local residents with the opportunity to review project efforts and provide feedback to the study team. Steering committee members were encouraged to attend the public open house to provide additional feedback as well. The PIC was held during the evening at the Jordan Road School. The City advertised the PIC through a variety of methods, including the Ocean City Sentinel and the Press of Atlantic City newspapers and 98.7 the Coast and 107.3 Cat Country radio stations. The PIC provided an informal setting for residents to come and go at their convenience; review the analysis and recommendations from the study; and engage with project staff to discuss the project, ask questions, and provide feedback. A series of eleven display boards illustrated the key findings on existing conditions for biking and walking in the City and highlighted proposed improvement concepts. A PowerPoint presentation also ran on a continuous loop, providing additional information on study recommendations. Attendees were asked to complete a comment form in order to document their feedback on the study findings. Approximatley 35 people attended the open house during the course of the evening.

Public involvement materials, including meeting minutes, presentations, handouts, and comment forms are included as appendices to this report.

Public Information Center at the Jordan Road School

4

EXISTING CONDITIONS

Crash data, trip generators, a review of the local roadway network, and initial input from City stakeholders provided during the kick-off meeting were analyzed together to identify candidate focus areas within the City for a more detailed field analysis. A focus area could be a crash "hot spot" where multiple crashes involving pedestrians or bicyclists occurred during the study period. For example, a high number of pedestrian crashes near a large generator (like a school) might indicate a recurring problem, or could be based on the expected travel patterns given the roadway network and generator locations.

Based on the analysis, the project team sought to gather more detailed information on the City's existing pedestrian and bicycle network in the following areas.

PEDESTRIAN FACILITIES

The project team collected detailed information at several corridors and spot locations throughout the City. The crash data indicated that there were no crash "hot spots." Instead they tended to be distributed along the main arterials, which also serve many of the key trip generators within the City, including commercial areas, schools, recreation, the waterfront, and government services. The corridors selected for further analysis are:

- U.S. Route 9 (New Road)
- NJ Route 52
- West Laurel Drive
- Somers Point-Mays Landing Road (CR 559)
- Shore Road (CR 585)
- Bay Avenue
- Bethel Road

These corridors tend to carry high vehicular traffic volumes that present barriers to pedestrian mobility. Therefore, the signalized intersections along these roads are critical nodes for pedestrian crossings. Pedestrian accommodations were reviewed at each, including:

- U.S. Route 9 (New Road) at Somers Point – Mays Landing Road (CR 559)
- U.S. Route 9 (New Road) at NJ Route 52 / West Laurel Drive
- U.S. Route 9 (New Road) at Connecticut Avenue
- U.S. Route 9 (New Road) at Groveland Avenue
- U.S. Route 9 (New Road) at Chapman Boulevard
- U.S. Route 9 (New Road) at Bethel Road
- U.S. Route 9 (New Road) at Ocean Heights Avenue

- NJ Route 52 at Somers Point – Mays Landing Road (CR 559) / Shore Road (CR 585)
- Shore Road (CR 585) at New York Avenue
- Shore Road (CR 585) at Maryland Avenue
- Maryland Avenue / NJ Route 152 at Bay Avenue
- Bethel Road at Groveland Avenue

Each corridor and spot location is described in more detail in the following sections. The corridors and spot locations were evaluated for appropriate pedestrian facilities and accommodations, including presence of shoulders (approximate widths), crosswalks, roadway widths/number of lanes, on street parking, drainage grates, speed limit, sidewalks, grading, lighting, driveways, ADA-compliant curb ramps, obstructions, and bus stops. Additionally, signalized intersections were examined for pedestrian signals (including the presence of MUTCD-compliant countdown pedestrian signal heads) and push buttons.

Crosswalk markings can be either lateral (perpendicular to the travel lanes and driver's field of vision) or longitudinal (parallel to the travel lanes and driver's field of vision). Standard crosswalks consist of two parallel lateral lines and are used at most signalized intersections. Longitudinal crosswalks include ladder or continental style striping. A ladder crosswalk looks like the name suggests – a pair of parallel lateral stripes connected with longitudinal stripes, while a continental crosswalk is a series of wide, longitudinal stripes that enhance crosswalk visibility by appearing larger and more visible to the driver at a distance than lateral markings.

NJ Transit bus stops were noted in the field where practicable.

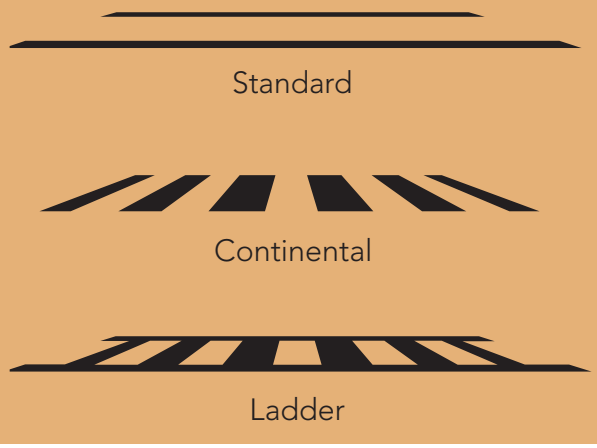
Figure 4-1 indicates the locations of the pedestrian corridors and intersections selected for analysis and field conditions evaluation.

BICYCLE FACILITIES

The project team evaluated the City's roadway network from the perspective of bicycle compatibility and level of stress. The bicycle compatibility analysis is based on NJDOT's guidelines and is reflective of engineering, design, and context criteria. The bicyclist level of stress analysis is reflective of how cyclists view and experience the roadway environment and how they choose routes based on the experience of comfort and stress level from exposure to vehicle speeds, volumes and relative proximity. Used in tandem, the two metrics form a complete picture the suitability of each in link in the roadway network for bicycling and identify areas for potential improvements. The location of non-bike-safe drainage grates and the location, type, and capacity of bicycle parking at trip generators within the City was also inventoried. The bicycle analysis is summarized starting on page 62.

CROSSWALK TYPES

Standard two-stripe crosswalks (such as shown on top) have low visibility to drivers as they approach the crossing. Crosswalks with longitudinal stripping (such as the bottom two) improve visibility to drivers from a greater distance, allowing greater reaction time and increased expectation of potential pedestrian crossing activity.



Pedestrians at the corner of Bay Avenue and Maryland Avenue

MULTI-USE PATHS

Somers Point's existing multi-use paths provide important off-road alternatives for biking and walking through the City. The project team evaluated the condition of the trail network, with particular focus on road crossings and connections between the paths. The multi-use path analysis is summarized in the following sections.

SCHOOL ACCESS

Given the relatively dense and traditional neighborhood development patterns of the City and the proximity of its schools to residential neighborhoods, safe bicycle and pedestrian access to the City's schools is vital. The crash analysis also indicated that multiple crashes occurred on roadways surrounding several of the schools, particularly crossings of U.S. Route 9 (New Road). Therefore the project team also assessed bicycle and pedestrian facilities and circulation patterns at each of Somers Point's schools.

The following sections detail the field observations and analysis for Pedestrian Facilities, Bicycle Facilities, Multi-Use Paths, and School Access in Somers Point.

PEDESTRIAN FACILITIES

SIDEWALK CHARACTERISTICS

Overall, Somers Point features a fairly consistent sidewalk network. Sidewalks exist on most local streets and there are few gaps in the sidewalk network along commercial corridors and primary roads. However, there are large gaps in sidewalk on U.S. Route 9 (New Road) due to wide commercial driveways, physical obstacles, or property owners who never constructed a sidewalk in front of their property. These gaps are noted in the Primary Corridors section.

Sidewalks are in a variable state of maintenance and repair throughout the City. In some cases, smooth concrete walkways provide a comfortable walking environment. In other locations, vegetation has overgrown the sidewalk or older surfaces have cracked and led to less walkable pedestrian environments.


Continental crosswalk along Bay Avenue near Shore Medical Center

SOMERS POINT

BICYCLE + PEDESTRIAN CIRCULATION STUDY

FIGURE 4-1 | KEY CORRIDORS AND INTERSECTIONS

- Signalized Intersection
- Prominent Corridor
- Destination

Primary Corridor

U.S. ROUTE 9 (NEW ROAD)

(MP 31.50 TO MP 34.57)

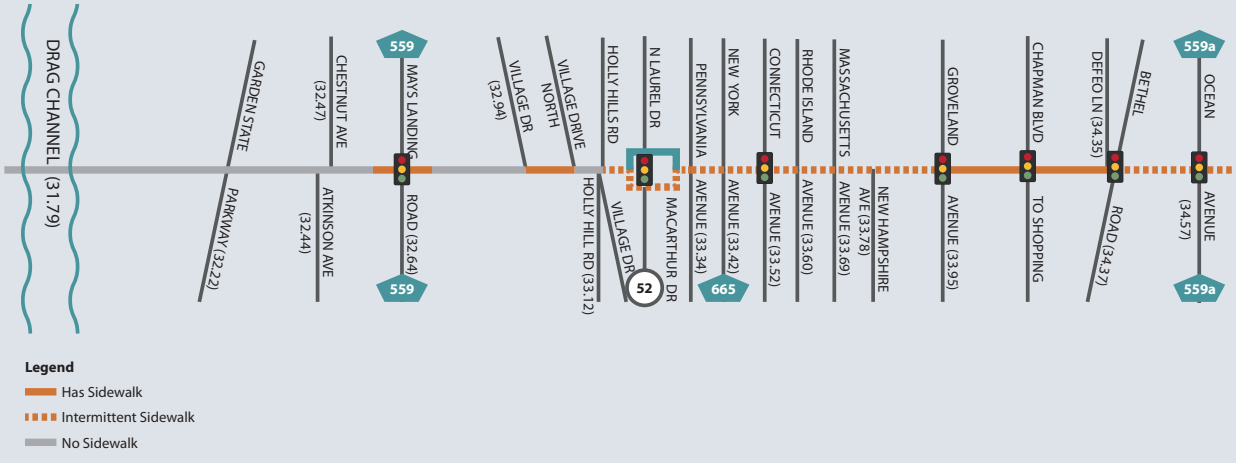
U.S. Route 9 (New Road) is the primary north-south arterial through the City, connecting Somers Point with the City of Linwood to the north and with a partial interchange with the Garden State Parkway (GSP) at the southern edge of the City. This heavily traveled urban arterial carries approximately 16,000 AADT through seven signalized intersections within the City. The shoulders are at least four feet wide throughout corridor, with the exception of the Bethel Road intersection, where center left turn lanes reduce the shoulder width to zero.

A partial access interchange between the GSP and New Road serves as the only access point for motorists traveling northbound on the GSP to enter Somers Point. Drivers exiting the northbound GSP at freeway speeds must immediately reduce their speed to 45 mph to travel through a residential neighborhood and golf course. On-street parking is not allowed along this section of the corridor. The sidewalk network is incomplete in this area, and opportunities for pedestrians to cross the roadway are limited. Sidewalk gaps are illustrated in the straight line diagram below. Curvature of the roadway in the area of many cross streets creates blind crossings for pedestrians.

North of the intersection with NJ Route 52, New Road becomes a primarily commercial corridor with high levels of vehicular, bicycle, and pedestrian activity along the roadway. The speed limit is 40 mph along this portion of the corridor and there are frequent side streets or mid-block driveway access points. The sidewalk network is largely complete in this portion of the corridor, with a four-foot wide sidewalk on both sides of the roadway. However, several significant gaps exist, most notably in the vicinity of the intersection with Bethel Road, and worn paths indicate unmet pedestrian demand. In other locations, particularly south of Groveland Avenue, there are several properties with wide, open access driveways without a delineated pedestrian area, creating numerous conflict points with turning vehicles and pedestrians. Additionally, distances between marked crosswalks often exceed a quarter of a mile, and wide driveways.

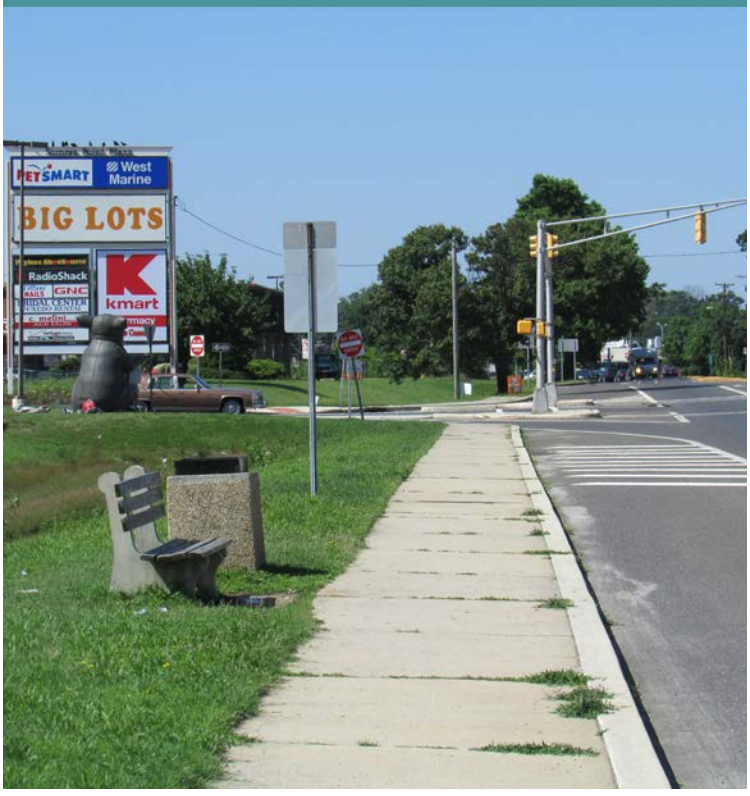
Crossings of side streets at unsignalized intersections and commercial driveways are typically unmarked, but include ADA-compliant curb ramps on most approaches. Lighting is primarily limited to utility pole mounted fixtures at intersections and a few major driveways, with minimal ambient light coming from adjacent developments.

STRAIGHT LINE DIAGRAM



U.S. Route 9 is a key north-south through road in Somers Point. The road is characterized by high automobile volumes and a high density of auto-oriented retail development. (U.S. Route 9 facing south)

Although pedestrian facilities can be found along U.S. Route 9, they are intermittent and inconsistent. This bus stop (shown below) is the only example of seating that was found at any bus stops along the corridor. This stop is not marked by any signage. (U.S. Route 9 facing south near Chapman Boulevard)



Missing sidewalk along U.S. Route 9, facing north

Pedestrians along U.S. Route 9 just beyond a missing sidewalk connection, facing north

Retail development along U.S. Route 9, facing south

Primary Corridor

NJ ROUTE 52

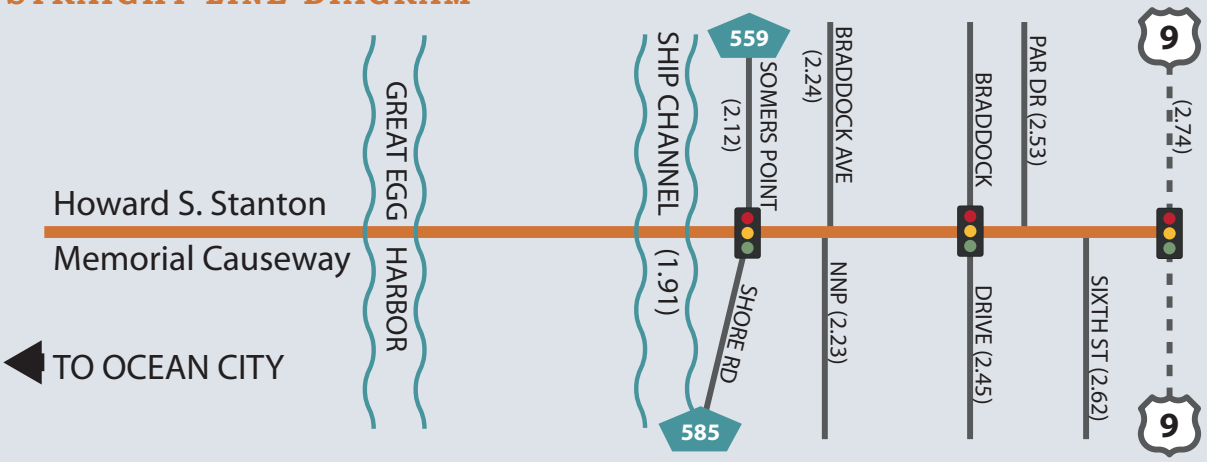
(MP 1.91 TO MP 2.74)

NJ Route 52 connects Somers Point to Ocean City via a two-mile long causeway over Great Egg Harbor Bay. The causeway features a four-lane cross section with speed limit 40 mph and carries approximately 15,000 AADT. There is also a multi-use path on the bridge, detailed on page 70. As motorists travel westbound across the bridge and enter Somers Point, they encounter the recently constructed signalized intersection with Somers Point-Mays Landing Road and Shore Road, which replaced the Somers Point Circle.

Beyond this intersection, the roadway transitions to a three-lane cross section with the middle lane designated for two-way left-turning traffic. There is a signalized intersection at Braddock Drive that includes striped standard crosswalks and pedestrian signal heads. There are four unsignalized intersections with cross streets and numerous commercial driveways in the remaining 0.6 miles before NJ Route 52 terminates at the signalized intersection with U.S. Route 9 (New Road). Roadway shoulders are approximately 10 feet wide on both sides of the roadway and on-street parking is not allowed on the shoulder.

The sidewalk network is nearly complete along the corridor with a six-foot wide path through a landscaped area adjacent to the roadway. There are marked crosswalks at each of the three signalized intersections, but limited pedestrian crossing opportunities elsewhere in the corridor. During the field observation, pedestrians and cyclists were observed crossing NJ Route 52 at multiple locations away from marked crosswalks. Most of the side street and driveway pedestrian crossings feature ADA-compliant curb ramps. Lighting is provided via utility pole mounted fixtures at key intersections.

STRAIGHT LINE DIAGRAM



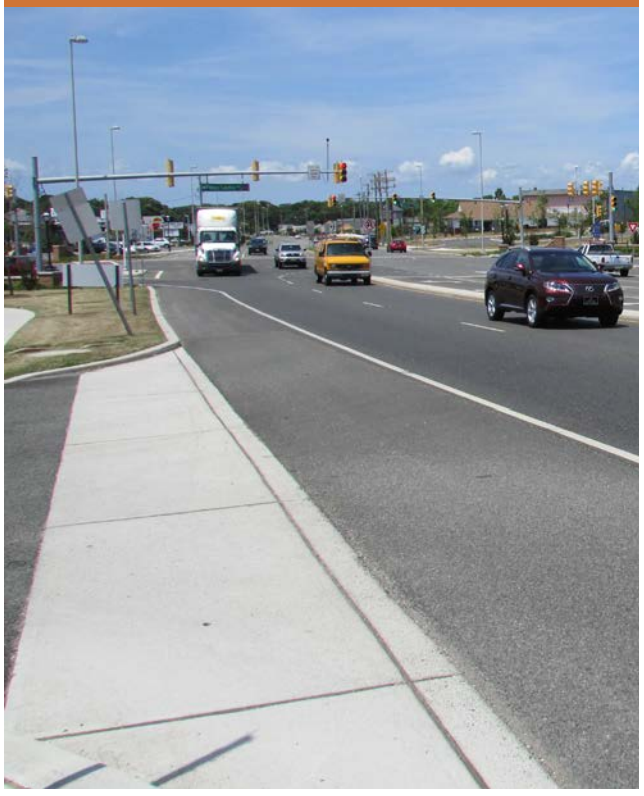
NJ Route 52 connects Somers Point to Ocean City via a 2-mile long causeway. The causeway features a 10-foot wide path for use by both bicyclists and pedestrians. (NJ Route 52, facing east)

The intersection of NJ Route 52 and Braddock Drive was recently upgraded with striped crosswalks and pedestrian signal heads with countdown timers. The wide roadway cross section and slight intersection skew, however, create long crossing distances. (NJ Route 52, facing west)

The wide intersection of NJ Route 52 and Shore Road (CR 585) features stamped brick crosswalks and pedestrian signal heads with countdown timers (NJ Route 52, facing east)

Cyclist using under-bridge pathway to access Ocean City Bikeway, facing east

NJ Route 52 approach to causeway, facing west



Primary Corridor

WEST LAUREL DRIVE

(MP 0.0 TO MP 0.65)

West Laurel Drive is a residential street which is the primary access point into Somers Point from the GSP southbound, ultimately providing a link to the NJ Route 52 Causeway to the City of Ocean City. The two-lane street has a posted speed limit of 25 mph, but carries approximately 10,700 AADT, making it one of the most heavily traveled streets in the City. Motorists traveling southbound on the GSP encounter the Exit 30 toll plaza and then slow to pass seven unsignalized intersections en route to the terminus of the corridor at the signalized intersection with U.S. Route 9 (New Road). Roadway shoulders are eight feet wide on either side of the travel lanes. On-street parking is permitted on the shoulder, but during field observations, few vehicles were parked along the roadway.

The sidewalk network is complete along the corridor, with four-foot wide concrete sidewalks on both sides of the roadway. Several crosswalks, marked with continental striping, were noted at prominent side streets with retro-reflective signage, but there are no signalized crosswalks between the GSP toll plaza and the signalized intersection with U.S. Route 9. Pedestrian crossings at side streets are largely marked with standard crosswalk striping and feature ADA-compliant curb ramps at most approaches. Pedestrian-scale lighting along the corridor is limited.

West Laurel Drive carries a high volume of seasonal visitors to shore points, who are often unfamiliar with the roadway, and who may not be expecting to encounter a low-speed residential roadway as they enter Somers Point. The speed limit is indicated on numerous signs and roadway striping, but proximity to the GSP seems to contribute to many vehicles traveling above the posted speed along the corridor. The City also uses movable radar speed signs to educate drivers, raise awareness of the speed limit, and attempt to slow vehicle speeds.

STRAIGHT LINE DIAGRAM

Land uses along West Laurel Drive are predominately residential (West Laurel Drive, facing east)

Continental crosswalk striping can be found at several intersections along West Laurel Drive. (West Laurel Drive, facing west)

West Laurel Drive's connection to the Garden State Parkway contributes to high traffic volumes along the corridor. (West Laurel Drive, facing west)

Speeding is a concern along West Laurel Drive. The 25 mph speed limit is frequently posted via both pavement markings and roadside signage (West Laurel Drive near GSP toll plaza,facing east)

Primary Corridor

SHORE ROAD (CR 585)

(MP 0.0 TO MP 1.53)

Shore Road (CR 585) is a major north-south roadway linking Somers Point with the NJ Route 52 Causeway to the south and the City of Linwood to the north. The two-lane roadway has a posted speed limits varying between 30 and 35 mph and carries approximately 9,900 AADT with no shoulders along most of the corridor. Motorists traveling northbound on CR 585 from NJ Route 52 encounter two signalized intersections within the City. Overall, the corridor is a densely developed residential and commercial arterial with many side streets and driveways. Due to the offset nature of some side streets and the high number of driveways, the corridor experiences a very high number of vehicle turning movements.

The sidewalk network is complete with four-foot concrete walkways on both sides of Shore Road along the whole length of the corridor. The majority of the sidewalks in the corridor are adjacent to the roadway with no buffer. Some crosswalks are marked with continental striping, but many pavement markings are faded and pedestrian signage is limited. There are several NJ TRANSIT bus stops serviced by the #507 bus along Shore Road. Bus stops in the corridor consist largely of a sign with no bench or shelter for riders. There are several notable trip generators located along the Shore Road corridor including the Shore Medical Center and the City Municipal Complex, which includes City Hall and the library. Lighting is provided via utility pole mounted fixtures, primarily at intersections.

STRAIGHT LINE DIAGRAM

Shore Road is characterized by the wide variety of land uses and users it serves. It is a mixed residential/commercial road and a major connector between NJ Route 52 to the south and the City of Linwood to the north. (Shore Road, facing north)

Continental striped crosswalk along Shore Road, facing north

Typical bus stop along Shore Road, facing north

Busy intersection at the corner of Shore Road and Maryland Ave, facing south

Primary Corridor

BAY AVENUE

(MP 0.0 TO MP 0.79)

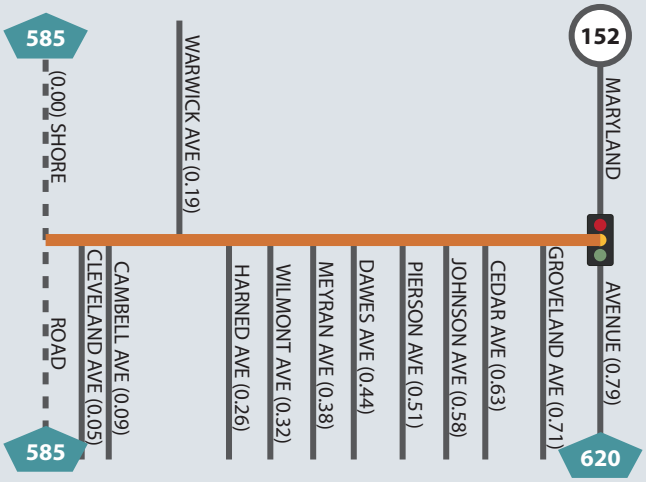
Bay Avenue is a north-south route that provides access from Shore Road near the NJ Route 52 Causeway back to Shore Road at Ocean Avenue, near the northern edge of the City. The two-lane, 25 mph street carries approximately 5,000 AADT and serves as an important commercial access roadway and alternate route to the more heavily traveled U.S. Route 9 and Shore Road corridors.

Bay Avenue is the spine of the Bay Front Historic District. The district includes several restaurants, businesses, marinas and a municipal beach park, all of which serve as major trip generators within the City. On-street parking is permitted on both sides of the roadway, but anecdotal evidence suggests that demand for parking during peak times exceeds the available capacity.

The sidewalk network in the commercial district is complete and features unique, context appropriate pedestrian infrastructure, including brick sidewalks, crosswalks, and landings. Most crosswalks are enhanced with signage alerting motorists to the presence of pedestrians. However some of the signage is outdated featuring instructions to "yield to pedestrians in crosswalk" instead of the current state law requiring vehicles to "stop for pedestrians in crosswalk". Some of the brick curb ramps are not ADA-compliant since they lack a textured warning surface. Pedestrian-scale lighting is provided via ornate light poles consistent with other treatments found in the Historic District.

North of the Bay Front Historic District, motorists pass the Shore Medical Center, the largest employer in Somers Point, and continue across Maryland Avenue into a residential area. An environmentally sensitive area with views of Steelman Bay and its surrounding marshes abuts the roadway to the east in this northern portion of the corridor. Traffic volumes are generally considerably lower in this portion of the corridor. The sidewalk network is incomplete, but unmet pedestrian demand is indicated by worn paths through properties with no sidewalks. Outdated infrastructure in this area includes a lack of ADA-compliant curb ramps and several non-bike-safe drainage grates.

STRAIGHT LINE DIAGRAM



Bay Avenue is the primary road through the Bay Front Historic District and provides access to the City's waterfront. The corridor is frequently used by cyclists and pedestrians (Bay Avenue, facing north)

Stamped brick crosswalk treatments are typical along the corridor (Bay Avenue at Higbee Avenue, facing north)

Continental crosswalk near the Shore Medical Center, facing north-west

View overlooking wetlands along the northern end of Bay Avenue (facing north-east)

Cyclist on Bay Avenue, facing north

The many marinas located along Bay Avenue are major seasonal attractions in Somers Point (facing east)

Primary Corridor

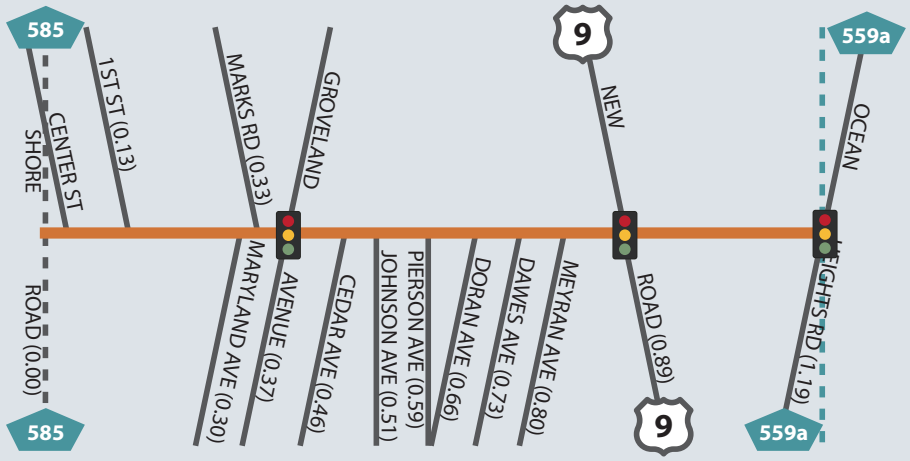
BETHEL ROAD

(MP 0.0 TO MP 1.19)

Bethel Road is a local north-south roadway that serves as a connection between U.S. Route 9 and Shore Road. The two-lane cross section features a 25 mph posted speed limit and carries approximately 13,500 AADT with shoulders ranging between zero and four feet in width. The roadway is at an angle compared to the rest of the grid street network, which creates many skewed intersections and roadway junctions at sharp angles. Motorists encounter three signalized intersections between Shore Road and Ocean Heights Avenue, including the challenging skewed intersection with U.S. Route 9. The corridor bisects a fairly dense residential neighborhood, but due to roadway geometry relative to property boundaries, there are relatively few driveways accessed via Bethel Road. On-street parking is not allowed along the corridor.

A four-foot wide concrete sidewalk is provided on the western side of the corridor, but there are lengthy gaps in the sidewalk on the east side of the roadway. At signalized intersections, pedestrian crossing opportunities are limited, as not all approaches feature marked crosswalks. At unsignalized intersections and mid-block crossing points there are very few marked crosswalks resulting in limited opportunities for pedestrians to cross Bethel Road. Side street crossings are also challenging due to the noted skew with respect to the existing grid network, sight issues, limited pedestrian signage and no pedestrian-scale lighting. However, there are ADA-compliant curb ramps on most sidewalk approaches. The Somers Point Bike Path crosses Bethel Road at a sharp angle near the intersection with Shore Road. While the crossing feature continental striping, the skew of the crossing makes it challenging for user of the path to see oncoming vehicular traffic while crossing Bethel Road. In addition, 1st Street intersects with Bethel Road only 35 feet to the north, creating an additional challenge for users of the path.

STRAIGHT LINE DIAGRAM



Bethel Road connects busy strip commercial corridors towards the north (intersection with U.S. Route 9 pictured) to more residential neighborhoods towards the south (Bethel Ave, facing north)

Wide driveway adjacent to Marks Road intersection creates long sidewalk gap, facing south

Intersection of Bethel Road and Somers Point Bike Path, facing north

Worn path along Bethel Road, facing south

Primary Corridor

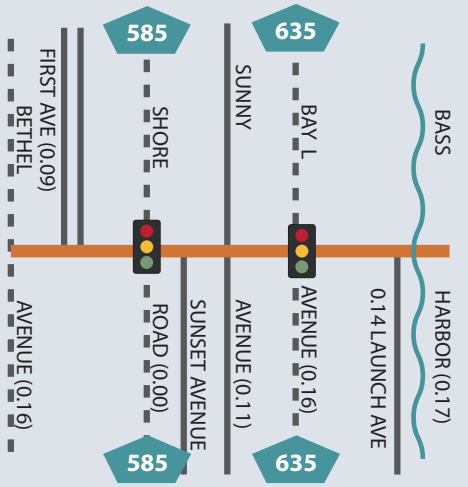
MARYLAND AVENUE (NJ ROUTE 152)

(MP 0.00 TO MP 0.16)

NJ Route 152 is an east-west roadway that connects the Borough of Longport to the east with the Bay Avenue and Shore Road corridors. As motorists enter Somers Point from Longport, the speed limit drops from 50 to 40 mph and further to 25 mph beyond Bay Avenue. Twelve-foot wide shoulders are provided on both sides of the roadway and there are two signalized intersections (at Bay Avenue and Shore Road). The eastern portion of the corridor includes several business entrances. Maryland Avenue crosses the Somers Point Bike Path to the west of Shore Road, and terminates at a skewed, unsignalized intersection with Bethel Road. The western portion of the corridor transitions from commercial to residential uses with frequent driveways.

The sidewalk network in the corridor is nearly complete with marked crosswalks at signalized intersections. However, some sections of sidewalk are in poor repair and are in need of vegetative clearing and other maintenance. The installation of ADA-compliant curb ramps is inconsistent along Maryland Avenue. There are limited opportunities to cross Maryland Avenue away from signalized intersections. Lighting is provided via utility pole mounted fixtures throughout the corridor.

STRAIGHT LINE DIAGRAM



Heavy volumes of traffic can be seen traveling west off the NJ Route 52 bridge (Maryland Avenue, facing east)

Speed limit drops from 40 to 25 between Bay Avenue and Shore Road (Maryland Avenue, facing west)

Intersection of Maryland Avenue and Bay Avenue is challenging for pedestrians to cross (Maryland Avenue, facing east)

Poor sidewalk maintenance on Maryland Avenue near Shore Road, facing west

Continental crosswalk striping and signage improve the visibility of the crossing of Maryland Avenue at Sunny Avenue (Maryland Avenue, facing west) (Maryland Avenue, facing west)

Primary Corridor

SOMERS POINT – MAYS LANDING ROAD (CR 559)

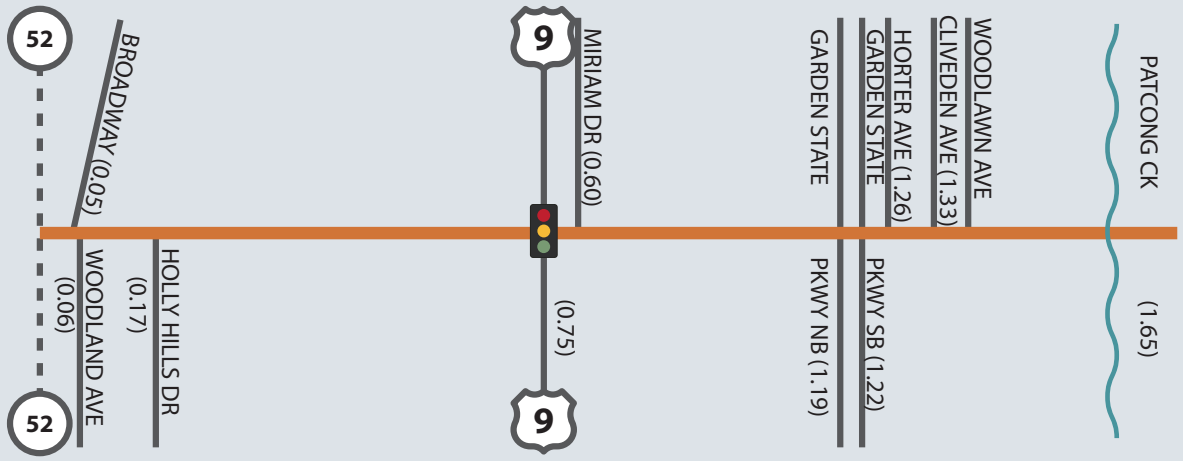
(MP 0.00 TO MP 1.65)

Somers Point – Mays Landing Road is an east-west roadway connecting Mays Landing within Hamilton Township with Somers Point. The two-lane roadway features posted speed limits of 40 to 45 mph and eight-foot wide shoulders on both sides, carrying approximately 7,600 - 10,700 AADT*. Motorists enter Somers Point from the west via a bridge over the Patcong Creek and then pass under the GSP before encountering two signalized intersections and terminating at NJ Route 52 adjacent to the NJ Route 52 Causeway Bridge.

Development along the corridor is limited due to large tracts of adjacent environmentally sensitive swampland habitat. The developments which do exist are mixed commercial and residential, with numerous driveways that access Somers Point – Mays Landing Road. The sidewalk network is fairly complete in the corridor, but there are gaps on the south side of the roadway in locations with limited adjacent development. Worn paths can be seen across some of these sidewalk gaps, indicating that there is unmet pedestrian demand along the corridor. There are no marked crosswalks along CR 559 even at the primary signalized intersection with U.S. Route 9 (New Road). However, pedestrian demand for crossing the roadway is likely low given the patterns of adjacent developments. NJ TRANSITs #509 bus services Somers Point – Mays Landing road, but pedestrian amenities such as benches and shelters do not exist at these transit stops. Pedestrian-scale lighting is not installed along the corridor.

*** Two NJDOT counts were taken in March and August 2012 respectively**

STRAIGHT LINE DIAGRAM



Wide cross-section and high travel speeds were observed long this corridor (Somers Point - Mays Landing Road looking west)

Unmarked bus stop near intersection of Somers Point-Mays Landing Road at U.S. Route 9 (facing east)

Missing sidewalk at intersection of Somers Point-Mays Landing Road at U.S. Route 9 (facing east)

Roadway widens near intersection with NJ Route 52 (facing east)

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT SOMERS POINT - MAYS LANDING ROAD (CR 559)

Located near the southern border of Somers Point, this intersection provides the primary external links to points south and west of the City. The north-south approach (U.S. Route 9) connects to the GSP approximately 0.4 miles to the south, which is the sole crossing of Great Egg Harbor Bay into Cape May County, and the U.S. Route 9 corridor to the north, which is the main arterial traversing Somers Point. The east-west approach (Somers Point – Mays Landing Road) provides access to the west via a crossing of the Patcong Creek into Egg Harbor Township, and connects to the NJ Route 52 Causeway and Somers Point waterfront approximately 0.75 miles to the east. All four intersection approaches are two lanes (left-turn and through/right-turn). Pedestrian destinations in the area include commercial development (at the southwest corner) and a NJ Transit bus east of the intersection near the northeast and southeast corners. One pedestrian crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include a lack of crosswalk striping and limited sidewalk connectivity. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

No crosswalk striping

No ramps at SE and NE corners. Ramps at SW and NW corners lack detectable warning surface with truncated domes

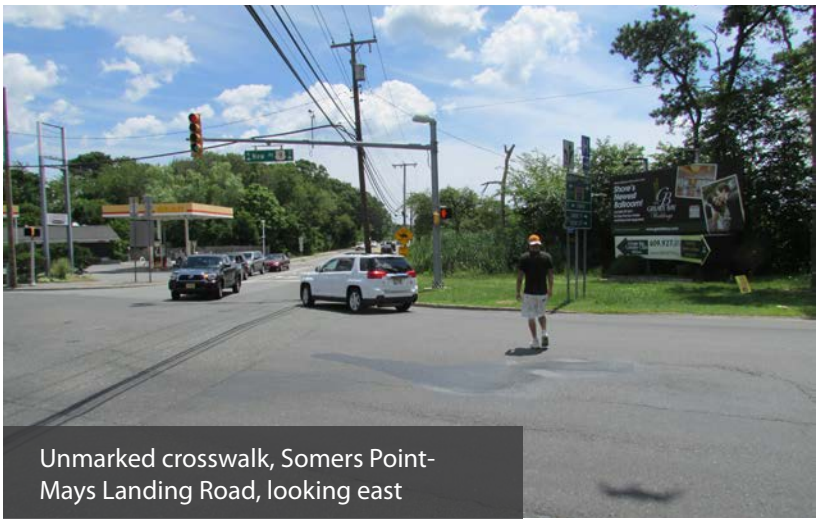
All crossings have pedestrian signal heads with countdown timers. Pedestrian clearance times meet MUTCD guidelines. Pedestrian push buttons at all corners; buttons at SE and SW corners are not ADA-compatible, as they are not accessible from the sidewalk

No sidewalk at the SE corner. No sidewalk connection at SW corner to curb ramp for Somers Point – Mays Landing Road crossing. At NE corner, open driveway access within 10 feet of intersection conflicts with both vehicular traffic and pedestrians; broad, open driveway access and no delineation of pedestrian area

Lighting is sufficient, based on daytime observations. There is overhead street lighting at SE, SW, and NE corners. No pedestrian-scale lighting in the pedestrian area

Somers Point-Mays Landing Road facing east

Missing sidewalk, Somers Point-Mays Landing Road facing west



Unmarked crosswalk, Somers Point-Mays Landing Road, looking east

Non-ADA-compliant curb ramp, SW corner

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT NJ ROUTE 52 / WEST LAUREL DRIVE

The intersection of U.S. Route 9 (New Road) at NJ Route 52 / West Laurel Drive is the junction of two of the City's principal arterials. The east-west approach (NJ Route 52 / West Laurel Drive) connects the Garden State Parkway, approximately 0.75 miles to the west, to the causeway to Ocean City, approximately 0.65 miles to the east. All intersection approaches have multiple lanes, which creates long pedestrian crossing distances. The northbound, southbound, and westbound approaches are each three-lane approaches (left-turn, through, channelized right-turn lane separated by a raised-curb island). The westbound approach is particularly challenging for pedestrians, as it has a very large turning radius (approximately 450 feet), which has the effect of allowing vehicles to maintain a high speed through the turn. The eastbound approach is three lanes (left-turn, through, through/right-turn). The surrounding area is largely residential and there are few major pedestrian destinations in the vicinity. The Jordan Road School is approximately 0.3 miles northwest of the intersection. One pedalcyclist crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include wide pedestrian crossings, a lack of crosswalk striping at the channelized right-turn lanes, and high vehicle speeds at the channelized right-turn lanes. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

There is standard crosswalk striping across all main approaches. Channelized right-turn lanes lack crosswalk striping. Crossings are slightly skewed, lengthening the pedestrian crossings

All corners and crossings have ADA-compliant curb ramps

All crossings have pedestrian signal heads with countdown timers. Pedestrian push buttons at all corners. Buttons at SE and SW corner did not trigger pedestrian signal heads and signal phasing to cross U.S. Route 9

Complete sidewalk network at all approaches. Sidewalk gaps along U.S. Route 9 northbound and southbound north of the intersection

Lighting is sufficient, based on daytime observations. Overhead street lighting at all corners. No pedestrian scale lighting in the pedestrian area

U.S. Route 9, facing north

Pedestrian push button, NW corner

Sidewalk, ADA-compliant curb ramp, and pedestrian signal heads at SW corner

Dedicated right turn ramp, NE corner

Pedestrian signal head at SE corner

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT CONNECTICUT AVENUE

The intersection of U.S. Route 9 (New Road) at Connecticut Avenue provides a signalized crossing of the U.S. Route 9 corridor in the vicinity of the Jordan Road School, linking the school to the west with the residential area to the east of U.S. Route 9. All four approaches are striped as one lane; however, the U.S. Route 9 approaches broaden to an approximately 20-foot lane at the intersection and function as a de facto two-lane approach. The primary pedestrian destinations in the area are the Jordan Road School one block (approximately 0.15 miles) to the west, strip commercial development along U.S. Route 9, and a NJ TRANSIT bus stop near the southeast corner. One pedestrian crash and one pedalcyclist crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include a lack of pedestrian signal heads and a limited sidewalk network. Push buttons are provided on the southeast and southwest corners, but there is nothing to indicate to the pedestrian that pushing the button has any impact on their ability to cross U.S. Route 9. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard striping across northbound, eastbound, and westbound approaches. Crossing of the U.S. Route 9 southbound approach is unmarked

Curb ramps at SE, NW, and NE corners lack detectable warning surface with truncated domes. Curb ramp at SE corner is not flush with the roadway surface. Curb ramp at SW corner is ADA-compliant. Curb ramps at the SW and SE corners provide access to the marked crossings of both roadways; however, the existing striping does not include a four-foot-by-four-foot clear zone at the base of the curb ramps

No pedestrian signal heads. Pedestrian push buttons are provided for the marked U.S. Route 9 crossing at the SW and SE corners

No sidewalk along the U.S. Route 9 southbound approach. Commercial property at NW corner has an open access driveway along nearly its entire frontage with no delineated pedestrian space, creating turning vehicle conflicts with both vehicular traffic and pedestrians

Insufficient, based on daytime observations. Overhead street lighting at SW corner only. No pedestrian-scale lighting

Connecticut Avenue, facing east

No pedestrian signal heads, SW corner facing east

Deficient curb ramp, NW corner

Crossing of southbound approach is unmarked, SW corner facing NE

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT GROVELAND AVENUE

The intersection of U.S. Route 9 (New Road) at Groveland Avenue provides a signalized crossing of the U.S. Route 9 corridor. The northbound and southbound approaches are both two lanes (left-turn and through/right-turn), while the eastbound and westbound approaches are each one-lane. The primary pedestrian destinations in the area are the chARTer-TECH school approximately 0.1 miles to the north, several commercial properties (including a Rite Aid, bank, and strip commercial building), and NJ TRANSIT bus stops near the SW and SE corners. There is an apartment complex one block east of the intersection along Groveland Avenue. Input from the local steering committee, including the principle of chART-TECH, indicated that the NJ TRANSIT bus stops at Groveland Avenue had previously been located in front of chART-TECH, which led to high numbers of mid-block crossings at that location. The number of mid-block crossings has significantly decreased since the bus stops were relocated, and the Groveland Avenue intersection now sees higher pedestrian activity. One pedestrian crash and one pedalcyclist crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include a lack of pedestrian signal heads and limited lighting. Push buttons are provided on the southeast and southwest corners, but there is nothing to indicate to the pedestrian that pushing the button has any impact on their ability to cross U.S. Route 9. The City applied for a Safe Routes to Transit Grant in 2014 for pedestrian improvements to the intersection. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard striping across northbound, eastbound, and westbound approaches. Crossing of the U.S. Route 9 southbound approach is unmarked

Curb ramps at all corners lack detectable warning surface with truncated domes. Curb ramp slope at SW corner is not ADA-compliant

No pedestrian signal heads. Pedestrian push buttons are provided for the marked U.S. Route 9 crossing at the SW and SE corners

No sidewalk along U.S. Route 9 southbound south of intersection; pedestrian area is delineated by wheel stops within the parking area. No sidewalk along eastbound approach; no delineation between parking circulation and pedestrian area

Lighting is insufficient, based on daytime observations. Overhead street lighting at SW corner only. No pedestrian-scale lighting

Utility poles and wheel stops at SW corner impede pedestrian mobility

Deficient curb ramp, NW corner

Cyclists and pedestrians waiting to cross U.S. Route 9, SW corner facing east

No pedestrian signal head, SW corner facing east

Missing sidewalk connection along U.S. Route 9, facing south

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT CHAPMAN BOULEVARD

The intersection of U.S. Route 9 (New Road) at Chapman Boulevard provides a signalized crossing of the U.S. Route 9 corridor and is a primary access point for the Kmart shopping plaza. The northbound approach is three lanes (left-turn, through, channelized right-turn lane), the southbound approach is a two lanes (left-turn, through/right-turn), the westbound approach is two lanes (left-turn/through and channelized right-turn), and the eastbound approach is a single lane. The primary pedestrian destinations in the area are the Kmart shopping plaza, McDonald's, a bank, the chARTer-TECH school approximately 0.1 miles to the south, and NJ TRANSIT bus stops near the NW and NE corners. Two pedestrian crashes and one pedalcyclist crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include limited lighting and ADA-compliance. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard striping across all approaches

Curb ramps at all corners lack detectable warning surface with truncated domes

All crossings have pedestrian signal heads with countdown timers. Pedestrian push buttons are provided for the U.S. Route 9 crossings. Pedestrian clearance times meet MUTCD guidelines

No sidewalk along U.S. Route 9 northbound approach

Lighting is insufficient, based on daytime observations. Overhead street lighting at NW corner only. No pedestrian-scale lighting

Entrance to shopping center, looking SE

Non-ADA compliant curb ramps, NW corner facing south

Unmarked bus stop, near NE corner

Pedestrian refuge island, near SE corner

Pedestrian countdown timer, SW corner

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT BETHEL ROAD

The intersection of U.S. Route 9 (New Road) at Bethel Road is the junction of two primary roadways through Somers Point. Bethel Road links the U.S. Route 9 commercial corridor with the city's historical center along Shore Road and Bay Avenue to the southeast. It also provides connections to the Somers Point Bike Path to the east, via a trail crossing on Bethel Road, as well as via connections with the local road network. The northbound and southbound approaches are both three lanes (left-turn, through, channelized right-turn lane) and the eastbound and westbound approaches are both two lanes (left-turn, through/right-turn). The primary pedestrian destinations in the area are the Kmart and Shop Rite plazas near the SE and SW corners, respectively, various strip commercial properties along U.S. Route 9, and NJ TRANSIT bus stops near the NW and SE corners. Four pedalcyclist crashes occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include a significantly skewed roadway alignment, heavy traffic volumes, and no marked crossing of the channelized right-turn lanes. Existing pedestrian infrastructure are summarized below

INTERSECTION CHARACTERISTICS

Standard striping across all mainline approaches. No striping of channelized right-turn lanes. Skewed alignment of intersection significantly increases pedestrian crossing distances

Curb ramps at all the marked crossings are ADA-compliant. No curb ramps provided for crossing the channelized right-turn lanes

All crossings have pedestrian signal heads with countdown timers. Pedestrian clearance times meet MUTCD guidelines. Pedestrian push buttons are provided for the U.S. Route 9 crossings. Pedestrian push buttons at the SW corner are not accessible from the sidewalk

No sidewalk at the NW and SE corners

Lighting is sufficient, based on daytime observations. Overhead street lighting all corners. No pedestrian-scale lighting

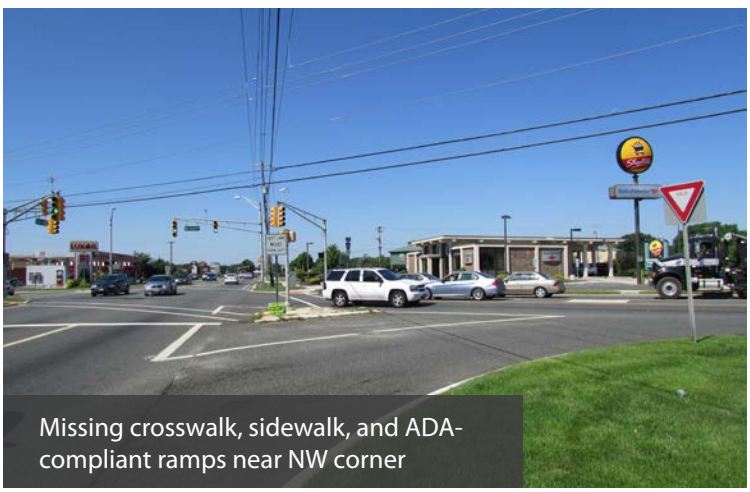
Intersection of New Road and Bethel Rd, NW corner

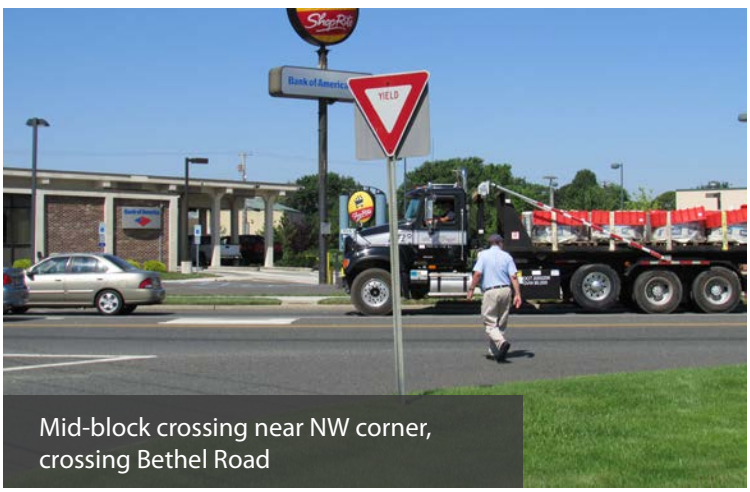

Crossing Bethel Road from NE corner


Missing sidewalk connection on U.S Route 9, southbound approach


Mid-block crossing near NW corner, crossing U.S. Route 9


Worn path and missing crosswalk, sidewalk, and ADA-compliant ramp near unmarked bus stop, SE corner


Missing crosswalk, sidewalk, and ADA-compliant ramps near NW corner



Mid-block crossing near NW corner, crossing Bethel Road

Signalized Intersection

U.S. ROUTE 9 (NEW ROAD) AT OCEAN HEIGHTS AVENUE (CR 559 TRUCK)

The intersection of U.S. Route 9 (New Road) at Ocean Heights Avenue (CR 559 Truck) is located at the northern edge of Somers Point. All approaches are two lanes (left-turn, through/right-turn lane). The primary pedestrian destinations in the area are commercial properties at the SW and SE corners (CVS and Wawa, respectively) and an NJ TRANSIT bus stop near the SE corner. The CVS is connected directly to the sidewalk network at the SW corner via a pedestrian bridge over the bioswale that exists between the sidewalk and the property's parking area. One pedestrian crash and one pedalcyclist crash occurred at the intersection during the crash analysis period.

The primary pedestrian issue and deficiency at the intersection is a limited sidewalk network. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard striping across all mainline approaches

Curb ramps at all the marked crossings are ADA-compliant

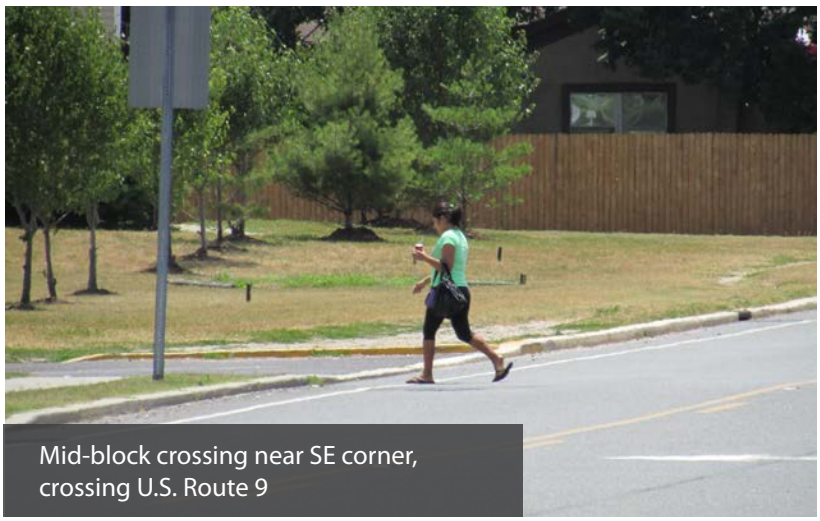
All crossings have pedestrian signal heads with countdown timers. Pedestrian push buttons are provided for the U.S. Route 9 crossings

No sidewalk at the NW corner

Lighting is sufficient, based on daytime observations. Overhead street lighting at the SW, NE, and NW corners. No pedestrian-scale lighting

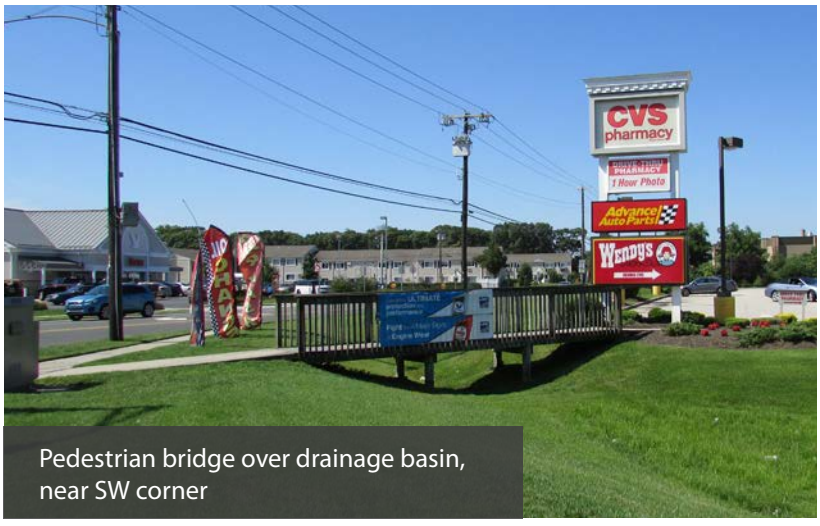
A pedestrian bridge connects the CVS to the SW corner.

Standard crosswalk striping and ADA-compliant curb ramp at SW corner



Mid-block crossing near SE corner, crossing U.S. Route 9

Pedestrian push button, SW corner



Pedestrian bridge over drainage basin, near SW corner

Signalized Intersection

NJ ROUTE 52 AT SOMERS POINT – MAYS LANDING ROAD (CR 559) / SHORE ROAD (CR 585)

The intersection of NJ Route 52 at Somers Point – Mays Landing Road (CR 559) / Shore Road (CR 585) is the southern gateway into the city, connecting Somers Point and Ocean City via the NJ Route 52 causeway. The intersection was recently constructed as a part of the NJ Route 52 Causeway replacement project that removed the Somers Point Circle. All of the approaches to the intersection are multiple lanes, creating long pedestrian crossing distances. The eastbound approach is four lanes (left-turn, two through lanes, right-turn), the westbound approach is five lanes (left-turn, left-turn, two through lanes, channelized right-turn), the southbound approach is four lanes (left-turn, left-turn, through, through/right-turn), and the northbound approach is four lanes (left-turn, left-turn, through, channelized right-turn). The major pedestrian destinations in the area are commercial properties in the vicinity of the intersection, the multi-use path along the NJ Route 52 Causeway, which draws large numbers of bicyclists and pedestrians, and the Somers Point Bike Path, which terminates just north of the Somers Mansion, located on the northeast corner of the intersection. Three pedestrian and two pedalcyclist crashes occurred at the intersection during the crash analysis period; however, these crashes occurred prior to the intersection reconfiguration that was completed as part of the NJ Route 52 causeway project.

Key pedestrian issues and deficiencies at the intersection include wide pedestrian crossings and high traffic volumes. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Stamped brick crosswalk with standard striping outline on eastbound, westbound, and southbound approaches. No marked crosswalk on northbound approach

All corners and crossings have ADA-compliant curb ramps

All crossings have pedestrian signal heads with countdown timers. Pedestrian push buttons at NW and SW corners for crossing of NJ Route 52. Pedestrian clearance times meet MUTCD guidelines

Complete sidewalk network at all approaches

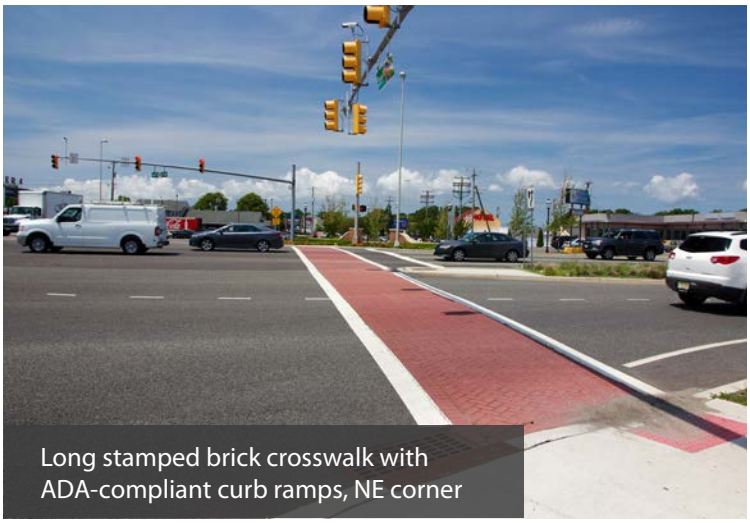
Lighting is sufficient, based on daytime observations. Overhead street lighting at all corners. No pedestrian-scale lighting

Vegetation and signage limits pedestrian visibility at channelized right-turn crossing at westbound approach

Wide intersection creates stressful environment for pedestrians, from NE corner

Cyclists attempting to cross NJ Route 52, SW corner

Cyclist waiting for signal to cross Shore Road, NE corner



Long stamped brick crosswalk with ADA-compliant curb ramps, NE corner

Cyclist using causeway underpass to access Ocean City Bike Path

Signalized Intersection

SHORE ROAD (CR 585) AT NEW YORK AVENUE

The intersection of Shore Road (CR 585) at New York Avenue is a signalized intersection along the Shore Road commercial corridor. The northbound and southbound approaches are each one lane, while the eastbound and westbound approaches are two lanes (left-turn and through/right-turn). The eastbound and westbound approaches on New York Avenue are offset, complicating circulation for vehicles and pedestrians. The major pedestrian destinations in the area are the Shore Medical Center at the NE corner and various commercial properties along Shore Road. One pedestrian crash occurred at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include the offset configuration of the eastbound and westbound approaches, a lack of pedestrian signal heads, and limited lighting. Existing pedestrian infrastructure are summarized below

INTERSECTION CHARACTERISTICS

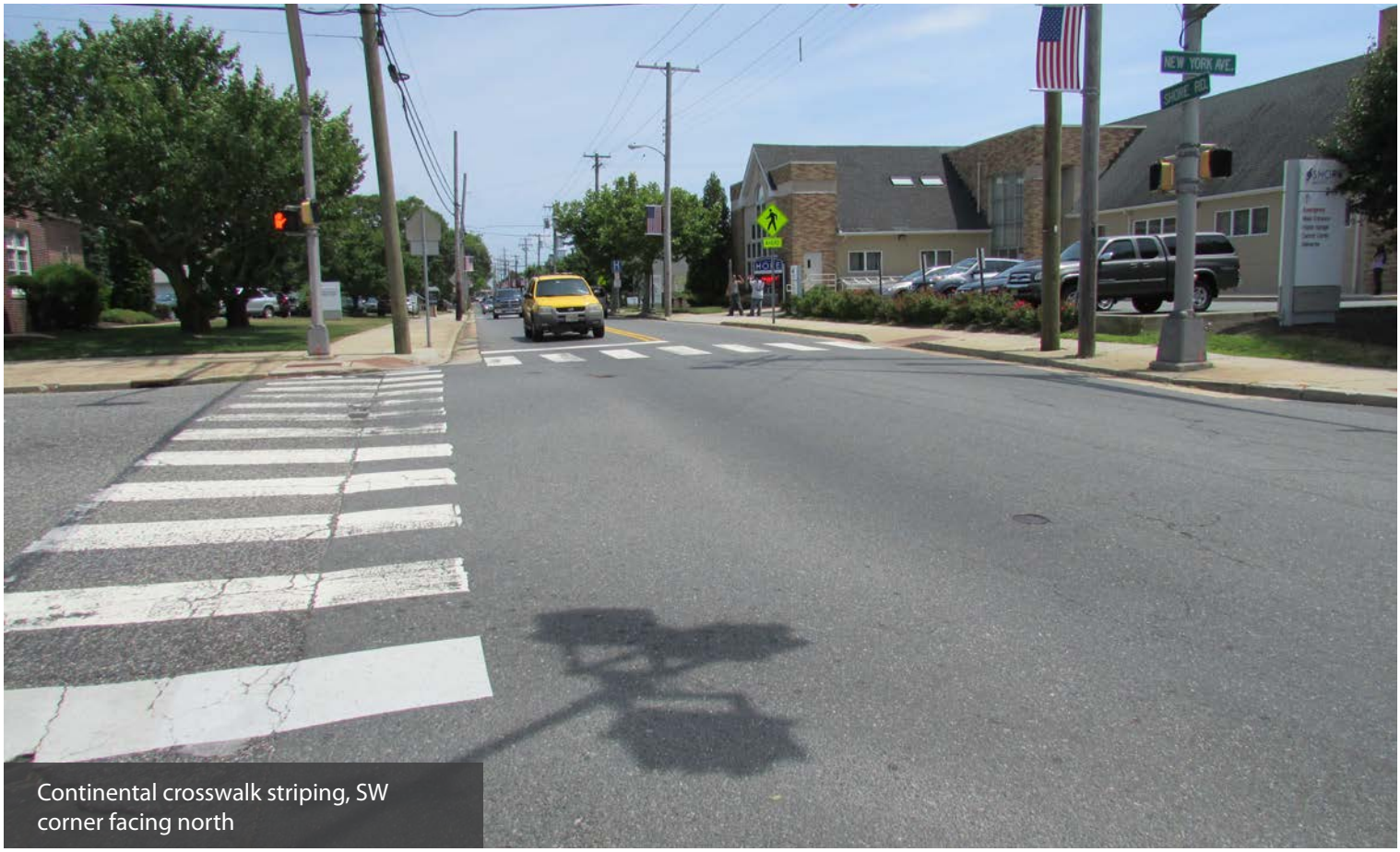
High visibility, continental striping at all approaches. Crossing of eastbound approach is significantly skewed, lengthening the pedestrian crossing

Curb ramps at all corners lack detectable warning surface with truncated domes. No curb ramp at SW and SE corners for crossing of Shore Road. Curb ramps are typically located at the apex of the corner and not aligned well with the marked crosswalks

All crossings have pedestrian signal heads, but lack countdown timers. Pedestrian push buttons at all corners

Complete sidewalk network at all approaches

Lighting is insufficient, based on daytime observations. Overhead street lighting at NE corner only. No pedestrian-scale lighting



Continental crosswalk striping, SW corner facing north

Eastbound and westbound approaches of New York Avenue are offset, making circulation for all modes more difficult

Skewed crosswalk connecting SW and SE corners

Complete sidewalk connection along Shore Road

Signalized Intersection

SHORE ROAD (CR 585) AT MARYLAND AVENUE (CR 620)

The northbound, southbound, and eastbound approaches of the signalized intersection of Shore Road (CR 585) at Maryland Avenue (CR 620) are each one lane; the westbound approach has two lanes (left-turn, through/right-turn). The major pedestrian destinations in the area are a Wawa at the SE corner, Dairy Queen at the SW corner, other commercial properties along the Shore Road corridor, and a NJ TRANSIT bus stop near the NW corner. There were no pedestrian or pedalcyclist crashes reported at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include heavy volumes of vehicular traffic, a lack of pedestrian signal heads, limited lighting, and a large turning radius at the SE corner. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

High visibility, continental striping at all approaches. Crossing of northbound approach is significantly skewed, lengthening the pedestrian crossing

Curb ramps at all corners lack detectable warning surface with truncated domes. Curb ramps are located at the apex of the corner and tend to direct pedestrians into the center of the intersection rather than into the marked crosswalks

No pedestrian signal heads. No pedestrian push buttons

Complete sidewalk network at all approaches

Lighting is insufficient, based on daytime observations. Overhead street lighting at NE corner only. No pedestrian-scale lighting

SE corner has a large curb radius, allowing vehicles to make right turns at a higher speed

Continental crosswalk striping but no pedestrian signal heads, facing south

Skewed crosswalk connecting SE and SW corners

Curb ramp without detectable warning surface, NE corner

Poor sidewalk maintenance along Maryland Avenue westbound approach

Signalized Intersection

MARYLAND AVENUE (CR 620) / NJ ROUTE 152 AT BAY AVENUE

The eastbound and westbound approaches of the signalized intersection of Maryland Avenue (CR 620)/ NJ Route 152 at Bay Avenue are each two lanes (left-turn/through and right-turn). The northbound approach is two lanes (left-turn/through and channelized right-turn), while the southbound approach is a single lane. The major pedestrian destinations in the area are a commercial property at the SW corner, a marina at the SE corner, and a motel at the NW corner. There was one pedalcyclist crash reported at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include a lack of pedestrian signal heads, heavy traffic, and higher speed traffic on the westbound approach as vehicles transition from a posted speed of 40 mph east of the intersection to a posted speed of 25 mph west of the intersection. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard crosswalk striping at all approaches

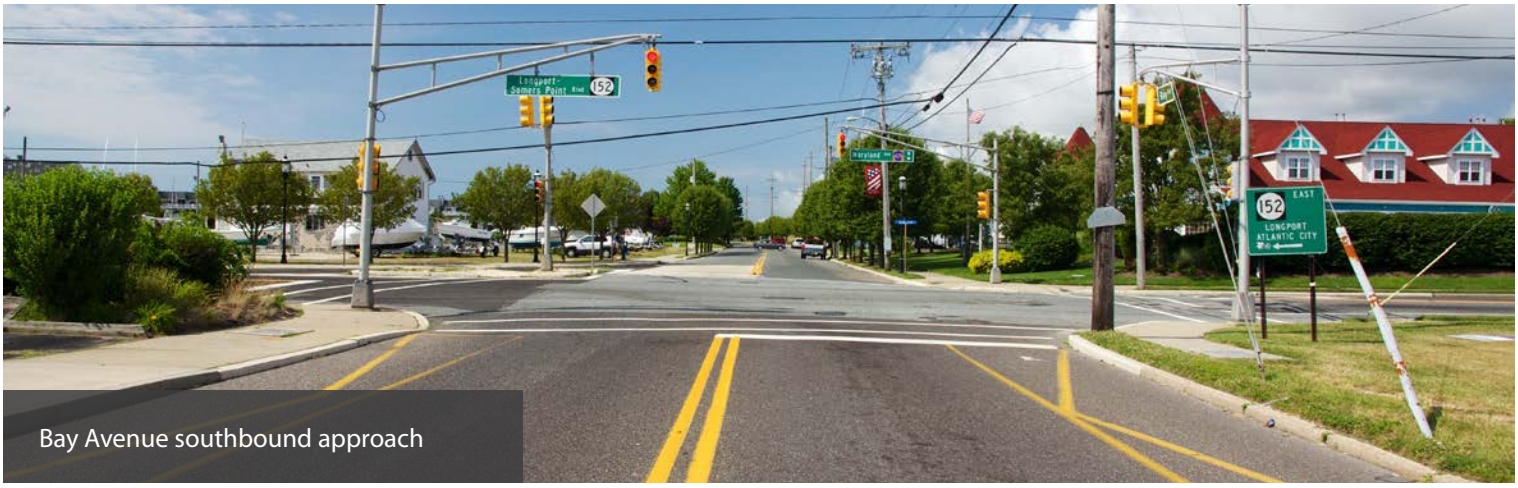
Curb ramps at all corners lack detectable warning surface with truncated domes

No pedestrian signal heads. Pedestrian push buttons at all four corners

Sidewalk gap along the southbound approach at the NW corner

Lighting is sufficient, based on daytime observations. Overhead street lighting at NE and NW corners. Pedestrian-scale lighting along Bay Avenue south of intersection only

Posted speed limit increases from 25 mph to 40 mph east of the intersection



Bay Avenue southbound approach

Cyclists riding towards Route 152 bridge

Curb ramp without detectable warning surface, SE corner

Intersection lacks pedestrian signal heads

Runner approaching sidewalk gap near NE corner

Signalized Intersection

BETHEL ROAD AT GROVELAND AVENUE

At the signalized intersection of Bethel Road and Groveland Avenue, all approaches are one lane. There are no major pedestrian destinations at the intersection itself; however, in the vicinity there are connections to the Somers Point Bike Path via Groveland Avenue and athletic fields (Lawrence "Bud" Kern Field) via Marks Road, both approximately 0.1 miles from the intersection. There was one pedalcyclist crash reported at the intersection during the crash analysis period. The surrounding area is largely residential, and there are few major pedestrian generators in the immediate area. There was one pedestrian crash at the intersection during the crash analysis period.

Key pedestrian issues and deficiencies at the intersection include the significant skew of the intersection and limited lighting. Existing pedestrian infrastructure are summarized below.

INTERSECTION CHARACTERISTICS

Standard crosswalk striping at all approaches. Skew of intersection lengthens the pedestrian crossing distances

Curb ramps at all corners lack detectable warning surface with truncated domes

Pedestrian signal heads without countdown timers at all crossings. Pedestrian push buttons at all four corners. Pedestrian push button at NE corner is not accessible from the sidewalk

Sidewalk gap along Bethel Road northbound at the NE corner; worn path indicates significant pedestrian activity

Insufficient, based on daytime observations. Overhead street lighting at NE corner only. No pedestrian-scale lighting

School crossing signage at all approaches

Skewed standard striped crosswalk at NW corner

Cyclist on the sidewalk near NE corner

Northbound approach along Bethel Road

Sidewalk along Bethel Road, north of intersection

BICYCLE FACILITIES

Bicycle facilities and infrastructure were inventoried in the City. There are several paved multi-use trails in the city, including the Somers Point Bike Path, which links Somers Point, Linwood, Northfield, and Pleasantville, and the Ocean City Bike Path, which traverses the Route 52 Memorial Causeway, connecting Somers Point to Ocean City. Cyclists and pedestrians share these trails together, unimpeded by vehicle traffic. Elsewhere, bicycle flows are combined either with vehicle flows on roadways or with pedestrian flows on sidewalks. Bicycle parking facilities exist at some major destinations such as schools and parks. Outdated infrastructure, such as drainage grates may impede bicycle travel along some routes in the City.

BICYCLE COMPATIBILITY OF ROADWAYS

A bicycle compatible roadway is intended to reduce conflicts and provide a more attractive environment for cyclists. The NJDOT criteria for bicycle compatibility takes into account roadway and shoulder widths, posted speed limit, roadway usage and type, and area type, as indicated in Table A-1 in the Appendix. The intention is that bicyclists ride on the roads, sharing the available capacity with vehicles and other roadway users.

The project team assessed major and key minor roadways in Somers Point for bicycle compatibility using a variety of data sources, including base mapping, GIS data files, NJDOT Straight Line Diagrams, and traffic data from NJDOT. The team also conducted field evaluations to take measurements and verify the various roadway features, character, parameters, and user behavior. A hierarchical assessment was undertaken to assess bicycle compatibility of roadways in the City, shown in Figure 4-2.

- Primary Arterials – State and county roadways, including portions of U.S. Route 9 (New Road), NJ Route 52, CR 559 (Mays Landing Road), and CR 585 (Shore Road). Many primary streets are bicycle compatible, but are very wide and lack appropriate lane and shoulder striping to delineate space within the cartway width. Busy commercial areas with numerous driveways and frequent vehicle conflict areas discourage bicycle activity along major roadways. The majority of U.S. Route 9 within Somers Point is not deemed bicycle compatible due to high speed limits, variable shoulder widths and high AADT. Other primary roadways in the city are deemed bicycle compatible.
- Secondary Streets – County or municipal streets that provide access to key bicycle and pedestrian generators or that support local and regional mobility within the City, including New York Avenue, Bay Avenue (CR 635), West Laurel Drive, Maryland Avenue (CR 620), Groveland Avenue, Ocean Avenue (CR 635), and Ocean Heights Avenue (CR 559). Nearly all secondary streets are compatible, having speed limits of 25 mph and low traffic volumes (<5000 AADT).
- Recreation connections – Roadways or other passable bicycle thoroughfares that provide access to the City's community parks, marinas, and beaches. While dedicated bikeway connections exist in the City, there are many residential streets with low vehicle volumes and speeds which are a critical component of the Somers Point bicycle network. Cyclists often use the streets around major destinations, such as schools, parks, and other civic centers, as shortcuts while riding. The Somers Point Bike Path is a major connector within the city and to other destinations to the north. The path also provides an off-road connection to the Dawes Avenue Elementary School.

SOMERS POINT

BICYCLE + PEDESTRIAN CIRCULATION STUDY

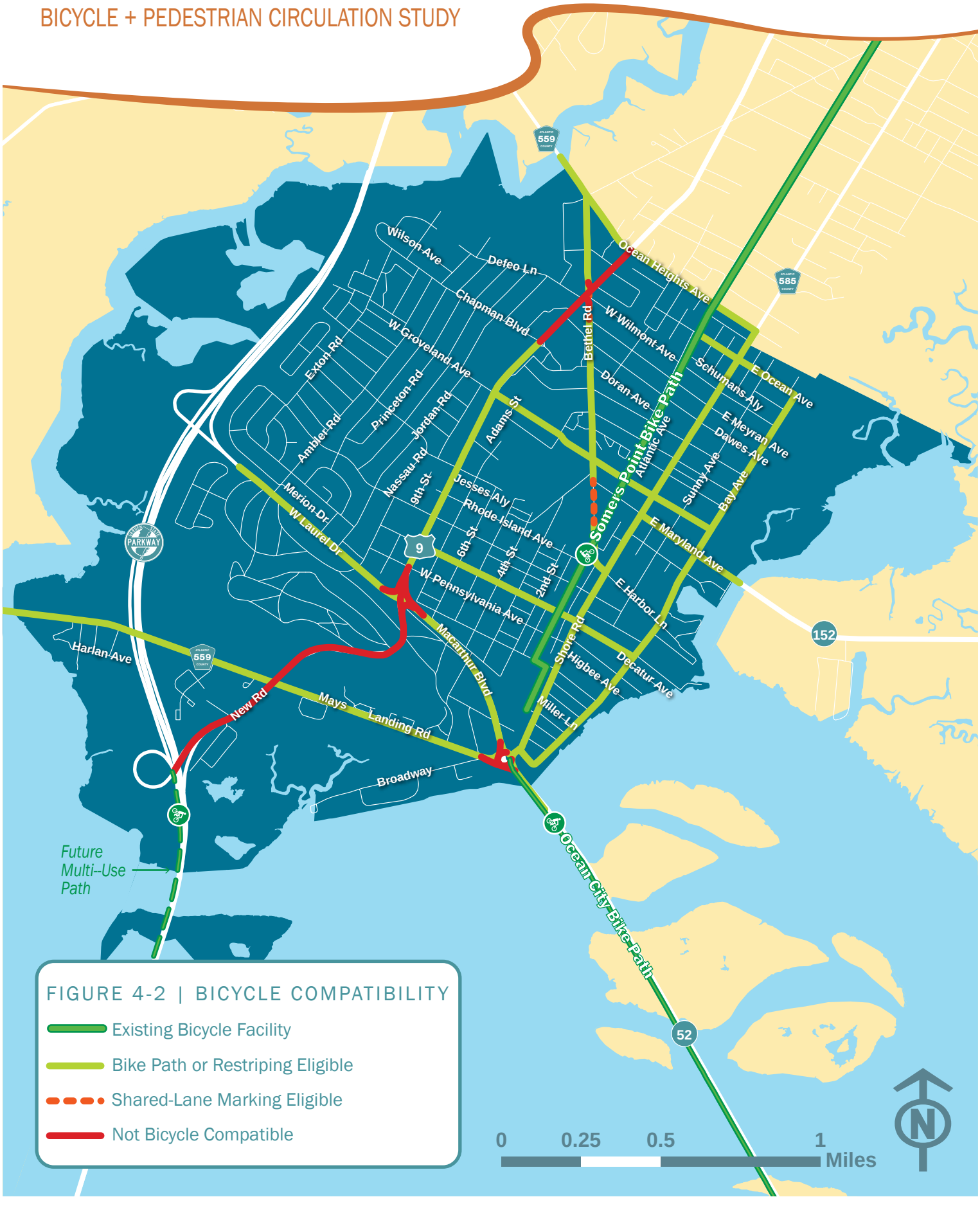
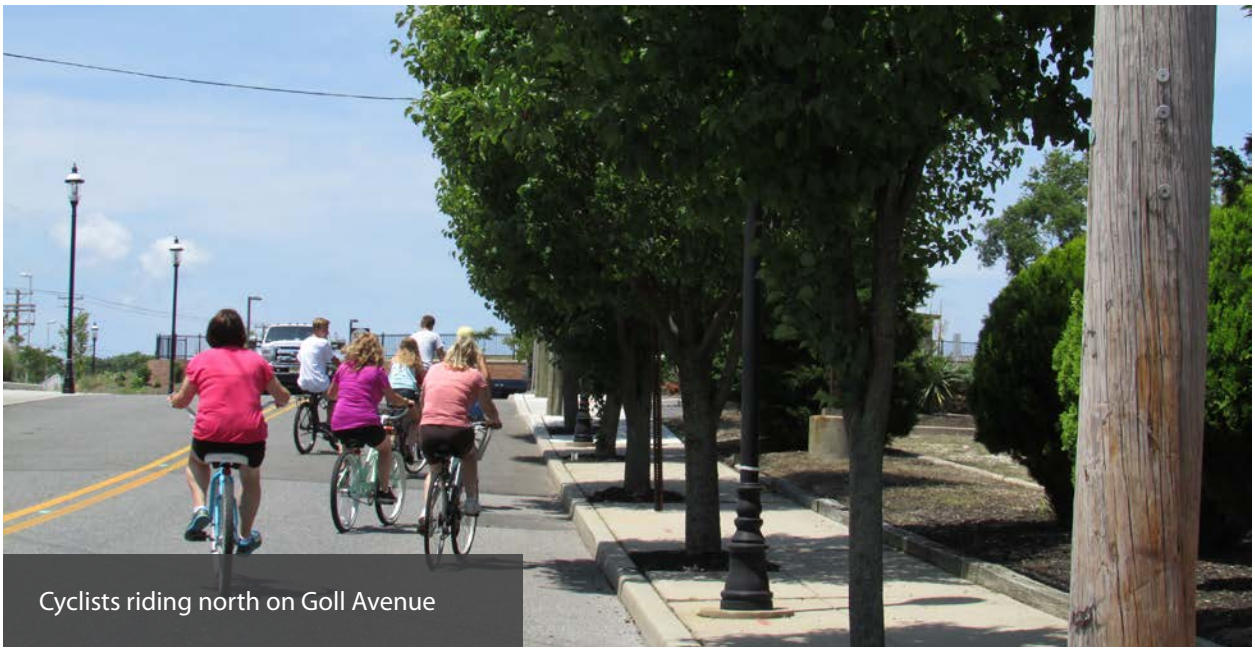


FIGURE 4-2 | BICYCLE COMPATIBILITY

- Existing Bicycle Facility
- Bike Path or Restriping Eligible
- Shared-Lane Marking Eligible
- Not Bicycle Compatible



Cyclists riding north on Goll Avenue

- External connections – Facilities that connect Somers Point to neighboring municipalities. While there are only a few roadway connections to adjacent towns, they are mostly bicycle compatible. Shore Road, Mays Landing Road, and Maryland Avenue are highly traveled bicycle corridors connecting the City with neighboring towns. The Ocean City Bike Path along the NJ Route 52 Memorial Causeway is a heavily traveled bicycle route, connecting Somers Point to Ocean City.

Although identified as bicycle compatible based on NJDOT criteria, many of these roadways (U.S. Route 9, Somers Point-Mays Landing Road, MacArthur Boulevard) are very wide and lack the appropriate striping or signing to accommodate bicycling activity. The network represented in Figure 4-2 therefore represents the starting point for identifying priority bicycle routes in the City. The next step will be to identify candidates for re-striping with shoulders, bike lanes, or shared-lane markings, and prioritize the improvements to incrementally develop a complete bicycle compatible network for Somers Point.

BICYCLE LEVEL OF STRESS

Bicycle Level of Stress is a metric used to measure a cyclist's potential comfort level given the current conditions of the roadway. Different bicyclists have different tolerances for stress created by volume, speed, and proximity of automobile traffic. The Level of Stress metric is based on the Dutch concept of low-stress bicycle facilities. In general, lower stress facilities have increased separation between cyclists and vehicular traffic and/or have lower speeds and lower traffic volumes. Higher stress environments generally involve cyclists riding in close proximity to traffic, multi-lane roadways, and higher speeds or traffic volumes. Four levels were used to evaluate Somers Point's streets:

- Level of Stress 1: the level most users can tolerate (including children and seniors)
- Level of Stress 2: the level tolerated by most adults
- Level of Stress 3: the level tolerated by "enthusiastic" riders who might still prefer dedicated space
- Level of Stress 4: the level tolerated by the most experienced riders

A detailed look at the criteria used to determine Level of Stress can be found in Table A-2 in the Appendix. The Level of Stress was evaluated for all roads in Somers Point, with assumptions made for the characteristics of many local roads in the study area. The resulting output (shown in Figure

Bicycle Parking at the Jordan Road School

Non-Complaint Drainage Grate

Complaint Drainage Grate

SOMERS POINT

BICYCLE + PEDESTRIAN CIRCULATION STUDY

Figure 4-4 | Complete Stress Network

Figure 4-5 | Level of stress 1 only

4-3) illustrates that the majority of roads within the city have a low level of stress. However, the major roadways often have high levels of stress and impede the ability of cyclists to cross from one area of town to another at a low stress level. Although these major roadways (U.S Route 9, NJ Route 52, CR 559, CR 585, Maryland Avenue, and Bethel Rd) are mostly shown to be bicycle compatible in Figure 4-2, they are currently high stress environments for most users and are barriers to bicycle use in the City.

The Level of Stress metric measures a bicycle network from the perspective of the user. As such, the metric accounts for the ability of a user to move from one point to another unimpeded by higher stress environments. To this end, part of the stress analysis accounts for the change in stress level a user might encounter at an intersection. For example, if a user was riding on a road with a stress level of 1 but desired to cross a road with a stress level of 4, the trip would no longer be considered low stress. High stress roads, often arterials and primary connectors, can reduce bicycle connectivity, impeding a user's ability to travel to a desired destination, and discouraging wider cycling use. Figures 4-4 and 4-5 above demonstrate this "network effect" in Somers Point. When removing the roads with a stress level of 2 or higher, it becomes impossible for a rider seeking a low stress environment (such as children traveling to/from school) to travel very far within the city.

BIKE PARKING

Bicycle parking facilities are needed to extend bicycle use from an opportunity for recreation to a feasible mode of transportation. In Somers Point, most bike racks are located at City schools. In general, bicycle parking is provided via aging racks with varying degrees of cleanliness and appeal.

Providing adequate, secure bicycle parking is an important measure to accommodate and encourage cycling as an alternative travel mode.

Source: Association of Pedestrian and Bicycle Professionals

Proper parking facilities increase the convenience of cycling for commuting, utilitarian, or recreational purposes while also alleviating the threat of theft. Parking should be conveniently located, well lit, and easily visible for cyclists arriving at a destination. There are a variety of bicycle parking racks available. Based on guidelines from the Association of Pedestrian and Bicycle Professionals (APBP), a bicycle rack should meet the following requirements:

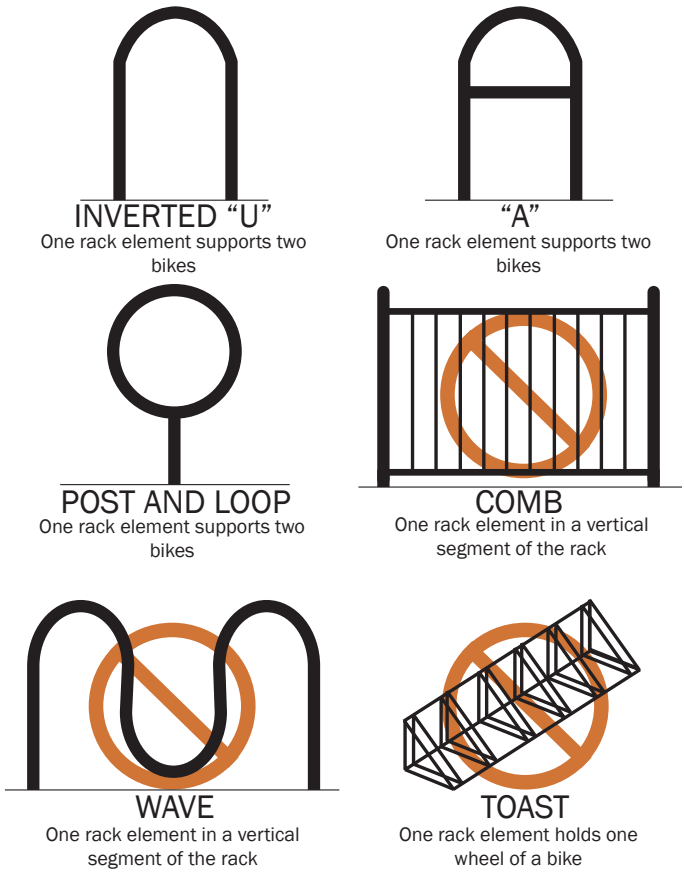
- Support the bicycle upright by its frame in two locations
- Prevent the wheel of the bicycle from tipping over
- Enable the frame and one or both wheels to be secured
- Support bicycles without a diamond shaped frame and horizontal top tube (e.g. step-through frames)
- Allow both front-in and back-in parking with a U-lock through the frame and front or rear wheel
- Resist the cutting or detaching of any rack element with hand tools

Older style racks, such as the "comb"/ "schoolyard", "toast", and "wave" are not recommended because they do not properly support the bicycle frame, generally do not facilitate locking of the frame to the rack, and frequently cause interference between the handlebars of adjacent bikes when the rack is near capacity. Recommended racks include the "inverted U", "A", and "post and loop." These rack types are illustrated in Figure 4-6. Bike racks should also be properly spaced to allow easy, independent access to each bike.

NON-COMPLIANT DRAINAGE GRATES

One common hazard and deterrent to bicycle travel is infrastructure that conflicts with bicycle use. There are a number of drainage grates in Somers Point that pre-date updated bicycle-safe designs. These grates feature wide openings that can catch bike tires and cause cyclists to fall. The heaviest concentration of non-compliant drainage grates was found along the northern end of Bay Avenue and in residential neighborhoods to the north-east of U.S. Route 9.

Figure 4-6 | Bicycle Parking Types



Source: *Bicycle Parking Guidelines*, Association of Pedestrian and Bicycle Professionals, 2002

CYCLIST BEHAVIOR

When cyclists use sidewalks, it creates dangerous conflicts between bikes and pedestrians, particularly elderly pedestrians. Persistent sidewalk ridership creates a long-term negative impression of a sidewalk facility for pedestrians and may cause hostility towards cyclists. This behavior was observed primarily along major routes, where heavy traffic and high vehicle speeds were also observed.

Bicycle Parking at the Jordan Road School

Non-Compliant Drainage Grate

Compliant Drainage Grate

OFF-ROAD MULTI-USE PATHS

Somers Point is an active bicycling community located at the confluence of several regional off-road multi-use paths. These paths present excellent opportunities for recreation and non-motorized transportation. Creating strong and attractive connections between the identified generators and off-road multi-use path facilities is one of the key objectives of this study.

SOMERS POINT BIKE PATH

The Somers Point Bike Path is a 6.5 mile paved pathway that provides a north-south connection linking the the Cities of Pleasantville, Northfield, Linwood, and Somers Point. The path parallels Shore Road and U.S. Route 9 for most of its length and provides an off-road alternative to biking along the busy roadway. The cross section features an 8-foot wide asphalt surface with marked crosswalks at roadway crossings. There are several shelters and numerous benches along the path where users can rest. A 2013 count indicated a peak summer average daily traffic of approximately 250-350 users.

Walking access to the multi-use path via sidewalk is provided in some locations. However, in many locations the sidewalk network is incomplete surrounding the bike path. There are worn paths through grass in many locations, indicating that there is considerable demand for increased pedestrian access to the path. Additionally, trail crossings of higher volume roadways, including Bethel Road, Maryland Avenue, and Groveland Avenue, are difficult due to limited visibility and/or failure of motorists to stop for pedestrians.

ROUTE 52 CAUSEWAY BIKE PATH

The NJ Route 52 Causeway was reconstructed and opened in 2012. The new structure includes a multi-use path along the eastbound side of the roadway. The path is separated by a steel barrier and includes many pedestrian and bicycle amenities, including a fishing pier and visitor's center. The path is approximately 2.1 miles in length and links Ocean City with Somers Point. NJDOT bicycle and pedestrian counts for August 2014 indicated that the path is used by an average of nearly 1,400 users/day on weekdays and nearly 1,700 users/day on weekends.

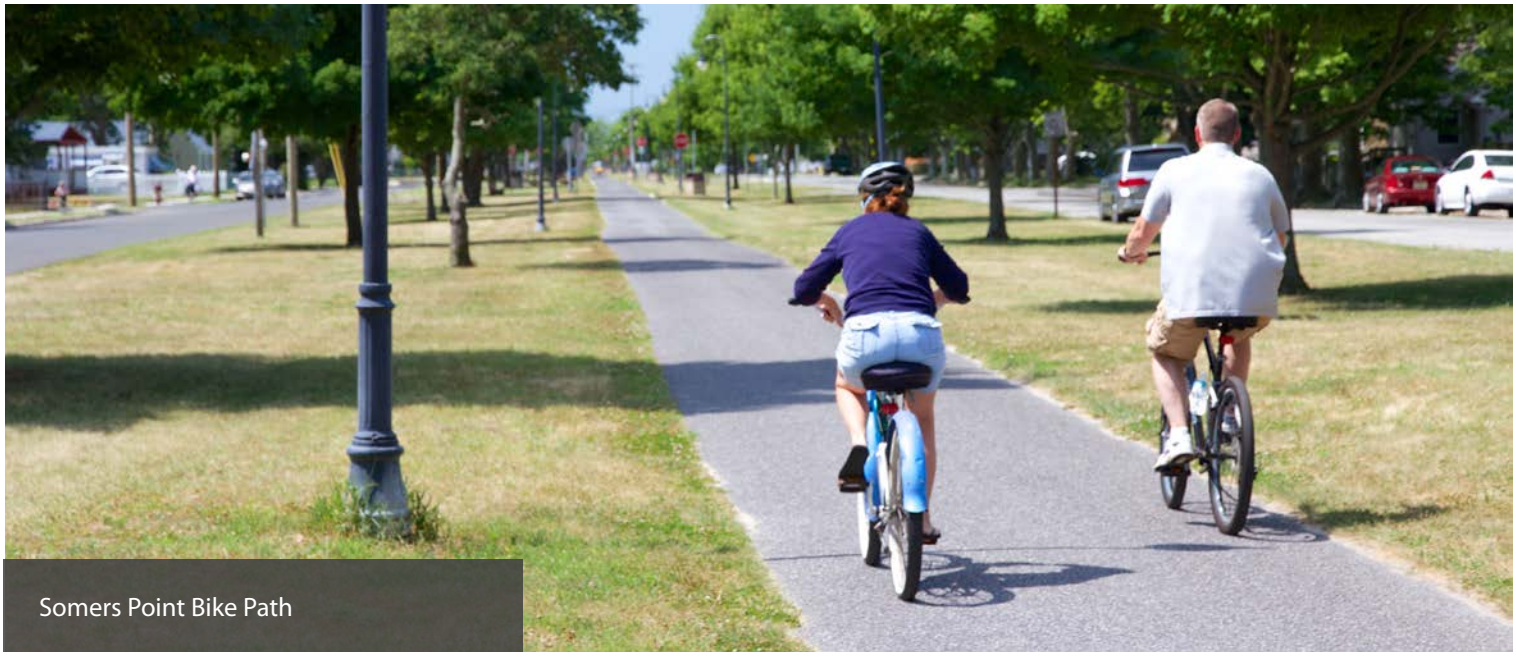
FUTURE GARDEN STATE PARKWAY BRIDGE

The The New Jersey Turnpike Authority has proposed construction of a new roadway bridge parallel to the existing Great Egg Harbor Bay bridge on the Garden State Parkway. Local advocacy groups have requested that bicycle and pedestrian access to Drag Island be considered. The project has tentatively proposed a 10-foot wide multi-use path on the western side of the new bridge structure, which would be fenced off from the roadway and illuminated at night. The multi-use path would likely use U.S. Route 9 (New Road) as a connection to other roadway and multi-use path facilities within Somers Point.

CONNECTIONS BETWEEN MULTI-USE PATH FACILITIES

The Somers Point Bike Path is an off-road bicycle asset in the City. However, at the south end of the path, there is a gap in dedicated infrastructure connections to other facilities. The off-road path terminates adjacent to Center Street at Shore Road near the Atlantic County Historical Society. The gap in dedicated off-road infrastructure between the Somers Point-Pleasantville Bike Path and the Route 52 Causeway Bike Path is approximately 1,000 feet.

During field observations, cyclists and pedestrians were observed using a variety of other routes. There is an unpaved connection across the Historical Society and Somers Mansion properties which connects to a sidewalk ramp leading to the intersection of Shore Road at NJ Route 52, which some path users use. Other users were observed walking or riding along Shore Road. The official marked route, based on signage provided at the intersection of Shore Road at NJ Route 52, is to use the 10-foot wide concrete sidewalk along NJ Route 52 and then turn on Braddock Avenue approximately 450 feet north of the intersection to connect to the Historical Society property.



Somers Point Bike Path

ACCESS TO SCHOOLS

Somers Point is home to five schools including one pre-school, one elementary school, one middle school, one regional Catholic school, and one chartered high school. Public high school students from Somers Point attend Mainland High School located to the north in Linwood. Within Somers Point, school bus services are provided for 214 students, 173 of which (17% of student population) are due to hazardous walking routes. Students not covered by the school bus services must walk, bike, drive, or be dropped off at the schools. Since most of the students not taking the bus live less than one mile from school, these trips are well suited for walking or biking. Therefore, bicycle and pedestrian access to schools are one consideration for this study.

DAWES ELEMENTARY SCHOOL

Dawes Elementary School was constructed in 1998 and has enrollment of approximately 425 students between kindergarten and sixth grade. The school is centrally located on Dawes Avenue between Shore Road and the Somers Point-Pleasantville Bike Path. The sidewalk network immediately adjacent to the school is complete. However, there are no nearby sidewalks across the bike path to the west. Students walking to or from the school via Pierson Avenue or Dawes Avenue must either walk on the roadways or adjacent grass. At the Dawes Avenue crossing, standard crosswalks are marked at most approaches, but no sidewalks, pedestrian landings, or other pedestrian infrastructure are provided.

NEW YORK AVENUE PRE-SCHOOL

The New York Avenue School was constructed in 1914 and refurbished in 2005 to hold the school district's administrative offices as well as serve approximately 70 pre-school students. The school is centrally located on New York Avenue between First Street and Second Street, near the Somers Point Bike Path. The sidewalk network around the school is complete and there are marked crosswalks along most approaches at nearby intersections. Given their age, students at the New York Avenue School must either be dropped off or escorted by parents.

JORDAN ROAD MIDDLE SCHOOL

The Jordan Road Middle School is the only public school district facility which serves students from kindergarten through eighth grade, with approximately 525 total students enrolled. The school is located on Jordan Road between Bala Drive and Laurel Drive, in the residential neighborhood west of U.S. Route 9 (New Road). The sidewalk network around the school is fairly complete with marked crosswalks along most approaches of nearby intersections. The street network around the school, while not a grid network, provides good connectivity with generally direct walking paths to and from most nearby streets. The most challenging walking routes would be for students who must cross U.S. Route 9 or West Laurel Drive, walk along U.S. Route 9 where sidewalk gaps exist, or live in the south section of the City where there are no existing connections across the Greate Bay Country Club.

SAINT JOSEPH REGIONAL SCHOOL

The Saint Joseph School, affiliated with the Catholic Church, serves students from pre-K through eighth grade. The school is located on Harbor Lane near the Shore Medical Center. The sidewalk network is fairly complete around the school, but the unsignalized intersection of Shore Road at Harbor Lane presents challenges to students who access the school from the residential neighborhood west of Shore Road. Since the school draws students from communities beyond Somers Point, many students get dropped off. There is a one-way roadway system for dropping students off which includes Harbor Drive and other nearby streets.

Jordan Road School

Dawes Avenue Elementary School


New York Avenue Pre-School

CHARTER-TECH HIGH SCHOOL FOR THE PERFORMING ARTS

Funded via a charter through the New Jersey Department of Education, rather than the Somers Point School District, the chARTer-TECH School for the Performing Arts serves approximately 280 students in 9th to 12th grades. The school is located on U.S. Route 9 (New Road) between Groveland Avenue and Chapman Boulevard, in the commercial retail corridor. The school was constructed in 1999, after most of the adjacent development had already been constructed. As a result, there is very little bicycle and pedestrian infrastructure adjacent to the school. Students can walk from sidewalks along U.S. Route 9 into the school, but connectivity to the residential neighborhoods to the west are challenging, as is crossing U.S. Route 9 to access the residential neighborhoods to the east of the heavily traveled commercial corridor. Many students drive or get dropped off at the school. The City applied for a Safe Routes to Transit Grant in 2014 for pedestrian improvements to the intersection of U.S. Route 9 at Groveland Avenue.

5 EDUCATION

Education programs provide all roadway users – cyclists, pedestrians, and motorists – with information about their rights and responsibilities and applicable laws. These efforts can increase general awareness and promote courteous and safe interaction among all users. Educational programs may include a simple distribution of information in a wide range of formats to improve motorists', cyclists', or pedestrians' awareness and understanding of traffic laws and safe practices. Larger efforts could include a more structured, hands-on training to improve individual skills and abilities. Education programs should be tailored to specific audiences, including school-age children, parents, adults, seniors, or motorists. Specific recommendations for Somers Point include:

- Distribute public service announcements (PSAs) and brochures on topics such as speeding, safe bicycling tips, how to bicycle with traffic, proper helmet usage, and safe pedestrian behavior at the public library, City Hall, schools, and/or City events. PSAs may also be printed in the local newspaper or posted on the City's website or social media sites. Resources with safety information include the **Cross County Connection TMA**; NJDOT's **Biking in New Jersey** and **Pedestrian Safety** websites; the **Pedestrian and Bicycle Information Center**, a national clearinghouse of information related to walking and biking sponsored by the FHWA and operated by the University of North Carolina Highway Safety Research Center; and the **National Highway Traffic Safety Administration (NHTSA)**.
- Provide education programs for schools. As noted in the *Existing Conditions Technical Memorandum*, the largest number of bike crashes during the eight year analysis period involved young people aged 5-24. Therefore, providing educational programs tailored for children and young adults should be an important element of the an overall city-wide campaign. Several types of resources are available:
  - Traffic Safety Learning Progression Component: Funded by the Division of Highway Traffic Safety and developed by Kean and Rowan Universities, the curriculum includes lessons on pedestrian, bicycle, and traffic safety. It is an on-going educational program, with lesson plans on several pedestrian safety issues tailored to each age group with interactive activities. These materials are available to all New Jersey schools free of charge. Kindergarten through Grade 8 lesson plans can be found at **http://www.brainybunch.info/pedestrian-safety**, and Grade 9 – 12 lesson plans at **http://www.njdrivereducation.com/lesson-plans**.

Example public safety education campaign in Ocean City, NJ

- Safe Routes to School (SRTS): Resources are available through SRTS, a Federal and state program designed to enable and encourage children to walk and bike to school. Education is a key element when developing a SRTS plan. Information is available through the **NJDOT program office**, the **Federal Highway Administration**, and the **National Center for Safe Routes to School**.
- Other programs, such as **WalkSafe™**, **BikeSafe™**, and **Safe Kids** also offer educational materials and other activities focused on school-aged children.

- Partner with local community groups, schools, the police department, businesses, local advocacy groups, or other interested parties to organize bicycle training through the **League of American Bicyclists (LAB)**. The LAB offers a range of courses by certified instructors for different ages and different abilities. These interactive training courses are a good way to educate cyclists on traffic rules and safety equipment, as well as to practice cycling skills that enable novices and experts to ride confidently and safely with traffic.
- Provide training for City officials, planners, engineers, and public works staff about Complete Streets and its implementation. The City's adoption of a Complete Streets policy ensures that transportation projects should provide for all expected users, including pedestrians and cyclists. Providing training on effective implementation and maintenance will reinforce the City's policy and help make it part of all future transportation investments in Somers Point.

6

ENCOURAGEMENT

Encouraging active modes of transportation such as walking and biking has a host of benefits for residents and the community, including better health, reduced road congestion, environmental benefits, and lower per-trip costs. By supporting and promoting walking and bicycling activities, the City can spur a change in travel habits among residents and visitors, and entice more residents to walk and bike more regularly. City-specific recommendations include:

- Publicize and participate in International Walk to School Day, typically held in October. Use the event to encourage walking throughout the month and the year.
- Publicize and participate in Bike Month activities, typically held in May. Events include Bike to School Day, Bike to Work Day, and Bike to Work Week. Use the events to encourage cycling throughout the month and the year.
- Encourage the use of "Walking School Buses" to promote physical activity for children and parents traveling to and from schools. Work with school staff, parent volunteers, and the police department to organize the walking school buses. Assistance is available through the **Cross County Connection TMA**.
- Utilize resources through SRTS to provide activities that encourage bicycling and walking at local schools, such as bike rodeos or other events.
- Continue to utilize crossing guards at critical intersections along school routes, which make drivers more aware of pedestrian activity and makes walking to school more comfortable and convenient for parents and children.
- Provide incentives for City employees to walk or bike to work.
- Publish an online bike map on the City's website, highlighting the location of bike lanes, off-road facilities, preferred on-road cycling routes, bike parking, and major destinations (schools, businesses, City offices, etc). Providing information on the City's bicycle facilities and best routes can encourage more people to try cycling. Resources include the bike network evaluated in this report, as well as the statewide map currently under development by NJDOT.
- Provide inexpensive or free safety equipment such as reflectors, vests, and lights at the public library, schools, or City Hall to promote safe cycling and walking after dark. Approximately 35% of pedestrian crashes and 23% of bicycle crashes occurred after dark during the eight year analysis period.

Example walking school bus in Morristown, NJ

- Partner with local cycling clubs, businesses, schools, parent groups, the police department, and other interested organizations to promote higher bicycle helmet utilization in the City. At schools and/or community events, a booth can be set-up to provide instruction on proper bicycle helmet fit and offer reduced prices on helmets.
- Highlight pedestrian and bicycle improvements that accompany transportation projects through press releases, the City website, and social media. By focusing on these elements and improved conditions, more people will be encouraged to walk and bike.
- Apply to become a Bicycle or Walk Friendly Community through the League of American Bicyclists. This program will not only encourage bicycle use by residents, but serve as a potential marketing tool to encourage visitors to travel to or through Somers Point.
- Market the City's bicycling and walking assets, including its connections to the regional trail network (Somers Point Bike Path, Ocean City Bike Path/NJ Route 52 Causeway, future multi-use path to Beesley's Point along the new Garden State Parkway bridge) and Bay Avenue Historic District and waterfront. Work with local businesses to publicize the City's resources, promote tourism, and make Somers Point a regional destination for biking and walking.

7

ENFORCEMENT

Combined with education, enforcement is a key element to ensuring safe travel for all roadway users. While the police department cannot dedicate significant amounts of resources to enforce traffic regulations, targeted enforcement campaigns, through warnings and tickets, are effective at correcting unsafe behaviors. Enforcement should apply to all roadway users and include motorists (speeding, failure to stop for pedestrians), cyclists (riding on the wrong side of the street, failure to adhere to traffic control devices), and pedestrians (jaywalking, ignoring pedestrian signals). City-specific recommendations include:

- Target pedestrian safety enforcement (PSE). A key resource for local police departments is the PSE program sponsored by the NJ Division of Highway Traffic Safety (NJDHTS) with support from NJDOT. The PSE program provides a structured approach to crosswalk compliance enforcement, with training and support for local police officers. It addresses two important contributing factors to pedestrian crashes: driver knowledge of the law and driver yielding behavior. A variety of resources for enforcement are available through the NJDHTS, including **grant funding**. PSE training workshops are also available through the **NJ Bicycle and Pedestrian Resource Center**. One common PSE program supported by the NJDHTS is the "Cops in Crosswalks" decoy program. Used in municipalities throughout New Jersey, including Vineland, Ocean City, and Linwood, the program is a targeted enforcement campaign. A plainclothes police officer attempts to cross a marked crosswalk, and drivers who fail to stop for the pedestrian are given a warning or citation.
- Continue the use of variable message signage and mobile radar units on roadways throughout the City to make motorists more aware of their actual travel speed and the posted speed limit. A vehicle traveling faster than is appropriate for the surrounding land use and/or roadway design reduces the driver's awareness of surrounding activity, such as pedestrians or cyclists, and negatively impacts the safety of all roadway users. Consequently, high-speed traffic also generally discourages pedestrian and bicycling activity. Data collected can also be used by the City to identify areas with high incidents of speeding, and target them for enforcement or engineering improvements that reduce speeds.
- Implement and enforce proposed speed limit reductions along U.S. Route 9 (maintain 35 mph speed limit throughout

Example mobile radar unit in Highland Park, NJ

the corridor) and Shore Road (maintain 30 mph speed limit throughout the corridor). Lower vehicular speeds would encourage walking and biking by creating a more comfortable environment for those activities. Implementation should be accompanied by an educational campaign to make motorists aware of the changes.

- Implement a "Drive 25" campaign near key destinations on low speed limit roadways, such as along Bay Avenue, West Laurel Drive, and near the City's schools. A similar campaign was initiated by the Borough of Haddonfield in Camden County and has been emulated by other municipalities in New Jersey. "Keep Kids Alive – Drive 25" is a common slogan for the campaign. It may be timed to coincide with back to school activity in September. The campaign may include use of variable message signs (VMS) at gateways into the City and main corridors, use of the City's website and social media, posters and flyers at municipal buildings, mailings, and/or distribution of "Keep Kids Alive – Drive 25" stickers to residents, which may be posted to curbside garbage barrels or their vehicles as a reminder to motorists.

Source: http://www.keepkidsalivedrive25.org/

8 ENGINEERING

A major outcome of this technical memorandum is the development of pedestrian and bicycle infrastructure improvements for specifically targeted sites and corridors based on deficiencies identified via field efforts or based on comments provided by the Study Advisory Committee.

These improvements focus on improving circulation to and from major bicycle and pedestrian generators. Pedestrian recommendations enhance crossing locations, enhance and expand the existing sidewalk network, and seek to create a more pedestrian friendly environment. Recommended bicycle improvements are focused on improving corridors that are not currently bicycle compatible and enhancing the existing multi-use path network. The ultimate goal is to create a City-wide bicycle network linking numerous recreational, commercial, and residential areas throughout Somers Point and connecting to bicycle networks in adjacent municipalities. Improvement concepts are intended to be easily implementable and emphasize low-cost options such as re-striping of existing roadways, enhanced signage, or improved sidewalks. Many projects could be completed during routine maintenance.

The proposed improvements are intended to be conceptual recommendations that would likely require varying levels of design or further analysis, depending on the magnitude of the improvement. Where practical, general cost estimates are included for each improvement based on average material rates for sidewalks, crosswalks, striping, etc. The Cost estimates are based on industry and NJDOT standards for per unit material costs. These estimates are only intended to convey an order-of-magnitude cost. The estimates do not include labor costs and assume that many projects could be performed by NJDOT, Atlantic County, or Somers Point Engineering or Department of Public Works staff.

The engineering improvements are discussed in the following three sections:

PRIMARY CORRIDORS

This section details pedestrian and bicycle specific improvements to address safety and mobility along:

- U.S. Route 9 (New Road)
- Somers Point - Mays Landing Road (CR 559)
- Bay Avenue
- West Laurel Drive
- Shore Road
- Bethel Road
- NJ Route 152 / Maryland Avenue

Recommendations include both corridor-wide

Redesigned N.J. Route 52 at Shore Road intersection

strategies as well as targeted improvements at specific intersections. Where practical, improvements are classified as either short-term (less than six months), mid-term (six months to two years), or long-term (longer than two years) based on the expected amount of time that would be needed for design and implementation.

BAY AVENUE DEVELOPMENT STRATEGIES

The Bay Avenue corridor includes the City's waterfront and Historic District and is one of the City's principal hubs of bicycle and pedestrian activity. This section focuses on a comprehensive set of strategies intended to enhance Bay Avenue and the surrounding area, improve bicycle and pedestrian circulation within, to, and from the corridor, and foster opportunities for development and economic activity. Elements include:

- Bicycle and Pedestrian Improvements
- Harborwalk Concept
- Marshwalk Concept
- Placemaking Strategies
- Improved Connections to Bay Avenue

BICYCLE NETWORK

The Bicycle Network section presents the final build-out of the City-wide bicycle network based on the proposed improvements. The section summarizes the the bicycle-related corridor and intersection enhancements discussed in previous sections and highlights their impact on the City-wide bicycle network. The impact of the recommendations are measured using the bicycle level of stress metric, which illustrates and quantifies the anticipated improvements to user comfort, access, and suitability to different categories of cyclists.

The section also includes proposed improvements to the off-road multi-use path network, including improved connectivity among existing and future elements of the regional trail system and enhanced trail crossings.


M51·CVE


verizon

PRIMARY CORRIDORS

U.S. ROUTE 9 (NEW ROAD)

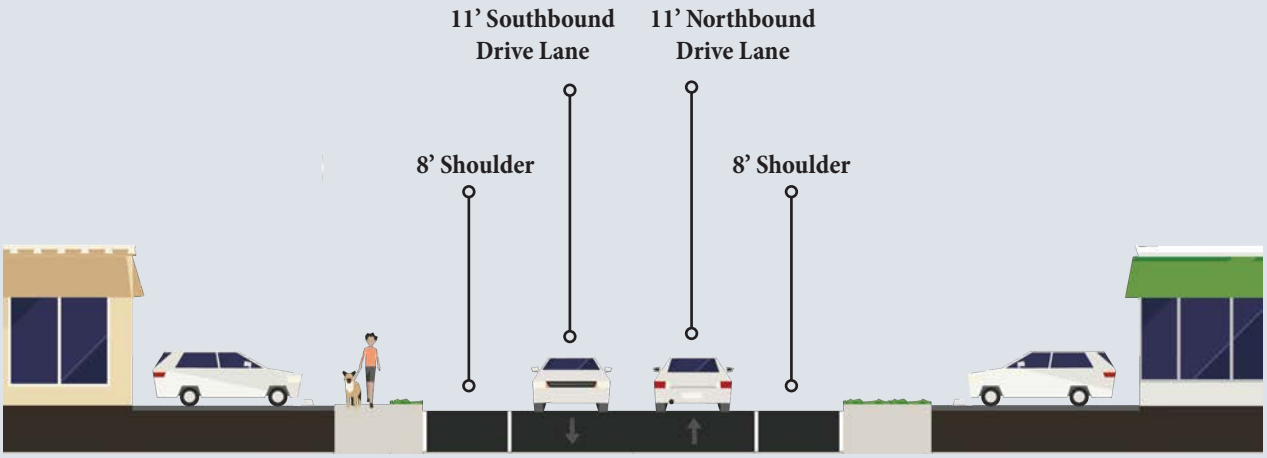
CONCEPT: ACCESSIBLE COMMERCIAL CORRIDOR

U.S. Route 9 (New Road) is the principal north-south arterial roadway through Somers Point, carrying an annual average daily traffic (AADT) of 17,000 vehicles (NJDOT 2013 data). The corridor typically has two 11-12-foot travel lanes, striped shoulders of varying width (between 0-10 feet), and turning lanes at signalized intersections; the speed limit varies from 35 – 45 mph through the City. The section of U.S. Route 9 north of NJ Route 52 is one of the City's main commercial zones and has long term development opportunities. In addition to commercial destinations, other pedestrian and bicycle attractors include NJ TRANSIT bus stops and schools either along (chARTer-TECH High School) or in close proximity to (Jordan Road School) the corridor.

The existing conditions analysis identified four principal issues along the corridor:

- Crash data indicated that the majority of the City's bicycle and pedestrian crashes occurred along U.S. Route 9 between NJ Route 52 and Ocean Heights Avenue during the eight-year analysis period.
- An incomplete sidewalk network makes pedestrian circulation and access difficult. Worn paths in several areas indicate unmet pedestrian demand.
- The combination of high traffic volumes and long distances between signalized intersections, particularly south of Groveland Avenue, creates stressful crossings for both bicyclists and pedestrians, making U.S. Route 9 a barrier to east-west bicycle and pedestrian circulation.
- Driveway treatments are inconsistent along the corridor, particularly along the portion of the corridor south of Groveland Avenue. Driveway access points here are numerous, and there are several properties with uncontrolled access, which creates an unfriendly environment for pedestrians and bicyclists.

Figure 8-1 | U.S. Route 9 Existing Cross-section (typical)



The following improvements are recommended:

PHASE I – SHORT/MID TERM IMPROVEMENTS

Implement Consistent Speed Limit: The U.S. Route 9 corridor has a variable speed limit through Somers Point. The City should request an NJDOT speed study to evaluate the creation of a consistent 35 mph speed limit through the entire corridor. This change would require a speed reduction from 45 mph to 35 mph between the Garden State Parkway (MP 32.22) and Somers Point-Mays Landing Road (MP 32.64) and a speed reduction from 40 mph to 35 mph between NJ Route 52 (MP 33.23) and Ocean Heights Avenue (MP 34.57). A 35 mph speed limit would be supportive of the surrounding land use context, which includes the busy commercial zone north of NJ Route 52. The standard 35 mph speed limit would also set consistent driver expectations along the corridor and create a less stressful environment for bicyclists and pedestrians. The speed limit change should be discussed with the City of Linwood to extend the 35 mph zone farther north. The change in speed limit should be supported by a targeted education and enforcement campaign to make drivers aware of the changes.

Complete Sidewalk Network: The existing sidewalk along the U.S. Route 9 corridor is significantly fragmented. Some sections, particularly those adjacent to more recent development activity, have a five-foot concrete sidewalk, while other sections have no sidewalk, significantly impairing pedestrian mobility. Where new sidewalk construction is required, sidewalks should be a minimum of five feet wide, which provides a more comfortable environment for pedestrians to walk side-by-side and makes it possible for two wheel chairs to pass each other. Where possible, a three-foot grass buffer should also be provided between the curb and sidewalk to enhance pedestrian comfort. All crossings of side-streets should be ADA-compliant and marked with crosswalks. Sidewalk improvements can be broken into three segments:

- **Garden State Parkway (MP 32.22) to Mays Landing-Somers Point Road (MP 32.64):** Construct a multi-use path. Detailed recommendations for this segment are being developed under a separate study and referenced in the Multi-Use Path Facilities section, found on page 64.
- **Mays Landing-Somers Point Road (MP 32.64) to NJ Route 52 (MP 33.23):** Construct a multi-use path along the southbound side of U.S. Route 9. Construction along the southbound side of the roadway will provide the most direct access to residential neighborhoods along the corridor and best leverage existing sidewalk, reducing the amount of new construction required. Due to a limited amount of right-of-way available, collaboration with the Greate Bay Country Club will be required to

Figure 8-2 | U.S. Route 9 Sidewalk Gaps

construct the sidewalk adjacent to their property in order to ensure adequate space.

This segment of U.S. Route 9 lacks the wider shoulders found elsewhere on the corridor and there is insufficient cartway width to provide on-road bicycle facilities. Construction of a multi-use path instead of a standard five-foot sidewalk would therefore provide a low stress facility for bicyclists as well as pedestrians, and improve the connectivity of the proposed bicycle network, as discussed in the Bicycle Improvements section on page 62. As a multi-use path, a minimum width of eight feet is recommended to more comfortably accommodate both bicyclists and pedestrians.

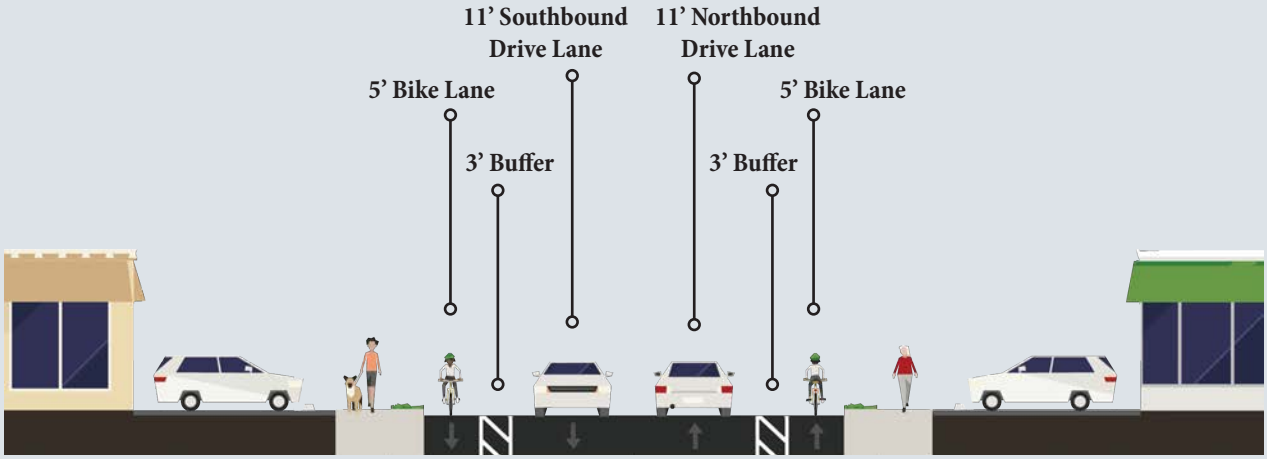
- Additionally, the intersections of U.S. Route 9 with South Village Drive and North Village Drive are unnecessarily wide (approximately 190 feet and 140 feet, respectively). During sidewalk construction, the intersection alignment at these locations should also be reevaluated. The intersections should be reconfigured to reduce intersection skew and reduce corner radii, creating more traditional T-intersections. These improvements will significantly reduce the speed at which vehicles turn into the residential neighborhoods and reduce the crossing distances for pedestrians. The crossings should be marked with standard crosswalks.
- **NJ Route 52 (MP 33.23) to Ocean Heights Avenue (MP 34.57):** Construct sidewalks along both the northbound and southbound sides of U.S. Route 9 where there are gaps in the existing sidewalk network.

Enhance Access Control: Several properties have open, uncontrolled access along the frontage of U.S. Route 9, creating a challenging environment for pedestrians and bicyclists and exacerbating conflicts between turning vehicles and pedestrians, bicyclists, and other vehicles. During roadway improvements and/or site development, driveway access should be consolidated to a single point on each property. Shared driveway access may also be appropriate for some properties to further reduce the number of conflict points. Driveways should be constructed to maintain the sidewalk through the driveway opening, providing a continuous, level sidewalk network and prioritizing pedestrian mobility.

Enhance Transit Access: NJ TRANSIT stops along U.S. Route 9 generally lack basic signage or pedestrian amenities. All TRANSIT stops should be clearly marked and be accessible by sidewalk. The City should work with NJ TRANSIT to identify stops that have the highest ridership and prioritize those stops for additional pedestrian amenities, such as lighting, shelters, seating, or trash receptacles.

Re-stripe with Buffered Bicycle Lanes: Between NJ Route 52 and Groveland Avenue, the existing approximately eight-foot shoulder can be re-striped as a five-foot bicycle lane with a three-foot striped buffer adjacent to vehicular traffic. The buffer width may narrow or widen slightly as the existing shoulder width varies along the corridor. The bicycle lane and markings will encourage on-street riding and riding with traffic. While grade or barrier separation between the bicycle lane and vehicular traffic is not possible due to the frequent driveway openings, the striped buffer will provide a more comfortable environment for bicyclists, calm traffic by creating a narrower roadway feel for motorists, and deter motorists from driving into the bike lane to pass left-turning vehicles. Existing vehicle lane widths (11 feet) would remain unchanged. Where left-turn bays are provided at signalized intersections, bicycle circulation should be maintained through the intersection with shared-lane markings until the separate bike lane continues. Extending the bike lane beyond this segment of the corridor is not currently feasible due to right-of-way constraints south of NJ Route 52 and the need for a two-way center left-turn lane north of Chapman Blvd.

Figure 8-3 | U.S. Route 9 Cross-section with Bike Lanes



Corridor Signing and Striping: In conjunction with traffic calming measures, such as lowering the speed limit to 35 mph and re-striping the shoulder as a buffered bicycle lane, unsignalized intersections along U.S. Route 9 may be striped with high visibility, continental crosswalks. Pedestrian crossing signs (W11-2) and/or an in-road stop for pedestrian signage (R1-6a) at the each crossing will further enhance the visibility of the crossings. The presence of additional marked crosswalks will create a less stressful environment for pedestrians and increase driver awareness of pedestrian activity.

Improve Crossings: The signalized intersections along the corridor are critical crossing points for both pedestrians and bicyclists. The following pages summarize recommendations to enhance the crossing opportunities at each of the existing signalized intersections along the corridor.

Figure 8-4 | Example Driveway Designs in Somers Point

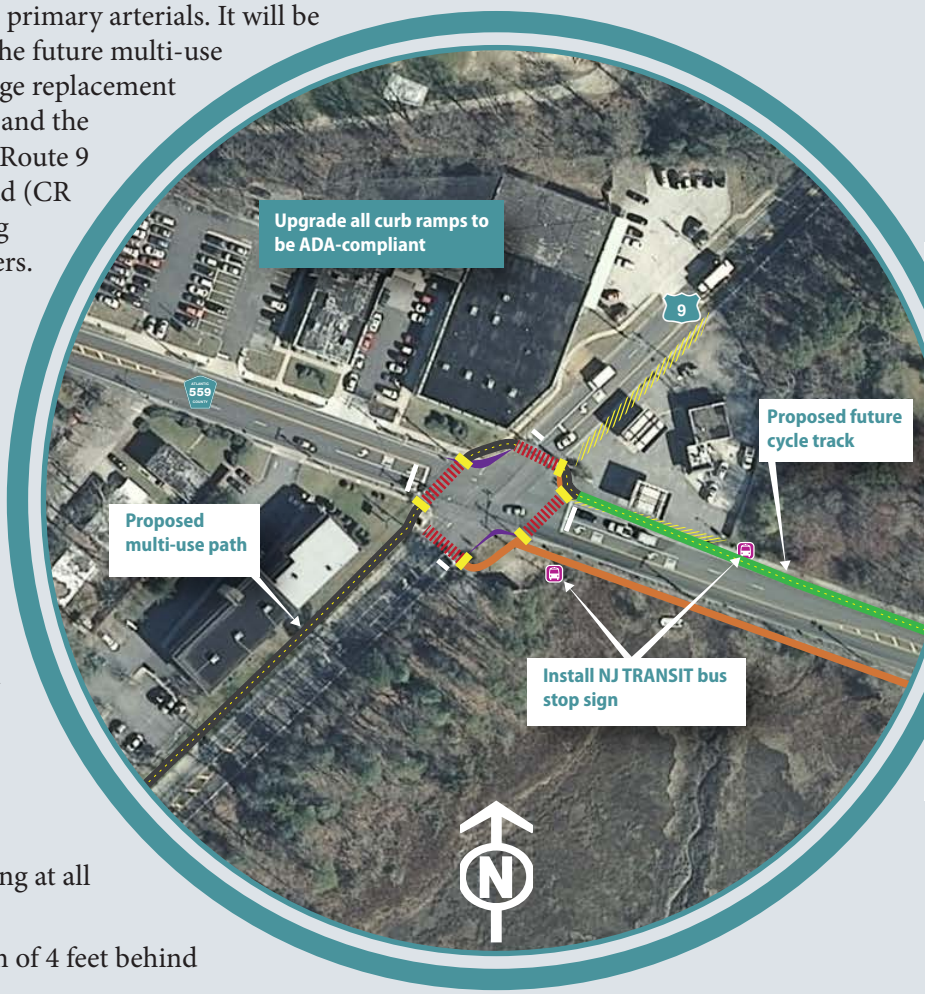
Driveway designed like intersection prioritizes vehicles over pedestrians

Preferred driveway design pulls sidewalk through driveway, prioritizing pedestrians over vehicles

Intersection - Recommendation

U.S. ROUTE 9 AT SOMERS POINT - MAYS LANDING ROAD (CR 559)

This intersection links two of the City's primary arterials. It will be a critical crossing location to connect the future multi-use path on the Garden State Parkway bridge replacement project to the Somers Point waterfront and the existing regional trail network via U.S. Route 9 and Somers Point – Mays Landing Road (CR 559). The intersection is also a crossing location for NJ TRANSIT bus passengers. Improvements include:



Short Term

- Install signage at existing bus stops at the NE and SE corners
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable
- Install a detectable warning surface with truncated domes at the existing curb ramps at the NW and SW corners to provide ADA-compliance

Mid-Term

- Install continental crosswalk striping at all intersection approaches
- Reposition stop bars at a minimum of 4 feet behind the crosswalk striping
- Install ADA-compliant curb ramps at the SE, NE, SW, and NW corners
- Install sidewalk at the SE corner to provide access to the pedestrian push buttons and connect the adjacent crosswalks

Long Term

- Investigate extending the sidewalk at the SE corner east (~400 ft) to connect to the existing sidewalk at a nearby development
- Investigate access changes to the property at the NE corner – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection

Figure 8-5 | U.S. Route 9 (New Road) at Somers Point - Mays Landing Road (CR 559)

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk
- Consolidate Driveway Access
- Move Stop Bar
- Tighten Curb Radius

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 900	$8,800	$ 11,100

Intersection - Recommendation

U.S. ROUTE 9 AT NJ ROUTE 52 / WEST LAUREL DRIVE

The intersection links the City's major north-south and east-west routes. High traffic volumes and speeds and wide crossings create a challenging pedestrian environment. Improvements include:

Short Term

- Install continental crosswalk striping at the crossings of the channelized right-turn lanes at the NW, NE, and SE corners
- Install appropriate signage for ramp crossings (W11-2, W16-7P)

Mid-Term

- Re-stripe existing crosswalks with continental style striping

Long Term

- Reconfigure the right-turn lanes at the westbound and southbound approaches to significantly reduce the curb radii, slow traffic, and reduce lane width and crossing distance
- Install new sidewalks to accompany the right-turn lane reconfiguration

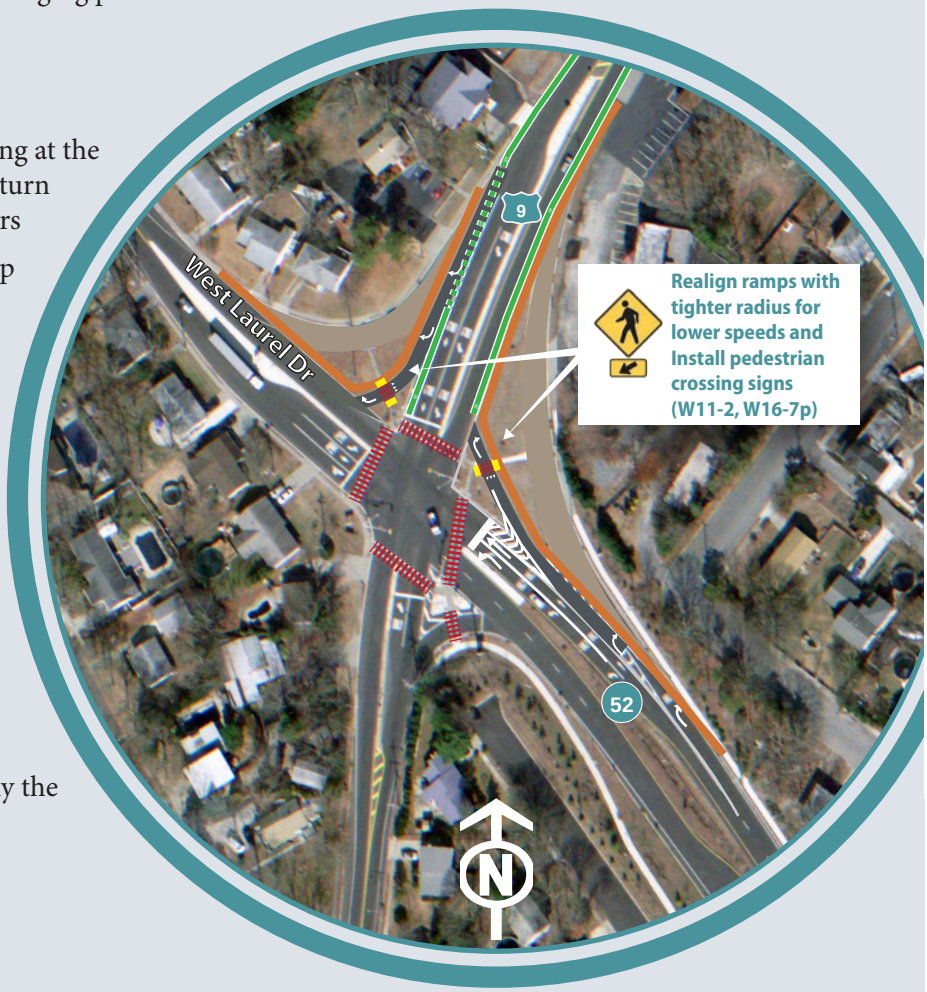


Figure 8-6 | U.S. Route 9 (New Road) at NJ Route 52/West Laurel Drive

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk
- Move Stop Bar
- Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 2,000	$6,900	$ 163,400

Intersection - Recommendation

U.S. ROUTE 9 AT CONNECTICUT AVENUE

The intersection is a critical crossing of U.S. Route 9 on a walking route to the Jordan Road School. Improvements seek to update traffic signal equipment and improve pedestrian circulation. Improvements include:

Short Term

- Install signage at existing bus stop at the SE corner
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable

Mid-Term

- Reconfigure curb ramps at all corners – install two ADA-compliant curb ramps at each corner, providing separate, direct access to each crosswalk
- Re-stripe existing U.S. Route 9 crossings with continental style striping
- Install standard crosswalks at the crossings of Connecticut Avenue
- Reposition stop bars a minimum of 4 feet behind crosswalk striping
- Install sidewalk (~10 ft) along U.S. Route 9 northbound, north of the intersection
- Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons

Long Term

- Investigate access changes to the properties along the southbound approach – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection

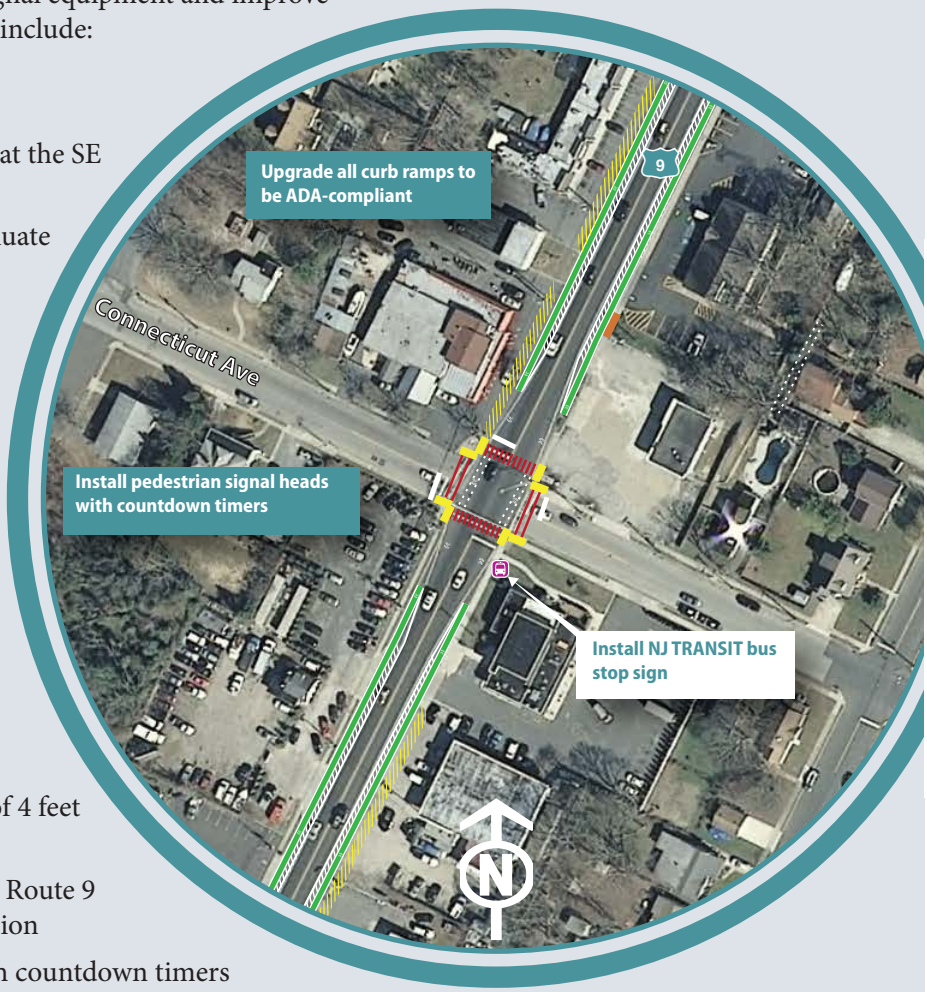


Figure 8-7 | U.S. Route 9 (New Road) at Connecticut Avenue

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Consolidate Driveway Access & Install Sidewalk
- Install Standard Crosswalk
- Install Continental Crosswalk
- Move Stop Bar
- Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 100	$18,200	$ -

Intersection - Recommendation

U.S. ROUTE 9 AT GROVELAND AVENUE

The intersection provides a signalized crossing of U.S. Route 9 that connects various commercial properties. Improvements seek to update traffic signal equipment and improve pedestrian circulation. Improvements include:

Short Term

- Install detectable warning surface with truncated domes at all curb ramps
- Install signage at existing bus stops at the SW and SE corners
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable

Mid-Term

- Install ADA-compliant curb ramps at the NW and NE corners for the crossing of the southbound approach
- Reconfigure curb ramp at the SW corner to reduce the slope, per ADA requirements
- Re-stripe existing U.S. Route 9 crossings with continental style striping
- Reposition stop bar a minimum of 4 feet behind crosswalk striping at the southbound approach
- Install sidewalk adjacent to the property at the SW corner (~440 ft)
- Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons

Long Term

- Investigate relocation of utilities at the SW corner to remove barriers to pedestrian circulation

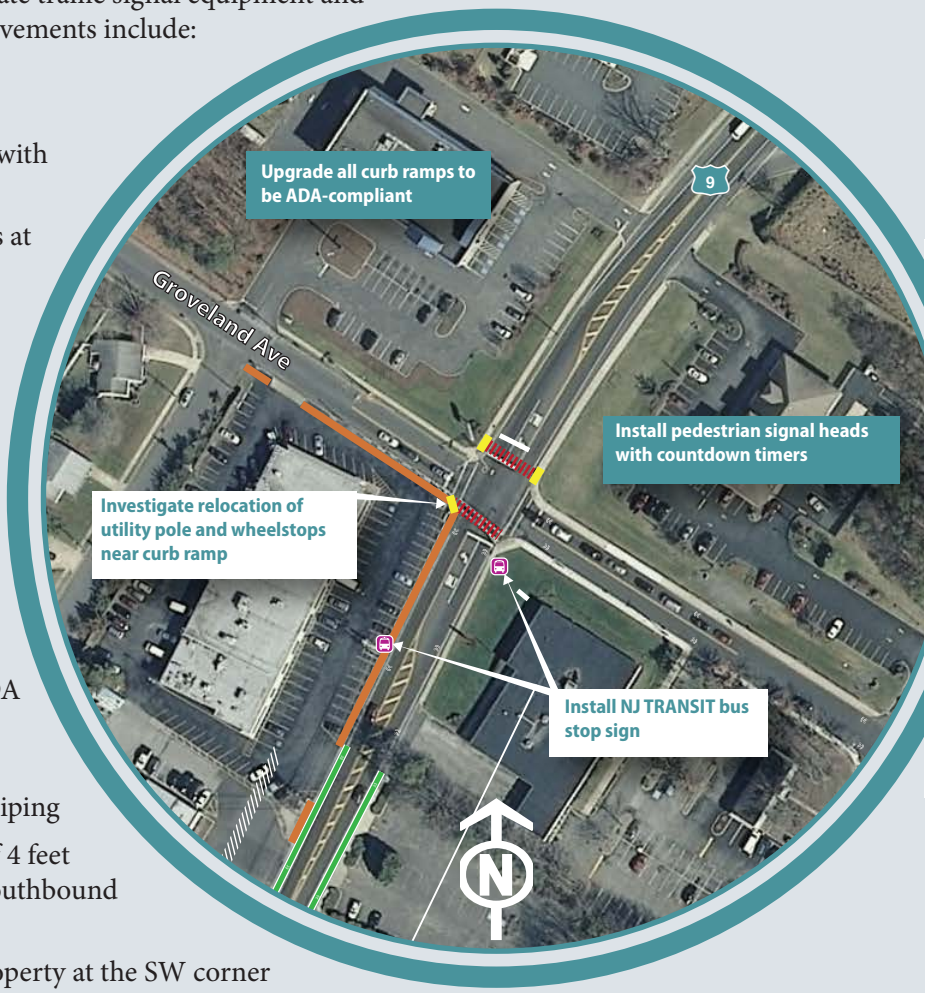


Figure 8-8 | U.S. Route 9 (New Road) at Groveland Avenue

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Consolidate Driveway Access & Install Sidewalk
- Install Continental Crosswalk
- Move Stop Bar
- Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 1,600	$25,800	$ -

Intersection - Recommendation

U.S. ROUTE 9 AT CHAPMAN BOULEVARD

The intersection provides a signalized crossing of U.S. Route 9 that connects various commercial properties. Improvements include:

Short Term

- Re-stripe existing U.S. Route 9 crossings and crossings of the channelized right-turn lanes with continental style striping
- Install appropriate signage for ramp crossings (W11-2, W16-7P)
- Reposition stop bars a minimum of 4 feet behind crosswalk striping at the U.S. Route 9 crossings
- Install detectable warning surface with truncated domes at all curb ramps
- Install signage at existing bus stops at the NW and NE corners
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable

Mid-Term

- Install sidewalk along the northbound approach (~640 ft)

Long Term

- Investigate opportunities to install additional lighting

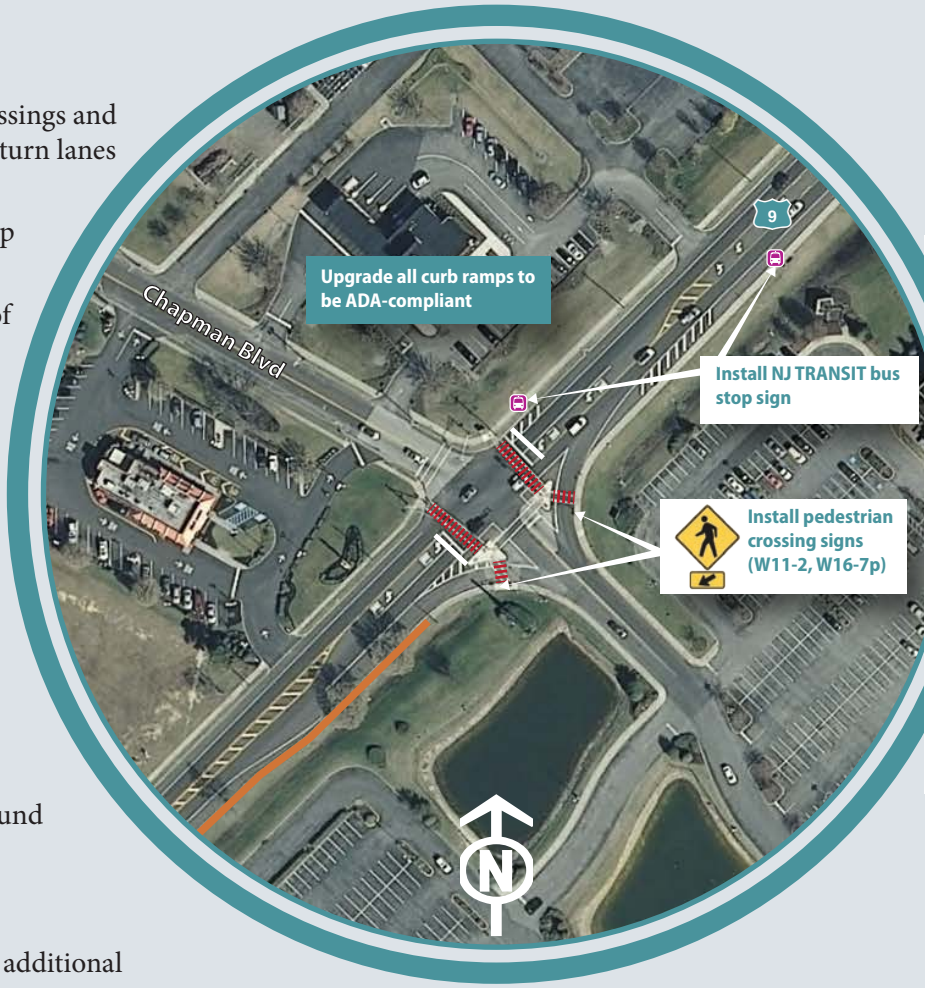


Figure 8-9 | U.S. Route 9 (New Road) at Chapman Boulevard

Install Sidewalk
Install Continental Crosswalk
Move Stop Bar

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 8,800	$17,800	$ -

Intersection - Recommendation

U.S. ROUTE 9 AT BETHEL ROAD

The intersection provides a signalized crossing of U.S. Route 9 that connects various commercial properties. High traffic volumes, intersection skew, and long crossing distances create a challenging pedestrian environment. Improvements include:

Short Term

- Install signage at existing bus stops at the NW and NE corners
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable
- Install appropriate signage for ramp crossings (W11-2, W16-7P)

Mid-Term

- Install new ADA-compliant curb ramps for the crossings of the channelized right-turn lanes at the SE and NW corners; stripe with continental style crosswalk striping
- Re-stripe the crossings of Bethel Avenue with continental style crosswalk striping
- Install ADA-compliant curb ramps, standard crosswalk striping, and stop bar at the intersection with Defeo Lane

Long Term

- Realign channelized right-turn lanes at the NW and SE corners to reduce curb radii, slow vehicular traffic, properly orient the motorists' field of vision, and reduce the pedestrian crossing distance

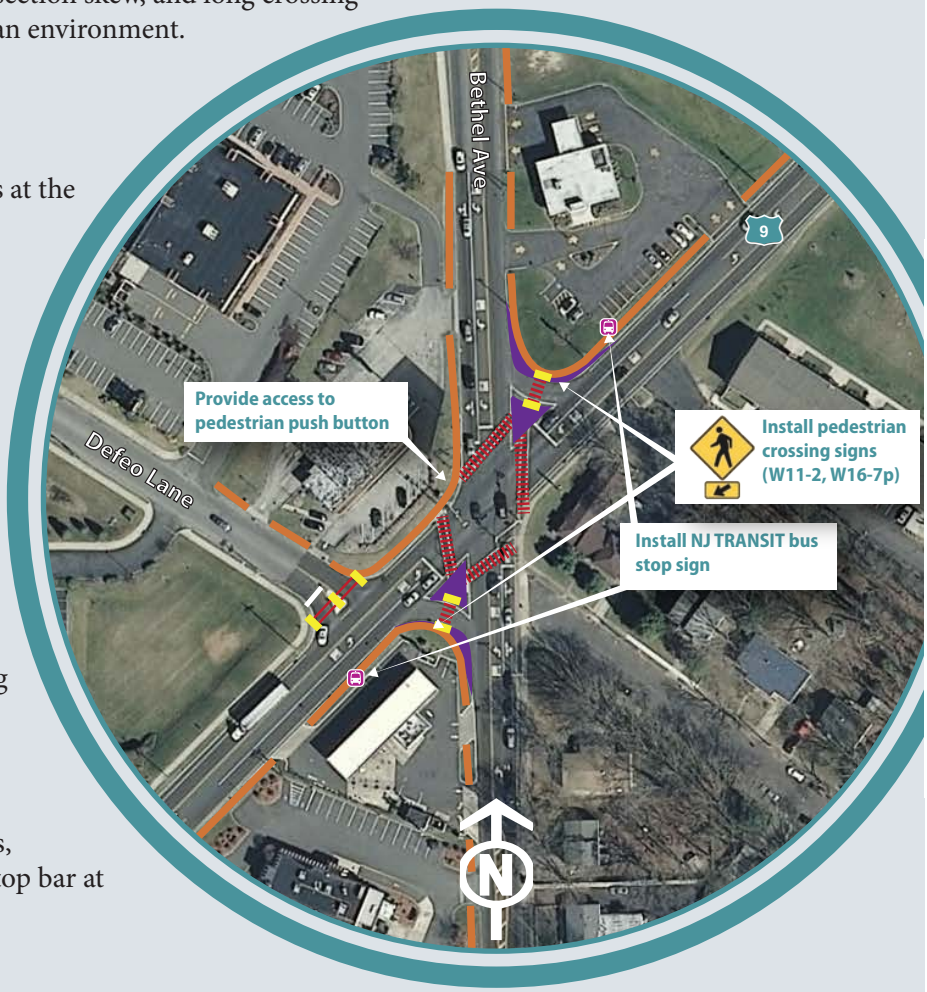


Figure 8-10 | U.S. Route 9 (New Road) at Bethel Road

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 600	$11,900	$ 7,200

Intersection - Recommendation

U.S. ROUTE 9 AT OCEAN HEIGHTS AVENUE (CR 559 TRUCK)

The intersection provides a signalized crossing of U.S. Route 9 that connects various commercial properties. Improvements include:

Short Term

- Install signage at existing bus stop at the SE corner
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable

Mid-Term

- Realign U.S. Route 9 crossing at the northbound approach to be perpendicular to the roadway in order to shorten the crossing distance – install new ADA compliant curb ramp at the SE corner to accommodate the realignment and strip with continental style crosswalk striping
- Re-stripe existing U.S. Route 9 crossings with continental style striping
- Reposition stop bars a minimum of 4 feet behind crosswalk striping at the U.S. Route 9 crossings
- Install sidewalk at the NW and NE corners (~900 ft)

Figure 8-11 | U.S. Route 9 (New Road) at Ocean Heights Avenue (CR 559 Truck)

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk
- Move Stop Bar

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 100	$28,600	$ -

Intersection - Recommendation

In addition to the existing signalized crossings, pedestrian and bicyclist mobility along U.S. Route 9 can be improved by installing new facilities to increase the convenience of crossing opportunities and/or upgrading existing unsignalized crossings. While improvements at existing signalized intersections were discussed in the previous pages, the following are crossing improvements for unsignalized locations along U.S. Route 9:

U.S. ROUTE 9 AT MASSACHUSETTS AVENUE

The largest gap in signalized crossing opportunities along the corridor is between Connecticut Avenue and Groveland Avenue, a distance of 0.43 miles, which is a significant detour length for a pedestrian wishing to cross near the middle of the segment. To provide an additional enhanced crossing opportunity, improvements can be made at the intersection with Massachusetts Avenue. This crossing is located near the middle of the segment and provides connectivity with the street grid for the residential neighborhoods to the east and west of the corridor.

Short Term

Option 1

- Conduct a traffic signal warrant analysis to determine if the intersection meets requirements to install a traffic signal

Mid-Term

Option 2 (If the existing vehicular and/or pedestrian demand is insufficient to trigger a traffic signal warrant)

- Install rectangular rapid flashing beacons (RRFBs). RRFBs would provide a pedestrian-actuated device to significantly increase the visibility of the crossing to vehicular traffic, improve compliance with vehicles stopping for pedestrians, and facilitate pedestrian crossings.
- Install high visibility continental crosswalk striping at U.S. Route 9 crossings
- Install standard crosswalk striping at crossings of Massachusetts Avenue
- Install ADA-compliant curb ramps at all crossings, perpendicular to the roadway
- Reposition stop bars a minimum of 4 feet behind crosswalk striping at the Massachusetts Avenue crossings

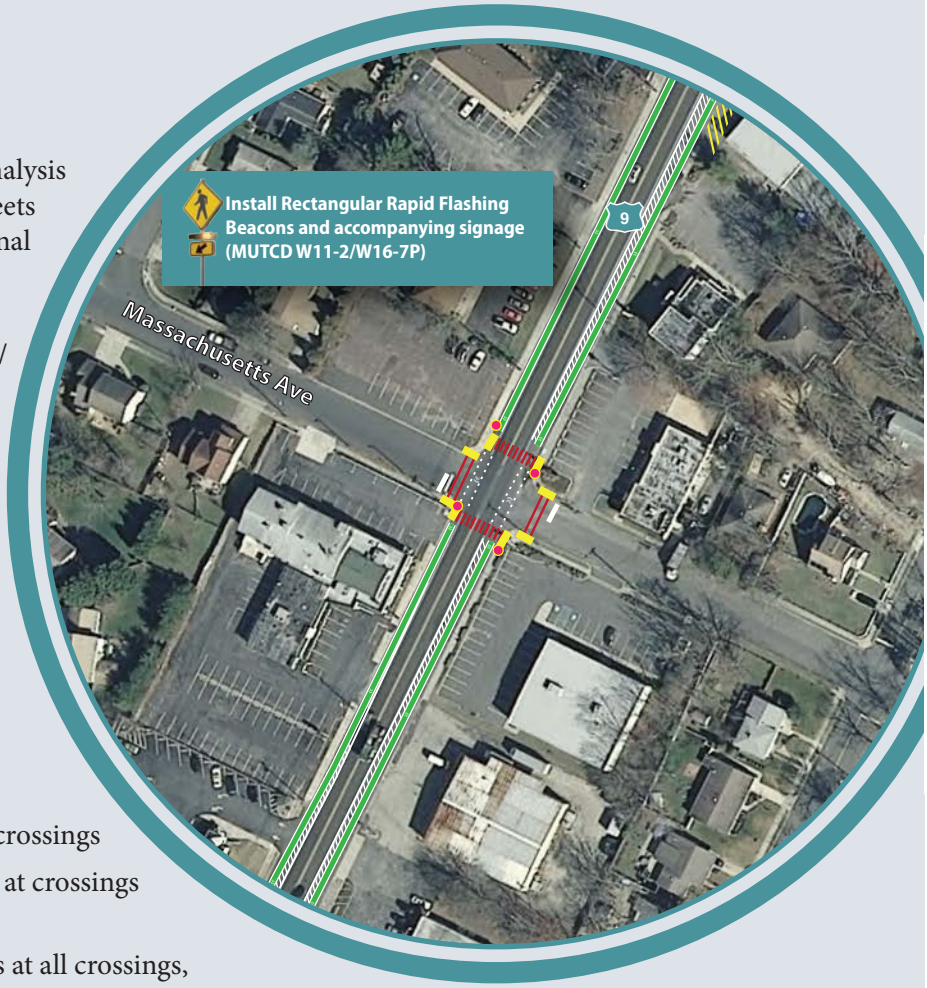


Figure 8-12 | U.S. Route 9 (New Road) at Massachusetts Avenue

Install ADA-Compliant Curb Ramp
Install Continental Crosswalk
Install Standard Crosswalk
Move Stop Bar
Install RRFB
Consolidate Driveway Access & Install Sidewalk
Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ -	$33,300	$ -

Intersection - Recommendation

U.S. ROUTE 9 AT NEW YORK AVENUE

This intersection has a flashing stop signal for the New York Avenue approaches and is striped with a standard crosswalk at the southbound approach on U.S. Route 9 only. New York Avenue provides a direct connection between residences on the east side of U.S. Route 9 and Jordan Road School on the west side.

The crossing can be improved by installing high visibility continental crosswalk striping on both the northbound and southbound approaches of U.S. Route 9, and standard crosswalk striping at the New York Avenue Crossings. Pedestrian-actuated rectangular rapid flashing beacons (RRFBs) should also be installed at each approach to improve the visibility of the crossing.

Mid-Term

- Install rectangular rapid flashing beacons (RRFBs). RRFBs would provide a pedestrian-actuated device to significantly increase the visibility of the crossing to vehicular traffic, improve compliance with vehicles stopping for pedestrians, and facilitate pedestrian crossings. Due to the proximity of the Jordan Road School, utilize fluorescent yellow-green background signage
- Install high visibility continental crosswalk striping at U.S. Route 9 crossings
- Install standard crosswalk striping at crossings of New York Avenue
- Install ADA-compliant curb ramps at all crossings, perpendicular to the roadway
- Reposition stop bars a minimum of 4 feet behind crosswalk striping at the New York Avenue crossings
- Install sidewalk to fill gaps in the network along U.S. Route 9 in the vicinity of the intersection (~330 feet)

Figure 8-13 | U.S. Route 9 (New Road) at New York Avenue

Install ADA-Compliant Curb Ramp
Install Continental Crosswalk
Install Standard Crosswalk
Move Stop Bar
Install RRFB
Consolidate Driveway Access & Install Sidewalk
Install Bike Lane

Long Term

- Investigate access changes to properties along the corridor – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ -	$42,400	$ -

PHASE II – LONG TERM CORRIDOR REDEVELOPMENT

Opportunities exist to revitalize the U.S. Route 9 commercial district by developing a cohesive redevelopment plan to integrate land use and transportation objectives. The corridor may benefit from a form based code effort to spur development and revitalization. The redevelopment plan should include:

- Revised zoning codes to encourage development to reduce building setbacks and pull buildings up to the sidewalk with rear parking.
- Design guidance that encourages internal circulation and minimizes driveway openings through shared access, shared parking, and cross access easments.
- Enhanced streetscape with a consistent treatment, wider sidewalks, pedestrian scale lighting, and amenities such as street trees and street furniture.

Over time, site development will create a friendlier pedestrian and bicycle environment. Figures 8-14 and 8-15 illustrate the potential long-term process of shifting from the auto-oriented strip commercial development patterns typical of the corridor today, to more traditional "main street" development patterns that allow better access for all modes and support Complete Streets principals. The economic benefits associated with such a shift in development patterns are also discussed on page 99.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the U.S. Route 9 corridor, including the intersection improvements, is approximately $505,100.

EXAMPLE: COMMERCIAL TYPOLOGIES

The typical style of retail development in the last half century has been characterized by large building setbacks, ample and visible parking, and increasingly large lot retail establishments. The model below, labeled 'Typology A' is an example of this style of development, often referred to as Strip Commercial Development. This style of development promotes automobile use through the design and placement of its commercial buildings and parking, and discourages walking and other transportation modes through its lack of sidewalks and large spaces between buildings and the roadway. Typology B can be found on the following page. This model shows a "Walkable Retail Development" that is typical of older and more established urban and suburban cores, most often built before 1950. The model features the exact same quantities of commercial space and parking on the exact same size lot as Typology A; however, in this model, the commercial buildings are constructed directly adjacent to the roadway, parking is provided behind the buildings, and properties share driveway access to reduce the number and width of driveway openings. Additionally, this model features a sidewalk that gives pedestrians direct access to the commercial space.

LAND USE AND WALKABILITY

Decisions made by planners and developers on site design and land use have tangible effects on the walkability of an environment. Despite the same specifications in lot, commercial and parking square footage, Typologies A and B exhibit quite different support for multi-modal access. The site design in Typology A is focused solely on maximizing the ability of automobiles to access the site. On the other hand, Typology B provides the identical support for automobile access but also accommodates multi-modal access and encourages a safer environment for pedestrians and other users by shifting the visual focus of the corridor from a highway typology to a downtown typology. Automobile drivers, responding to visual interest, tend to exhibit slower driving speeds in an environment similar to Typology B than Typology A, thereby increasing the safety for all users.

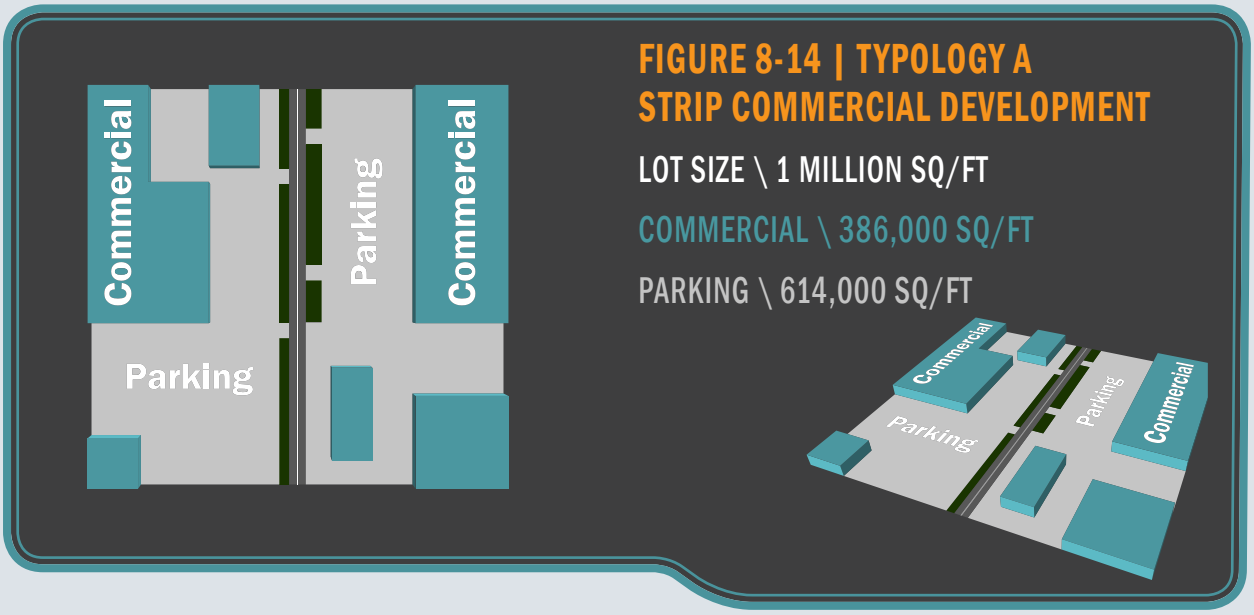
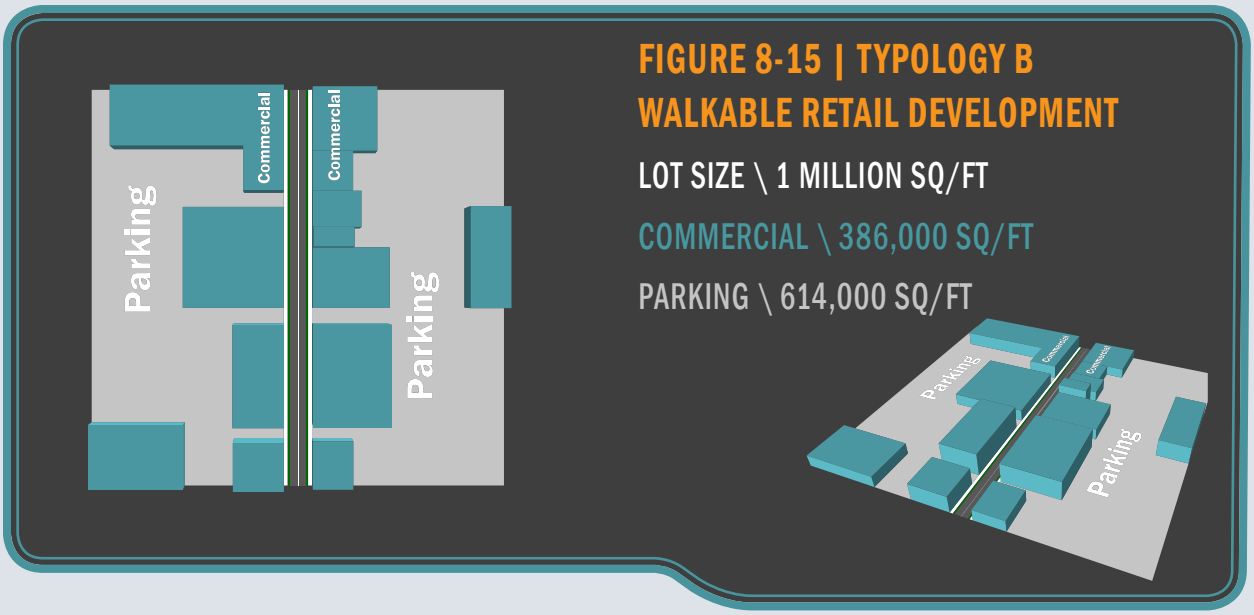


FIGURE 8-14 | TYPOLOGY A
STRIP COMMERCIAL DEVELOPMENT

LOT SIZE \ 1 MILLION SQ/FT

COMMERCIAL \ 386,000 SQ/FT

PARKING \ 614,000 SQ/FT



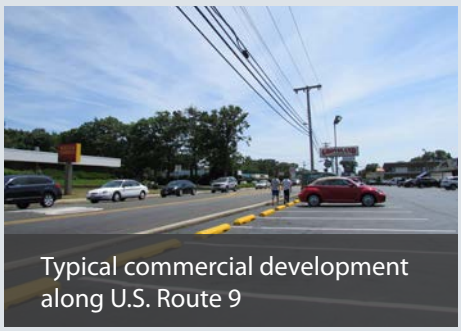
ECONOMIC BENEFITS OF WALKABILITY

The walkability of a community is important not only because of the influence it has on access, quality of life, and transportation equity, but also because studies have shown that walkable areas tend to have higher economic value than non-walkable areas. Economic benefits of walkability include:

- A 10 point increase in *Walk Score** increases commercial property values by 5-8% [study by University of Arizona, 2009].
- A one point increase in *Walk Score** could increase a residential home value by $700 to $3000 dollars, depending on the area [study by CEOs for Cities, 2009]
- Case studies indicate that traditional, downtown style commercial development have higher assessed property values and therefore a higher economic value and generate significantly ***more tax revenue*** for the community than non-walkable development. For example, a 2012 study by Strong Towns compared two adjacent and identically sized blocks in Brainerd, Minnesota. One block was an older, traditional downtown style block with multiple local storefronts deemed blighted by city planners. The other block was a new, single-use, auto-oriented fast food establishment with a large setback. After comparing the tax assessments of both blocks, the study concluded that the 'old and blighted' block outperformed the new, auto-oriented development by 41%.

RELEVANCE TO U.S. ROUTE 9

Typology A is patterned after typical development patterns seen on U.S. Route 9. This arterial roadway, carrying a 40 mph speed limit, functions as a highway and represents a major physical barrier bisecting Somers Point. The corridor is supportive, however, of the development pattern seen in Typology B. A phased development of this corridor in this fashion might increase the walkability and economic vitality of Somers Point.


Typical commercial development along U.S. Route 9

**Walkability is defined by the Walk Score algorithm (www.walkscore.com), which works by calculating the closest amenities – restaurants, coffee shops, schools, parks, stores, libraries, etc. – to any U.S. address. The algorithm then assigns a "Walk Score" from 0-100, with 100 being the most walkable and 0 being totally car-dependent. Walk Scores of 70+ indicate neighborhoods where it's possible to get by without a car.*

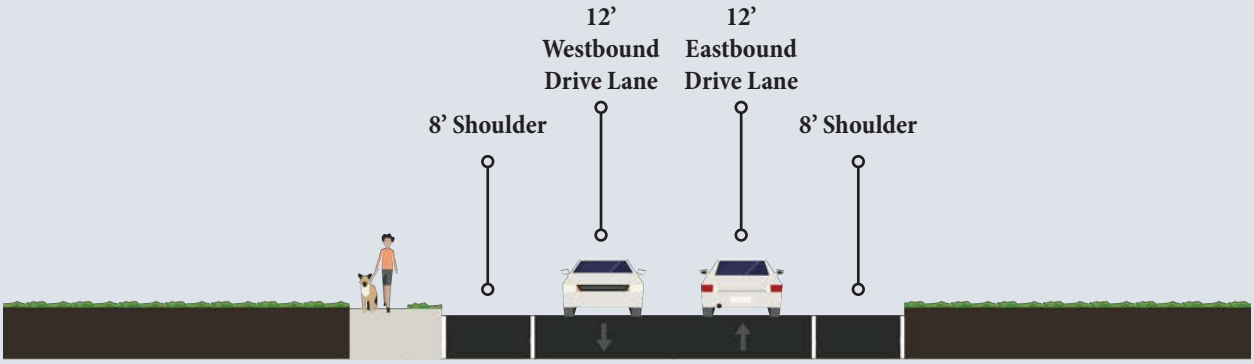
SOMERS POINT – MAYS LANDING ROAD (CR 559)

CONCEPT: BICYCLE CONNECTIVITY

Somers Point – Mays Landing is the principal east-west arterial across the southern portion of Somers Point, providing a connection to Egg Harbor Township to the west and the NJ Route 52 Causeway and Somers Point Historic District to the east. The existing roadway has a 40 – 45 mph speed limit with a typical cross-section of two 12-foot lanes, eight-foot shoulders, and a continuous sidewalk in the westbound direction, as shown in Figure 8-16.

There are currently no bicycle facilities along Somers Point – Mays Landing Road, although the existing shoulder is bicycle compatible by NJDOT guidelines. The existing conditions analysis identified the segment of the corridor from U.S. Route 9 to NJ Route 52 (0.75 miles in length) as a critical link in the regional trail network. This portion of the corridor will connect the NJ Route 52 Causeway and Somers Point Bike Path to the new multi-use path being constructed as a part of the Garden State Parkway bridge replacement project over Great Egg Harbor Bay. To link the new facility on the GSP to the existing regional trail network, **the following phased improvements are recommended**:

Figure 8-16 | Somers Point - Mays Landing Road Existing Cross Section



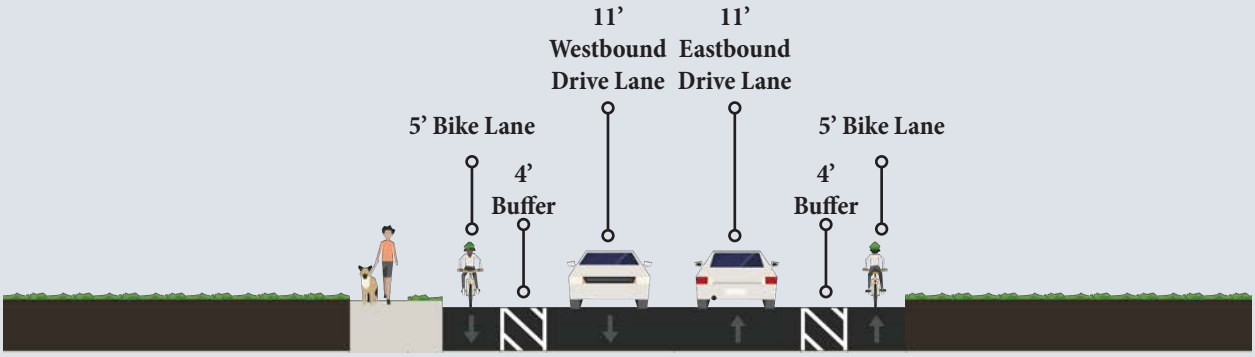
Short-to-Mid-Term:

Re-stripe Shoulders as Bike Lanes: The existing bicycle compatible shoulders can be marked as bike lanes, which would provide a designated facility for bicyclists. Bicyclists' comfort can be enhanced by reducing the travel lanes to 11 feet and striping a 4-foot buffer to visually separate the 5-foot bicycle lane from the travel lanes (as shown in Figure 8-17). Due to the high speed of the roadway (45 mph) and lack of physical separation between bicyclists and motorists, the improvement would not lower the existing level of stress metric from a four, typically suitable for only the most experienced riders. However, a designated bicycle facility and striped buffer would provide a qualitative improvement over the existing condition and potentially attract some category three, "enthusiastic" riders. The re-striping is recommended in conjunction with the completion of GSP bridge replacement project in order to provide a designated facility to connect the new multi-use path with the existing trail network in Somers Point.

Long Term:

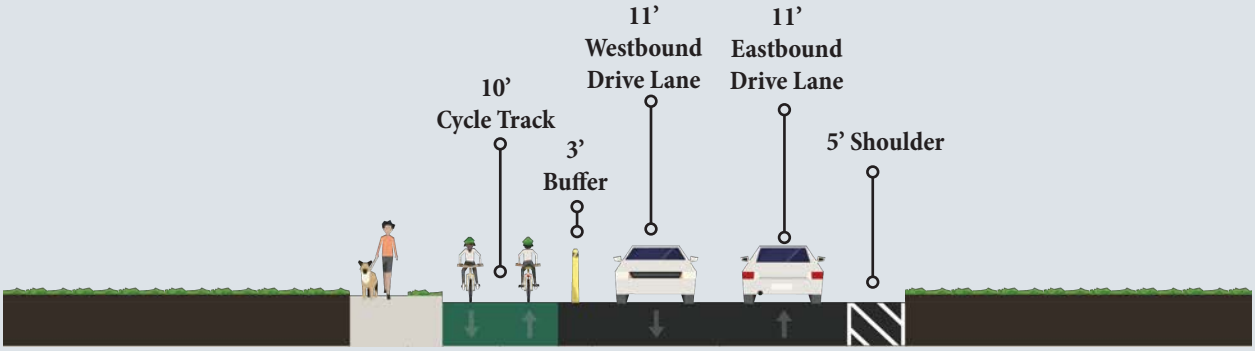
Re-stripe with Two-Way Cycle Track: In the long term, as ridership and usage of the new multi-use path along the GSP increases, Somers Point – Mays Landing Road can be further enhanced by providing a separated facility for bicyclists. The existing roadway can be reconfigured with a two-way cycle track separated from traffic by flexible bollards. Based on input from City officials, the preference is to have the cycle track on the westbound side of the roadway. The vehicle lanes would be narrowed to 11 feet, and a 5 foot shoulder provided in the eastbound direction, as shown in Figure 8-18. Driveways are

Figure 8-17 | Somers Point - Mays Landing Road Mid-Term Cross Section



infrequent along the westbound side of the segment. Where they exist, striping should clearly delineate the cycle track and alert motorists entering/exiting the driveway of two-way bicycle traffic. There are two intersections along westbound side - Holly Hills Drive and Great Bay Drive. These intersections are excessively wide (two 70-foot lanes separated by a splitter island at Holly Hills Drive and a 55-foot entrance lane and 20-foot exit lane at Great Bay Drive). The implementation of the cycle track should be used as an opportunity to significantly reduce the widths of these access points to a conventional width. At Holly Hill Drive, for example, one side of the existing entrance could be closed, and the remaining 70-foot width narrowed and a splitter island entrance treatment installed. This proposal is highly conceptual and will require further study.

Figure 8-18 | Somers Point - Mays Landing Road Long-Term Cross Section



At the west end of the segment, the cycle track would tie into the proposed off-road multi-use path along U.S. Route 9 to the new GSP bridge, which is discussed in Section 5-C. At the east end, cyclists would use the existing crosswalks and pedestrian signals to cross Somers Point-Mays Landing Road and connect to the NJ Route 52 Causeway or to cross NJ Route 52 and connect to the Somers Point Bike Path. The cycle track option would maintain a separated bicycle facility throughout the trail network within Somers Point, reducing the segment's level of stress to a one and providing higher levels of comfort and access for all types of cyclists. Regionally, it would enable bicyclists to travel separated from vehicular traffic from Beesley's Point to Ocean City and Pleasantville.

Improve Crossings: In addition to the corridor-wide improvement concepts, opportunities exist to enhance the crossings at the signalized intersections along the corridor. Improvements to the intersection at U.S. Route 9 were discussed in the U.S. Route 9 Corridor section; recommendations for the intersection at NJ Route 52 are summarized on the following page.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the Somers Point-Mays Landing Road corridor, including the intersection improvements, is approximately $24,200 for short/mid-term option and $29,800 for long-term option.

Intersection - Recommendation

NJ ROUTE 52 AT SOMERS POINT – MAYS LANDING ROAD (CR 559) / SHORE ROAD (CR 585)

This recently constructed intersection is the gateway to the NJ Route 52 Causeway and provides a signalized crossing connecting the Somers Point Bike Path and the Causeway multi-use path. The intersection replaced the Somers Point Circle during the causeway replacement. Recommendations include:

Short Term

- Reposition signing and trim vegetation at the SE corner to improve visibility of pedestrian activity for westbound motorists, particularly pedestrian crossings at the channelized right-turn island
- Install wayfinding signage to identify connections between the Somers Point Bike Path, Ocean City Bike Path/NJ Route 52 Causeway, and major destinations in Somers Point

Figure 8-19 | NJ Route 52 at Somers Point - Mays Landing Road (CR 559) / Shore Road (CR 585)

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 600	$ -	$ -

Intersection - Recommendation

SOMERS POINT – MAYS LANDING ROAD (CR 559) AT BROADWAY

During the course of the study, the City Engineer made the project team aware of a fatal pedestrian crash that occurred in September 2014. The detailed police report and information related to contributing factors were unavailable at the time of the analysis. However, an initial review of information available in newspaper reports indicated that the area may benefit from improved pedestrian connections between the resaurants south of Broadway and the parking area north of Broadway.

Mid-Term

- Complete the sidewalk network along the westbound side of Broadway, connecting the existing striped crossing of Broadway to the restaurants south of Broadway, as well as to the sidewalk along Somers Point-Mays Landing Road.
- Instal high visibility continental crosswalk striping at the driveway crossings
- Install ADA-compliant curb ramps

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ -	$ 8,700	$ -

Figure 8-20 | Somers Point - Mays Landing Road (CR559) at Broadway

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk

BAY AVENUE

CONCEPT: DESTINATION PLACEMAKING

Bay Avenue is the primary corridor along Somers Point's waterfront, providing access to the Historic District and popular waterfront destinations. The corridor is low speed (25 mph) and relatively low volume (approximately 4,000 AADT according to NJDOT 2013 data). While the corridor has an extensive pedestrian network and the existing traffic conditions create a low level of stress for cyclists, there are opportunities to enhance bicycle and pedestrian facilities and amenities throughout the corridor and the surrounding Historic District in order to create a more cohesive network and foster development.

The following improvements are recommended:

- Stripe with shared-lane markings (corridor wide)
- Investigate further enhancement to a cycle track from NJ 152 (Maryland Avenue) to Ocean Avenue
- Upgrade pedestrian crossings to enhance visibility and maintain consistent streetscape including the addition of curb extensions at key intersections
- Investigate opportunities for a Harborwalk from Goll Avenue to Delaware Avenue
- Improve connections to other elements of the bicycle network
- Investigate opportunities for a Marshwalk between NJ 152 (Maryland Avenue) and Ocean Avenue
- Utilize placemaking strategies such as wayfinding and bicycle amentities to foster bicycle and pedestrian activity
- Investigate development opportunities

The suite of recommendations for Bay Avenue and the surrounding Historic District are discussed in more detail in the section on Bay Avenue Development Strategies on page 116.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the Bay Avenue corridor is approximately $81,900.


GREAT BAY
GALLERY

WEST LAUREL DRIVE

CONCEPT: GATEWAY TO RESIDENTIAL NEIGHBORHOOD

West Laurel Drive runs east to west, from U.S. Route 9 and NJ Route 52 in the east to the Garden State Parkway (GSP) in the west. West Laurel Drive functions both as a residential street with a 25 mph speed limit as well as a busy thoroughfare – the only southbound exit on the GSP in Somers Point is at the mouth of West Laurel Drive. As a result of the juxtaposition of these two functions, there are challenges to maintaining the 25 mph speed limit that is congruous with the residential street. West Laurel Drive is 40 feet wide curb-to-curb with two 11-foot travel lanes and a 9-foot parking lane/shoulder on both sides. The sidewalk network is consistent along the entire corridor.

The existing conditions analysis identified two principal issues along the corridor:

- Although several crosswalks, marked with continental striping with retro-reflective signage, were noted at prominent intersections, not all crossings of West Laurel Drive are marked and there are no signalized crosswalks between the GSP toll plaza and the signalized intersection with U.S. Route 9. Pedestrian crossings at side streets are largely marked with standard crosswalk striping.
- West Laurel Drive carries a high volume of seasonal visitors to Shore locations, who are often unfamiliar with the roadway and who may not be expecting to encounter a low-speed residential roadway as they leave the GSP and enter Somers Point. While the speed limit is indicated on numerous signs and roadway striping, proximity to the GSP and the wide cross section of the roadway contribute to many vehicles traveling above the posted speed along the corridor.

The following improvements are recommended:

- **Install Splitter Island:** Travelers exiting the GSP onto Laurel Drive have a tendency to drive above the speed limit. The installation of a splitter island near the GSP exit (shown in Figure 8-21 on the following page) will serve as an effective gateway treatment as motorists transition from the GSP to a residential street. The splitter island will slightly divert and slow traffic. The City's welcome sign may also be integrated into the island to welcome visitors to Somers Point.
- **Install Curb Extensions:** The existing shoulder may be used to install curb extensions at intersections throughout the corridor (shown in Figure 8-23 on the following page). The addition of curb extensions will shorten crossing distances at crosswalks and narrow the roadway width at intersections. The physical narrowing of the roadway will calm turning and through traffic, as well as improve the visibility between pedestrians and motorists and make pedestrian crossings more obvious to drivers.
- **Upgrade Crosswalks:** Currently, a mixture of continental and standard crosswalk striping, as well as unmarked crossings, can be found on West Laurel Drive. Crosswalks should be upgraded to continental striping at all intersections along West Laurel Drive, in conjunction with the addition of curb extensions.
- **Install Signage:** In-road "Stop for Pedestrian" signs (MUTCD R1-6a) should be installed at key crossing locations along the corridor to reinforce the stop-for-pedestrian law.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the West Laurel Drive corridor is approximately $66,100.

Figure 8-21 | West Laurel Drive Aerial

Aerial markup of proposed traffic calming treatment along West Laurel Drive

Figure 8-22 | West Laurel Drive Existing

Existing conditions on West Laurel Drive at Ambler Road, facing west

Figure 8-23 | West Laurel Drive Photosimulation

Simulation showing curb extensions to shorten crossing of West Laurel Drive and calm traffic, as well as improved signage

SHORE ROAD (CR 585)

CONCEPT: TRAFFIC CALMING

Shore Road is a north-south corridor providing a parallel route to U.S. Route 9 and Bay Avenue. It provides access to key destinations in the City, including City offices, the Shore Medical Center, and connections to the NJ Route 52 Causeway, Linwood, and the Historic District. The existing cross-section is two 15-foot lanes, no shoulders, and a complete sidewalk network on both sides of the roadway.

The following improvements are recommended:

Implement Consistent Speed Limit: The limited right-of-way constrains opportunities to enhance conditions for bicyclists. However, the speed limit can be adjusted, in conjunction with targeted enforcement and education efforts, in order to moderate vehicular traffic speeds. The current speed limit along the corridor increases from 30 mph (between NJ Route 52 and Bethel Road) to 35 mph north of Bethel Road. It is recommended to maintain a consistent 30 mph speed limit throughout the corridor. A 30 mph speed limit would be supportive of the surrounding land use context, which includes relatively dense residential, commercial properties, and Dawes Avenue Elementary School. The standard 30 mph speed limit would also set consistent driver expectations throughout the corridor. A speed study should be conducted to evaluate this change.

Improve Unsignalized Crossings: Opportunities also exist to enhance several unsignalized intersections in order to improve connections between the Somers Point Bike Path and Bay Avenue. At the intersections with New Jersey Avenue and Ocean Avenue, rectangular rapid flashing beacons (RRFBs) and continental crosswalks would improve the visibility of the crossing for bicyclists and pedestrians. These intersections are discussed in more detail in the Bay Avenue Development Strategies section.

Improve Signalized Crossings: In addition to the corridor-wide improvement concepts, opportunities exist to enhance the crossings at the signalized intersections along the corridor. Improvements to the intersection at NJ Route 52 were discussed in the Somers Point-Mays Landing Corridor section, while recommendations for the intersection with Maryland Avenue can be found in the Bay Avenue Development Strategies section. Recommendations for the intersection at New York Avenue are summarized on the following page.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the Shore Road (CR 585) corridor, including the intersection improvements, is approximately $48,400.

SHORE ROAD (CR 585) AT NEW YORK AVENUE

The offset geometry of the intersection makes circulation challenging for pedestrians and motorists. The intersection provides a signalized crossing of Shore Road and access to the hospital and Somers Point waterfront. Recommendations include:

Mid-Term

- Realign the crossing of the northbound approach to create a perpendicular crossing of Shore Road, significantly reducing the crossing distance. Install ADA-compliant curb ramps to accommodate the crosswalk realignment and reposition the stop bar a minimum of 4 feet behind the crosswalk. Utilize the split phasing at the intersection to mitigate potential visibility issues and reduce potential conflicts between pedestrians crossing at the northbound approach and vehicles turning right at the eastbound approach - coordinate the 'Walk' signal for the crossing of the northbound approach with the westbound green. Install a "No Turn on Red" sign at the eastbound approach (MUTCD R10-11a)
- Install pedestrian signal heads with countdown timers, and reposition the signal head and push button at the SW corner to accommodate the realigned crosswalk

Long Term

- Investigate opportunities to install additional lighting, such as pedestrian scale lighting along Shore Road

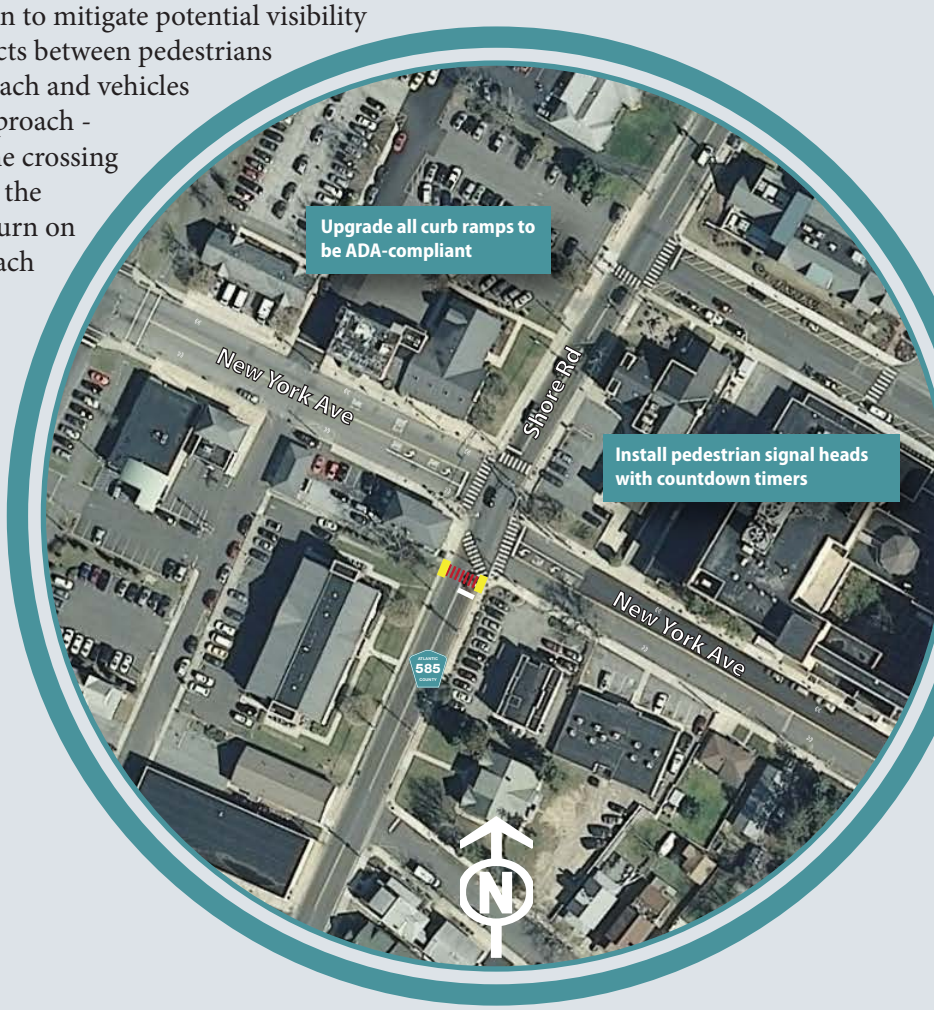


Figure 8-24 | Shore Road (CR 585) at New York Avenue

Install ADA-Compliant Curb Ramp
Realign Continental Crosswalk
Move Stop Bar

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ -	$ 10,500	$ -

BETHEL ROAD

CONCEPT: REALIGN INTERSECTIONS

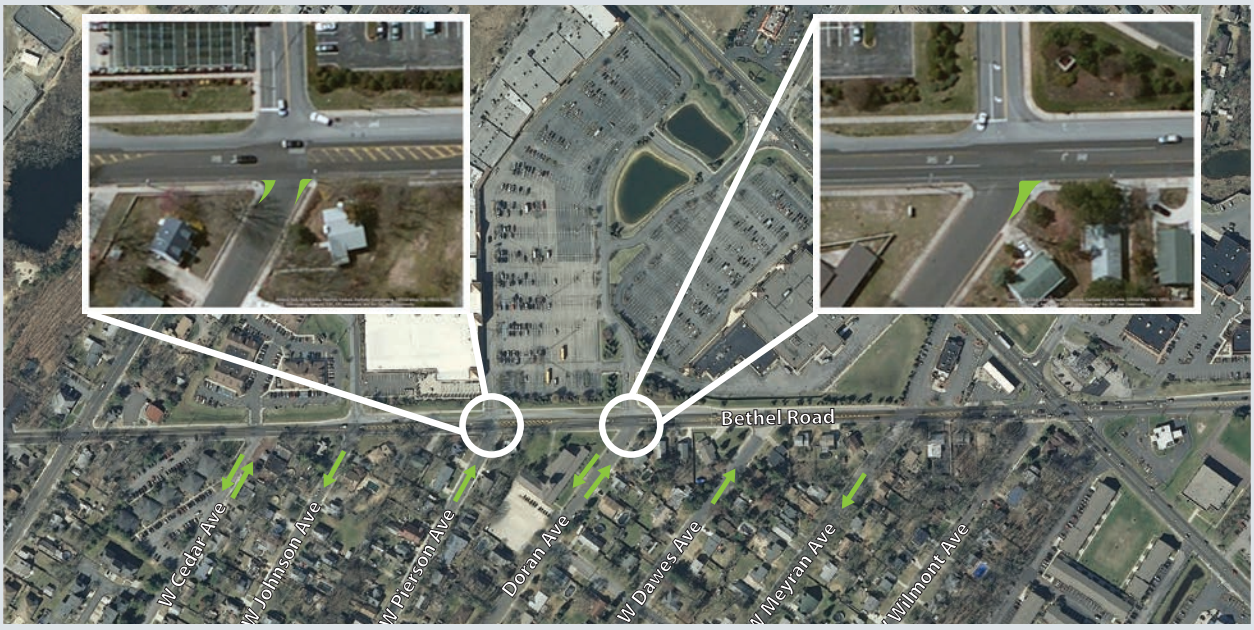
Bethel Road is one of the only major roadways to run north-south at an angle compared to the rest of the relatively square grid roadway network. This creates numerous skewed roadway intersections, leading to long crossing distances with poor visibility.

The following improvements are recommended:

Evaluate Potential One-Way Conversions: One possible improvement that could be implemented corridor-wide is to identify pairs of streets that could be converted from two-way traffic flow into one-way traffic flow. Two potential streets are Meyran Avenue (westbound) and Dawes Avenue (eastbound) between Bethel Road and Montgomery Avenue. Another possible pair would be Pierson Avenue (already one-way westbound) and Johnson Avenue(eastbound) between Bethel Road and First Avenue.

These conversions would reduce the number of vehicle conflicts at intersections along Bethel Road and permit new curb extensions or other physical improvements to reduce the skew of the intersections. Squaring off the intersections would significantly reduce the pedestrian crossing distances across the side streets and slow the speed of turning vehicles. However, the new one-way street circulation could inconvenience some residents, and would require additional traffic analysis prior to implementation.

Figure 8-25 | Bethel Road One-Way Conversions and Roadway Realignment



Improve Crossings: In addition to the corridor-wide improvement concepts, opportunities exist to enhance two major crossings of the corridor - the signalized intersection at Groveland Avenue and the Somers Point Bike Path crossing adjacent to First Street. Recommendations for these crossings are detailed on the following pages. Recommendations for the intersection with U.S. Route 9 were discussed in the U.S. Route 9 section.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the Bethel Road corridor, including the intersection improvements, is approximately $85,500.

Intersection - Recommendation

BETHEL ROAD AT GROVELAND AVENUE

Short Term

- Install detectable warning surface with truncated domes at all curb ramps

Mid-Term

- Restripe crosswalks across Bethel Road as continental style
- Reposition the stop bar at the northbound approach a minimum of 4 feet behind the crosswalk
- Install sidewalk at NE corner along Bethel Avenue (~100 ft)
- Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons

Figure 8-26 | Bethel Road at Groveland Avenue

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk
- Move Stop Bar

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 1,400	$ 14,200	$ -

Intersection - Recommendation

BETHEL ROAD AT FIRST AVENUE/SOMERS POINT BIKE PATH

The intersection of Bethel Road at First Avenue presents an opportunity to improve safety at the Somers Point Bike Path crossing and also provide new pedestrian and bicycle connections between the surrounding residential neighborhoods, the Bike Path, and the Fehrle Field recreational complex. Proposed improvements include:

Mid-Term

Realign Intersection: Realign First Avenue to create a perpendicular roadway connection to Bethel Road. New curbing would reduce the turning radius for southbound right-turning vehicles, thereby reducing vehicle speeds.

Improve Crossings: Two new continental-style crosswalks across Bethel Road, along with pedestrian-actuated rectangular rapid flashing beacons (RRFBs), would provide increased visibility to motorists, improve motorist compliance with the "stop for pedestrians" law, and improve comfort levels for pedestrians and cyclists crossing the roadway. An additional crosswalk across First Avenue would further enhance pedestrian circulation. New landscaping elements would guide foot traffic to the appropriate crosswalks.

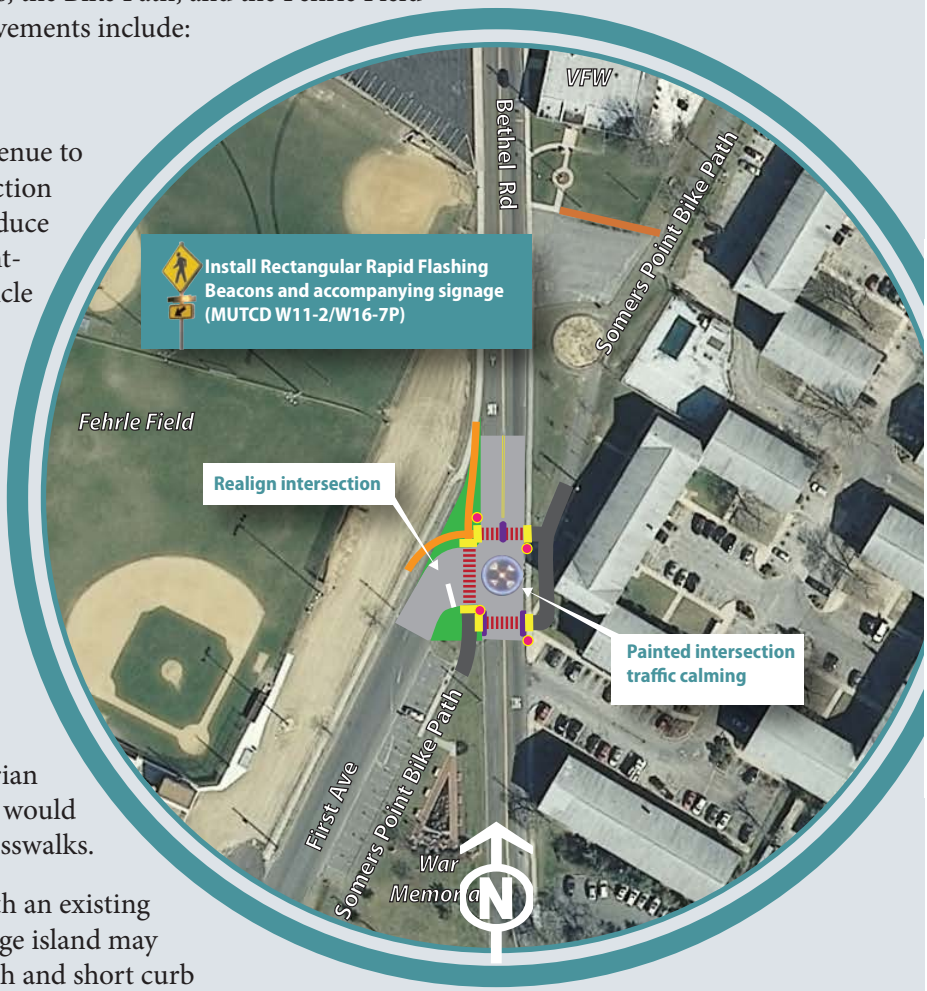


Figure 8-27 | Bethel Road at First Avenue / Somers Point Bike Path

- Install ADA-Compliant Curb Ramp
- Install Continental Crosswalk
- Install Sidewalk
- Move Stop Bar
- Realign Multiuse Path
- Install RRFB
- Install Refuge Island & Curb Extensions

Install Traffic Calming Elements: With an existing 35-foot cross section, a pedestrian refuge island may be installed at the southbound approach and short curb extensions at the northbound approach at the primary bike path crossing. Adjacent to the City's recreational complex, a painted intersection would fit the context of the area. Painted intersections provide visual interest that slows vehicular traffic - an element that has been used in nearby locations such as Ocean City.

Install Sidewalk: A short new sidewalk connector between the Somers Point Bike Path and Fehrle Field would serve as a new, direct access point for the bike path and would also provide a convenient connection between the apartment complex on the east side of Bethel Road and the park. The proposed new crosswalks would also enhance the pedestrian connection between the VFW Hall and the War Memorial.

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ -	$ 69,900	$ -

MARYLAND AVENUE / NJ ROUTE 152

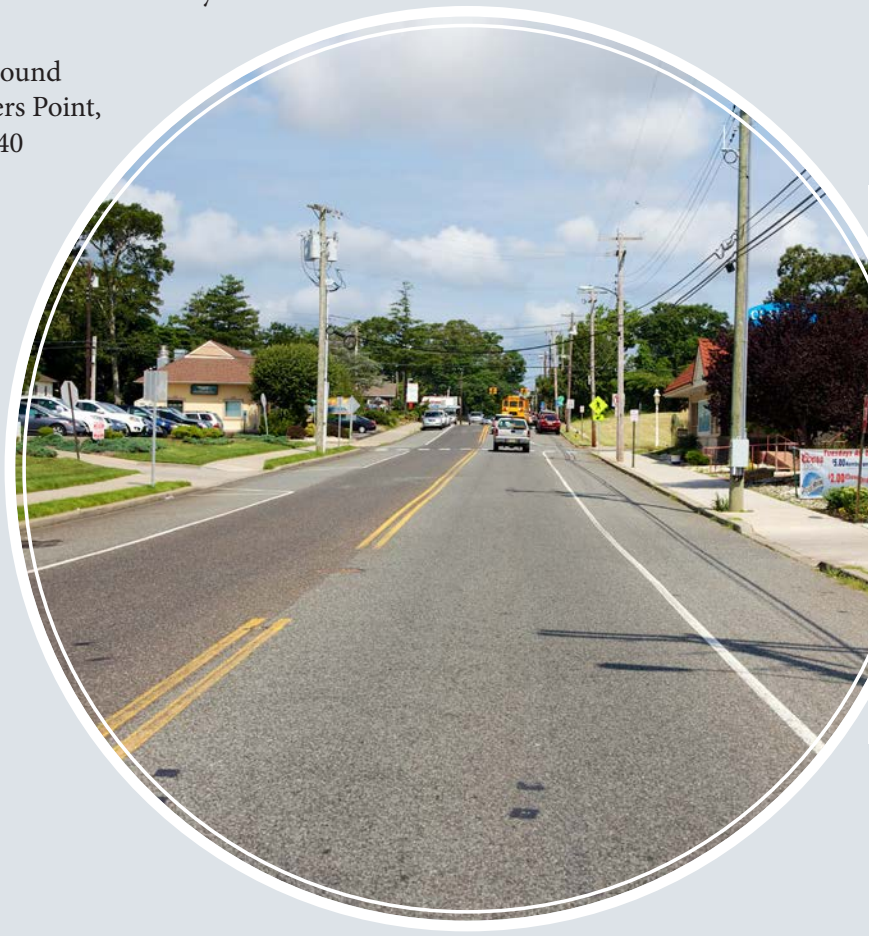
CONCEPT: GATEWAY TO SOMERS POINT

Maryland Avenue is an east-west roadway providing an external connection to Longport, as well as a connection between Bay Avenue and the Somers Point Bike Path. The existing alignment of the roadway is two 12-foot lanes with 12-foot shoulders on both sides of the roadway. The principal issue identified in the existing conditions analysis is vehicle speeds along the corridor. The speed limit drops from 50 mph approaching Somers Point from the east to 40 mph, with a further reduction to 25 mph just west of Bay Avenue. There are no substantial changes to the cross section of the roadway accompanying the change in speed.

The following improvements are recommended:

- Install a bike lane between Bay Avenue and the Somers Point Bike Path
- Enhance pedestrian mobility at the intersections with Bay Avenue and Shore Road
- Install a gateway treatment at the westbound approach of the corridor entering Somers Point, indicating a clear transition zone from 40 mph to 25 mph

These recommendations for Maryland Avenue are discussed in more detail in the section on Bay Avenue Development Strategies on page 116.



ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

The order of magnitude material cost estimate for the Maryland Avenue corridor, including the intersection improvements, is approximately $26,900.


SOMERS POINT MARINA
SMITH'S MARINA
BOAT SLIPS
& STORAGE


The Breakfast Shop
Serving Breakfast Everyday
6:00am - Noon
OPEN YEAR ROUND

BAY AVENUE
DEVELOPMENT STRATEGIES

BAY AVENUE DEVELOPMENT STRATEGIES

Through the *Somers Point Vision Plan 2012* and other initiatives, the City of Somers Point has already begun to develop a blueprint to revitalize its waterfront and Historic District, through which Bay Avenue is a critical artery. The corridor and its surroundings offer great opportunities to maximize the City's geographic, transportation, commercial, recreational, cultural, and aesthetic assets by creating an attractive and lively regional destination for residents and tourists.

The *Somers Point Vision Plan 2012* outlines a road-map for achieving a revitalized and re-imagined waterfront area. Key objectives identified in the plan include:

- A broader array of recreational opportunities
- A more beautiful and easily accessible waterfront and a bay-side marina/landing that welcomes sailboats and day visitors
- A livelier, more walker-friendly Bay Avenue with interesting shops and restaurants
- A more homeowner-friendly environment that encourages residents to stay and improve their houses rather than relocate

Bicycle and pedestrian improvements are a critical element of this vision. The recommendations within this study are designed to support these objectives and improve access and mobility for all residents and visitors to Somers Point.

However, roadway improvements alone cannot make a corridor bicycle and pedestrian supportive. Land use decisions can have as significant, if not greater, impacts on the bikeability and walkability of a corridor as its roadway characteristics. Consequently, it is imperative to integrate land use and transportation objectives and tools in order to achieve the desired outcomes. Together, the *Somers Point Vision Plan 2012*, the recommendations of this study, and other planning documents and tools present a vision for the Somers Point waterfront area that is walkable, bikeable, and ultimately, a vibrant destination for residents and tourists.

Figure 8-28 to the right demonstrates the various components of this vision. They include:

- Developing and revitalizing properties along Bay Avenue in the Historic Bay District
- Constructing a Harborwalk between Goll Avenue and Delaware Avenue
- Constructing a Marshwalk along the wetlands at the north end of Bay Avenue
- Implementing bicycle and pedestrian improvements along Bay Avenue, as well as connections to the corridor that improve access to Bay Avenue destinations

While the S*omers Point Vision Plan 2012* outlined land use strategies for developing and revitalizing properties, the following pages detail conceptual improvements for bicycle and pedestrian infrastructure and placemaking along Bay Avenue.

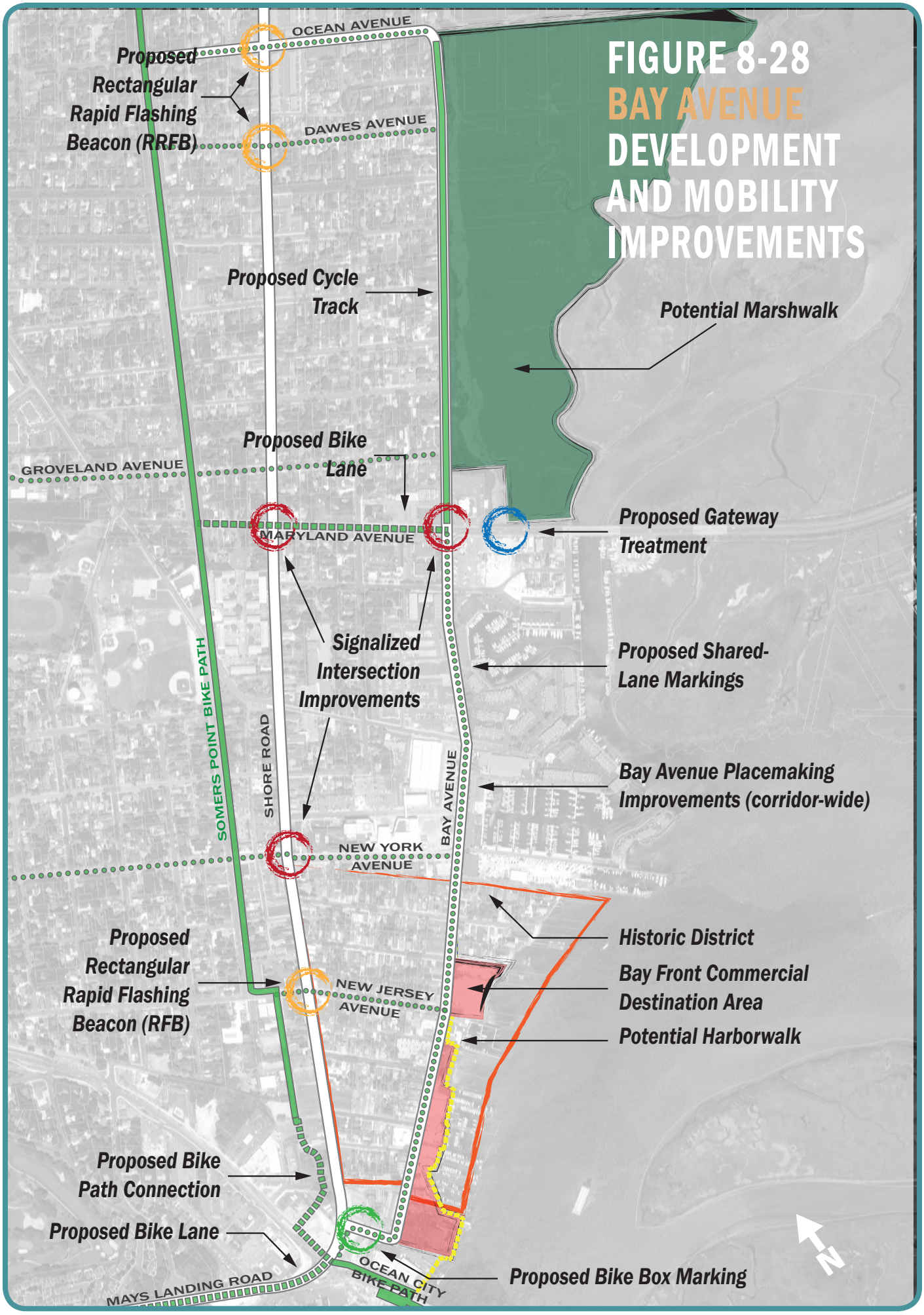


FIGURE 8-28
BAY AVENUE
DEVELOPMENT
AND MOBILITY
IMPROVEMENTS
OCEAN AVENUE
DAWES AVENUE
GROVELAND AVENUE
MARYLAND AVENUE
NEW YORK AVENUE
NEW JERSEY AVENUE
MAYS LANDING ROAD
SHORE ROAD
BAY AVENUE
SOMERS POINT BIKE PATH
OCEAN CITY BIKE PATH
Proposed Rectangular Rapid Flashing Beacon (RRFB)
Proposed Cycle Track
Potential Marshwalk
Proposed Bike Lane
Proposed Gateway Treatment
Signalized Intersection Improvements
Proposed Shared-Lane Markings
Bay Avenue Placemaking Improvements (corridor-wide)
Historic District
Bay Front Commercial Destination Area
Potential Harborwalk
Proposed Rectangular Rapid Flashing Beacon (RFB)
Proposed Bike Path Connection
Proposed Bike Lane
Proposed Bike Box Marking
N

BICYCLE AND PEDESTRIAN IMPROVEMENTS

The Bicycle Level of Stress Analysis conducted in the *Existing Conditions Technical Memorandum* indicated that Bay Avenue is a Level of Stress 2 facility. While Bay Avenue has a 25 mph speed limit and low traffic volumes, the roadway was considered a Level of Stress 2 facility because of the presence of a center line and its character as a commercial and residential roadway. However, Bay Avenue does have many characteristics that make it one of the most welcoming environments in Somers Point for bicyclists and pedestrians. These include aesthetic red brick crosswalk treatments and unique street signs in the historic district, generally ample and well maintained sidewalks, and many desirable destinations. A few improvements are recommended to make Bay Avenue an even more welcoming environment and to better tie Bay Avenue into the existing overall bicycling and walking network in Somers Point, as well as this study's recommended improvements to that network. These improvements include **striping shared-lane markings** along the entirety of Bay Avenue (shown below in Figure 8-29), maintaining a **consistent sidewalk network** throughout, and **upgrading all crossings** to either the red-brick crosswalks found in the historic district of Bay Avenue (shown in Figure 8-30 below) and/or crosswalks with high-visibility continental striping. The aesthetic brick crosswalks should also be upgraded by **striping a white outline** along the crosswalk to improve the contrast between the crossings and the pavement and enhance the visibility of the crossings. Where possible, **curb extensions** should be added at intersections to reduce crossing distances and traffic speeds. Outdated in-road "Yield to Pedestrians" signs (MUTCD R1-6) should also be replaced with the current "Stop for Pedestrians" signs (MUTCD R1-6a). Figure 8-28 on page 117 shows how shared-lane markings on Bay Avenue would tie into the existing and recommended bicycling network in Somers Point.

Figure 8-29 | Bay Avenue Shared-Lane Markings

Shared-lane markings (simulated here) should be added along entire corridor as well as current Stop for Pedestrians" signs

Figure 8-30 | Bay Avenue Crosswalks

Stamped brick crosswalk seen along Bay Avenue should be replicated along entire corridor and upgraded with white outlines and curb extensions (simulated here) to create a signiture look to the Bay Avenue corridor

HARBORWALK CONCEPT

These conceptual visualizations illustrate one concept for a potential harborwalk. As outlined in Figure 8-28 on page 117, as well as in the *Somers Point Vision Plan 2012*, a potential harborwalk would run along the harbor bulkhead from the NJ Route 52 Memorial Causeway to Delaware Avenue, just south of Municipal Beach Park. The harborwalk would allow public access to **bay views, marinas, restaurants and bars with outdoor dining, and other recreational opportunities**.

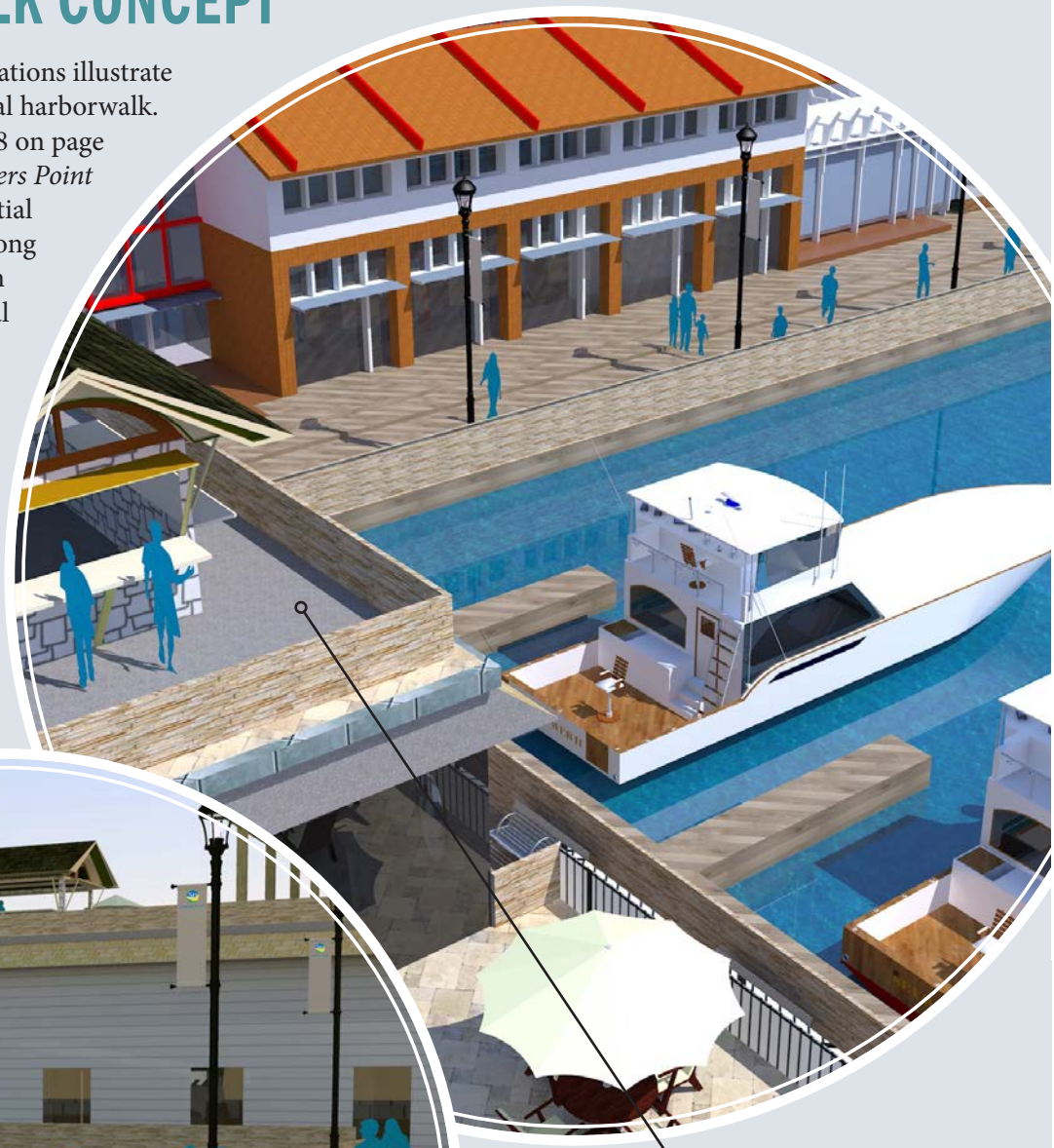


Figure 8-31 | Harborwalk Concept

Rooftop bar and restaurant along potential Harborwalk would offer patrons fantastic bay views

Figure 8-32 | Harborwalk Concept

Sunset stroll along a potential Harborwalk

MARSHWALK CONCEPTS

TWO-WAY CYCLE TRACK

Bay Avenue north of Maryland Avenue presents an opportunity for a two-way cycle track along the northbound side, marked by pavement markings and signage, which would allow bicycles to travel north and south along the corridor in a dedicated portion of the roadway, completely separated from vehicular traffic. The existing roadway, approximately 34 feet in width, would be reallocated to include two 11-foot wide travel lanes for vehicles, a 2-foot buffer space, and two 5-foot wide bike lanes. The buffer space could feature flexible bollards or a similar treatment to physically separate vehicular and bicycle traffic. The cycle track would connect at its southern terminus to Maryland Avenue, and cyclists could continue south via Bay Avenue to access the Historic District. At the northern end of the roadway, the cycle track would connect to Ocean Avenue, and allow cyclists to continue westward across Shore Road to the Somers Point Bike Path.

The two-way cycle track would be relatively simple to implement, as it primarily involves re-striping and does not change the existing pavement widths or require any modifications to existing curbing. Traffic volumes on Bay Avenue are low, which means the reduction in roadway width would not be a major impact to existing traffic operations. The two-way cycle track eliminates side street crossings for southbound cyclists, which reduces the number of bicycle-vehicle conflicts and provides an additional benefit over traditional bike lanes.

The sidewalk network is incomplete in the northern portion of the corridor. The two-way cycle track and reduced roadway width could potentially restrict north-south pedestrian movements. Some ways to improve walking conditions include: allow pedestrians to use the cycle track, making a multi-use path, or work with homeowners to fill gaps in the existing the sidewalk network.

Figure 8-33 | Bay Avenue Existing

Existing alignment along Bay Avenue, facing north

Figure 8-34 | Bay Avenue Cycle Track Photosimulation

Proposed two-way cycle track on Bay Avenue, facing north

Figure 8-35 | Steelman Bay Existing

View of wetlands in Steelman Bay

Figure 8-36 | Boardwalk Trail Photosimulation

Proposed boardwalk trail would provide residents and visitors with a unique recreational opportunity as well as an educational experience

BOARDWALK TRAIL

Another opportunity along Bay Avenue, which would enhance pedestrian activity, is to construct a 10- to 12-foot wide boardwalk trail within the public right-of-way to the east of the roadway. The boardwalk could potentially be built on raised piers above the environmentally sensitive salt marsh habitat. The trail could provide cyclists and pedestrians with impressive scenic views, include bicycle and pedestrian waypoints, and create a new attraction for the City.

The Marshwalk Trail would dovetail with the proposed cycle track along Bay Avenue, which would provide direct access to the boardwalk via a separated bicycle facility. The southern terminus of the boardwalk trail would connect to the cycle track on the east side of Bay Avenue near Groveland Avenue. The northern terminus would connect to the cycle track at the intersection with Ocean Avenue, which is already bicycle compatible and has a continuous sidewalk network to Shore Avenue and the Somers Point Bike Path. Additional connections to Bay Avenue could be provided at several intersections between Ocean Avenue and Groveland Avenue.

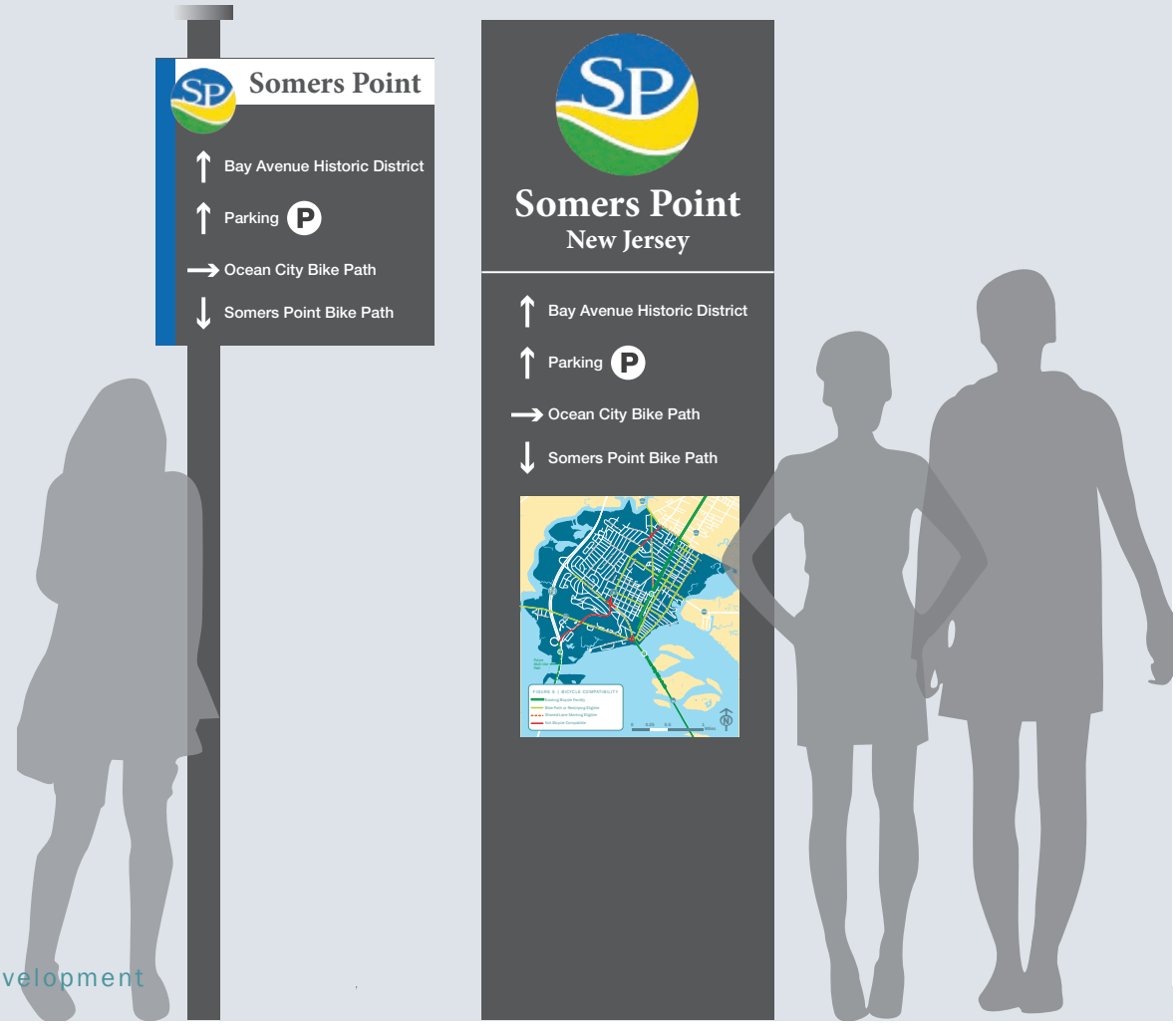
The proposed Marshwalk is located in an area that contains a variety of sensitive environmental resources that are regulated by both the New Jersey Department of Environmental Protection (NJDEP) and US Army Corp of Engineers (USACE). Several permits may therefore be required as the project progresses through design and construction, such as a NJDEP Waterfront Development, Coastal Area Facility Review Act (CAFRA), Coastal Wetlands, Flood Hazard Area, or Freshwater Wetland permit. In addition, permits may be required from the USACE for impact to Waters of the US. Any impacts to these resources or to potential habitat of threatened or endangered species must be minimized to the maximum extent possible.

PLACEMAKING

Placemaking is an approach that includes the planning, design, and management of public spaces in an effort to maximize a community's assets and potential. The *Somers Point Vision Plan 2012* outlined many "Placemaking" strategies for Somers Point, including wayfinding signage, gateway treatments, and branding. A quality bicycle and pedestrian network is a critical component in this placemaking effort and any placemaking improvements in Somers Point should fully integrate bicyclists and pedestrians.

WAYFINDING

Wayfinding assists in creating a sense of place within a community or corridor, knitting it together through consistent treatments to help residents and visitors navigate between points of interest. Wayfinding signage, such as that seen below, should integrate any Somers Point branding effort to create a consistent appearance throughout the City. Signage should be placed at key decision points for bicyclists and pedestrians, including at points along and near any bike paths and well as in and around the Bay Avenue corridor. Signage should focus on improving access to and connecting the City's bicycling and walking network to Bay Avenue. It should clearly identify the locations of key destinations such as businesses or recreational areas, the City's bicycle network, and connections to the regional off-road multi-use path network.



BICYCLE PARKING

Another element of placemaking is bicycle parking. Field observations and input from the Steering Advisory Committee indicated an existing high number of bicyclists frequenting the corridor's businesses and other destinations, but a low number of existing bicycle parking, causing many bicyclists to lock their bikes along the harbor's bulkhead, to street signs, or other improvised bike parking locations.

Providing ample, secure, and comfortable bicycle parking improves the convenience of bicycling and fosters greater bicycling activity. The City should install bicycle parking at major public destinations, such as the Municipal Beach and the proposed Harborwalk and Marshwalk. It should also work with local businesses to install bicycle parking at commercial businesses and require developers to provide bicycle parking. As detailed in the *Existing Conditions Technical Memorandum*, all bicycle parking installed in the City should be conveniently located, well lit, and easily visible to cyclists arriving at their destination. Only racks that support the frame in two locations should be installed, such as the inverted 'U', 'A' frame, or post and loop rack.

A potential opportunity for collaboration between the City and local businesses is to install **bicycle corrals** at key locations along Bay Avenue near its restaurants, bars, and shops. The City may work with businesses to identify candidate locations, and businesses may contribute to the costs of installation by sharing the costs of materials or sponsoring a corral in return for having it located adjacent to their property. Bicycle corrals typically convert one on-street parking space to bicycle parking for approximately 10-12 bicycles. Bicycle corrals have a variety of benefits, including:

- Improves the bicycle-friendliness of the area by providing highly visible bicycle parking
- Increases the number of customers for businesses, providing parking for 10-12 customers for every 1 vehicle space
- Removes bicycle parking from sidewalks, improving mobility for pedestrians
- Provides de-facto curb extensions when located at intersections, improving the visibility of pedestrian crossings
- Seasonal - bicycle corrals can be removed in the off-season or during winter months when demand may be lower and to reduce interference with snow removal

Bicycle corrals have been implemented successfully in other places in New Jersey, including New Brunswick, Morristown, and Hoboken.

Figure 8-37 | Bike Corral Example

Sample bike corral in New Brunswick, NJ

(photo courtesy of njbikeped.org)

IMPROVING CONNECTIONS TO BAY AVENUE

MARYLAND AVENUE (NJ ROUTE 152)

Maryland Avenue is one of the primary east-west connections for bicyclists and pedestrians between the Somers Point Bike Path and Bay Avenue. Between Bay Avenue and Shore Road, the roadway is 42 feet wide with two 12-foot travel lanes, 9-foot shoulders, and intermittent on-street parking. Between Shore Road and the Somers Point Bike Path the roadway transitions to a 32-foot cross section (two 16-foot lanes) with no shoulders and no on-street parking. Despite a posted speed limit of 25 mph for the bulk of this section of Maryland Avenue, the roadway is characterized as an unfriendly environment for bicyclists and pedestrians, with a wide cross section in parts, observed traffic moving above the posted speed limit, and an inconsistent sidewalk network. In order to better accommodate and encourage use of Maryland Avenue as a connection for bicyclists and pedestrians between the bike path and Bay Avenue, **the following improvements are recommended:** Completion and proper maintenance of the sidewalk network, installation of a marked bike lane between the bike path and Bay Avenue, and the installation of a "gateway treatment" east of Bay Avenue, to better transition drivers from the 50 mph posted speed to the 25 mph speed west of Bay Avenue.

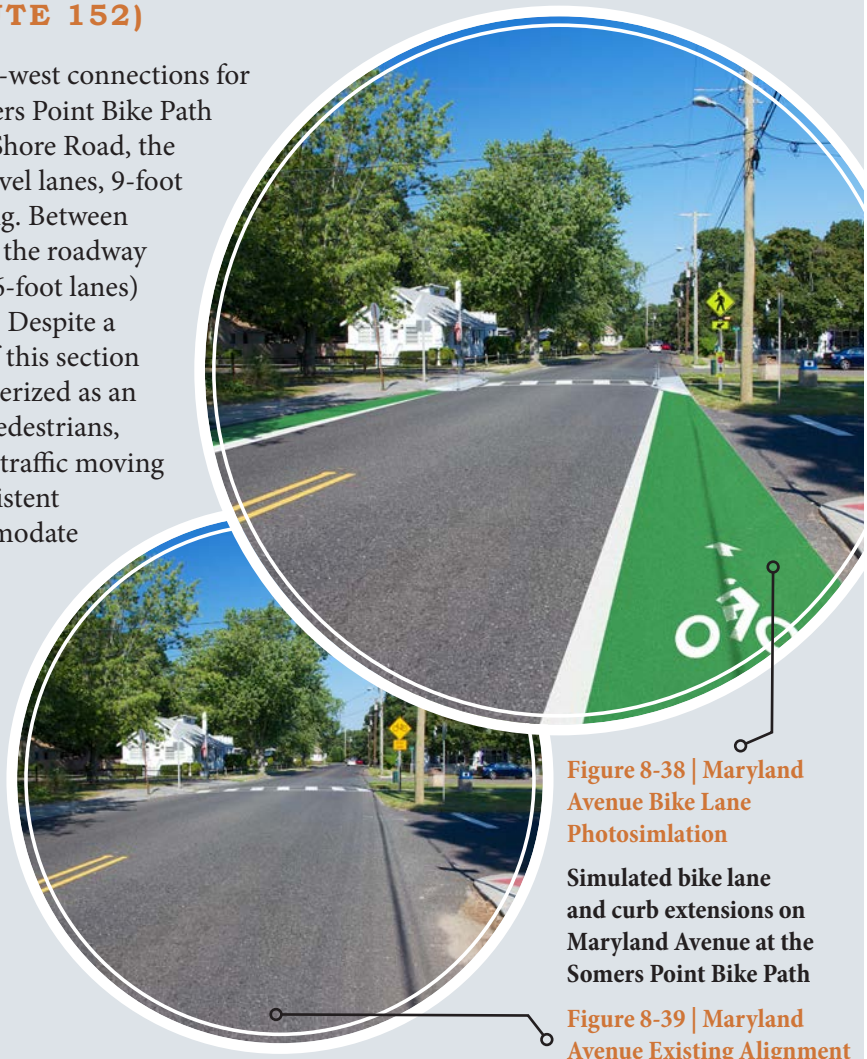


Figure 8-38 | Maryland Avenue Bike Lane Photosimlation

Simulated bike lane and curb extensions on Maryland Avenue at the Somers Point Bike Path

Figure 8-39 | Maryland Avenue Existing Alignment

Existing conditions on Maryland Avenue

Bike Lane

The installation of a bike lane along Maryland Avenue between Bay Avenue and the Somers Point Bike Path is recommended to create a lower stress route for cyclists between these two bicycle thoroughfares. The bike lanes would be striped within the existing shoulder, creating a 5-foot bike lane with a 4-foot striped buffer, although the width of the buffer would vary as the existing shoulder width varies. Currently, this section of Maryland Avenue is categorized as Stress Level 2 and 4 (shown in Existing Conditions, page 66). The addition of a bike lane along this segment would reduce the level of stress for cyclists. Some on-street parking would be removed to accommodate the new bike lanes.

At Shore Road, the westbound bike lane would join the westbound travel lane briefly, and be designated using signage and shared-lane markings. West of Shore Road, the 32-foot cross section would be divided into two 11-foot wide travel lanes and two 4-foot wide bike lanes, each with a 1-foot buffer space.

Figure 8-38 above shows a potential treatment for connecting the bike lane to the Somers Point Bike Path. The recommended treatment includes curb extensions to shorten the bike path crossing distance. These curb extensions would be mountable to allow quick and convenient access to/from the bike lane for cyclists traveling in both directions.

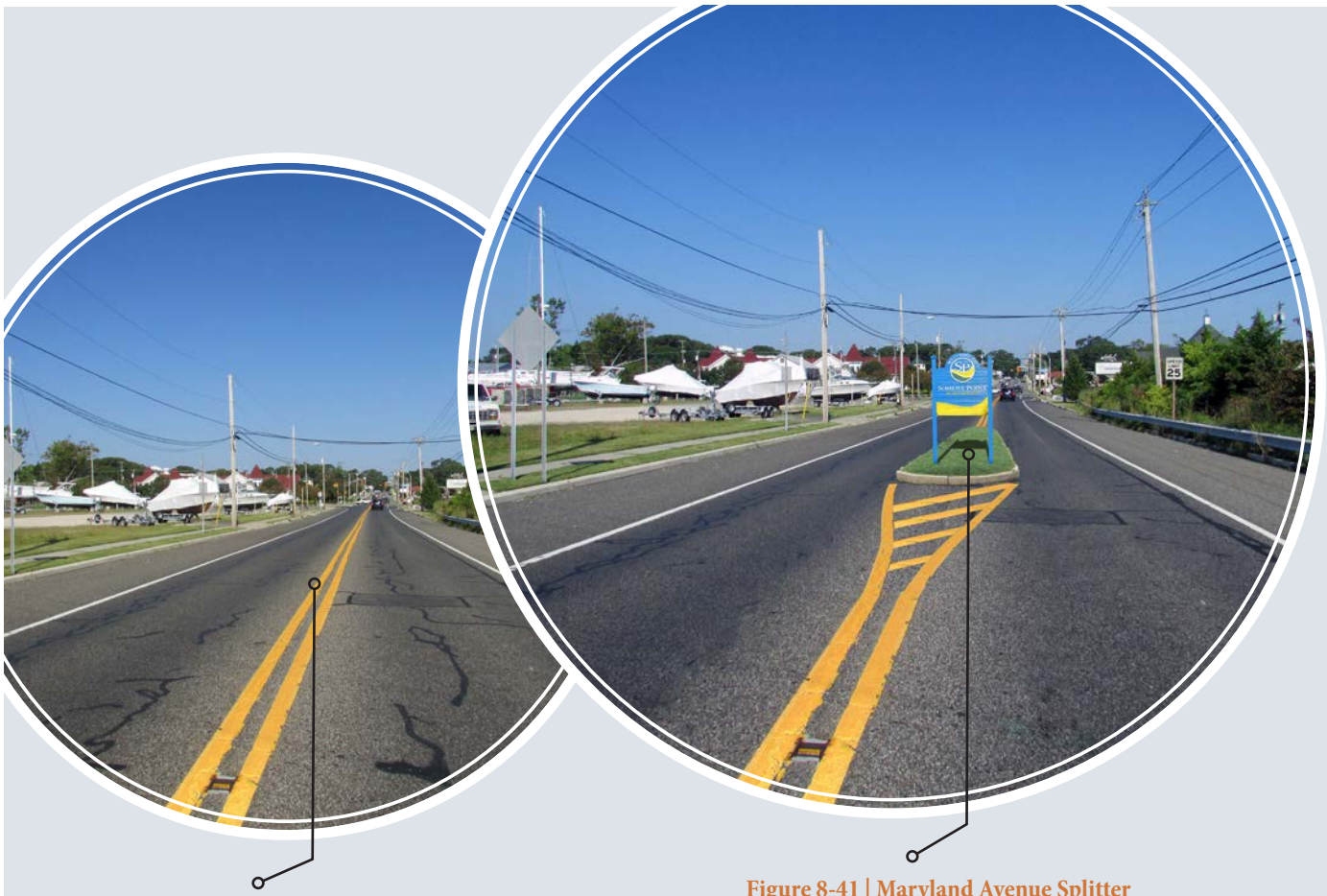


Figure 8-40 | Maryland Avenue Existing Alignment

Existing approach to Bay Avenue along Route 152, facing west

Figure 8-41 | Maryland Avenue Splitter Island Photosimlation

Simulated splitter island on Route 152, facing west approaching Bay Avenue

Gateway Treatment

East of Somers Point, NJ Route 152 has a posted speed limit of 50 mph with two 12-foot wide travel lanes and shoulders in excess of 12 feet wide in each direction. Motorists traveling westbound on NJ Route 152 enter Somers Point at a high rate of speed and cross Bay Avenue before encountering a sudden drop in posted speed limit from 50 mph to 25 mph. According to NJDOT's Speed Limits for State Roads Traffic Regulations, the legal speed limit on NJ Route 152 is 40 mph between the intersection with Bay Avenue (MP 0.00) and a point one-quarter mile east (MP 0.25), in the City of Longport.

The City should work with NJDOT to evaluate shifting the changes in speed limit east approximately 0.15 miles. This change would put the start of the 25 mph zone as motorists enter Somers Point (MP 0.14), lowering vehicular speeds for the approach of the Bay Avenue intersection. The change should be accompanied by new signage for each speed limit zone ("Speed Limit 25/40"), signage stating "Reduced Speed Ahead" (MUTCD R2-5a), and a gateway feature welcoming visitors to the City of Somers Point.

One potential treatment for the gateway is illustrated above in Figure 8-41. This treatment would include a splitter island to calm traffic, a sign welcoming drivers to Somers Point, and additional signage indicating and reinforcing the lower speed limit. This physical change to the roadway would clearly indicate a transition to lower speed and city driving conditions as motorists enter Somers Point. The traffic calming effects would enhance bicycle and pedestrian conditions along the corridor.

Improve Crossings: In addition to the corridor-wide improvement concepts, opportunities exist to enhance two major crossings of the corridor - the signalized intersections at Shore Road and Bay Avenue. Recommendations for these crossings are detailed on the following pages.

Intersection - Recommendation

MARYLAND AVENUE (CR 620) AT SHORE ROAD (CR 585)

The intersection provides a signalized crossing opportunity connecting several commercial properties, as well as a NJ TRANSIT bus stop. Improvements include:

Short Term

- Install signage at existing bus stops north of the intersection
- Investigate bus stop usage and evaluate additional passenger amenities, as applicable
- Install detectable warning surface with truncated domes at all curb ramps

Mid-Term

- Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons

Long Term

- Investigate access changes to the property at the SW corner – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection
- Investigate reducing the curb radius at the SE corner to reduce the speed of turning vehicles and shorten the pedestrian crossing distance

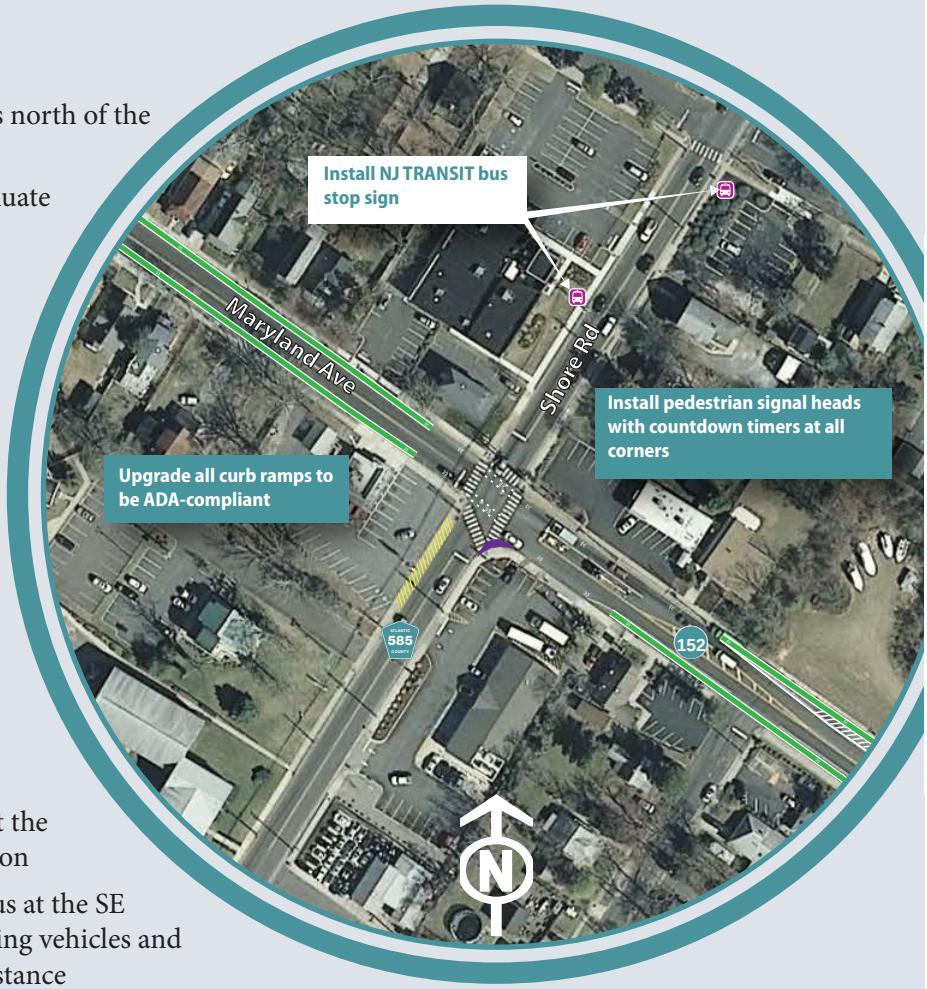


Figure 8-42 | Maryland Avenue (CR 620) at Shore Road (CR 585)

- Right-Turn Realignment
- Consolidate Driveway Access & Install Sidewalk
- Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 1,600	$ 9,000	$ 1,300

Intersection - Recommendation

MARYLAND AVENUE (CR 620) / NJ ROUTE 152 AT BAY AVENUE

The intersection is the gateway to the Somers Points Historic District and waterfront. Improvements seek to update traffic signal equipment and improve pedestrian circulation.

Short Term

- Install detectable warning surface with truncated domes at all curb ramps

Mid-Term

- Re-stripe crosswalks at all approaches with continental style striping
- Install sidewalk at NW corner along southbound approach (~100 ft)
- Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons

Long Term

- Investigate removing the channelized right-turn island at the northbound approach in order to enhance pedestrian mobility and comfort. Install curbing, vegetation, and sidewalk at the SE corner to accommodate the elimination of the channelized right-turn lane.

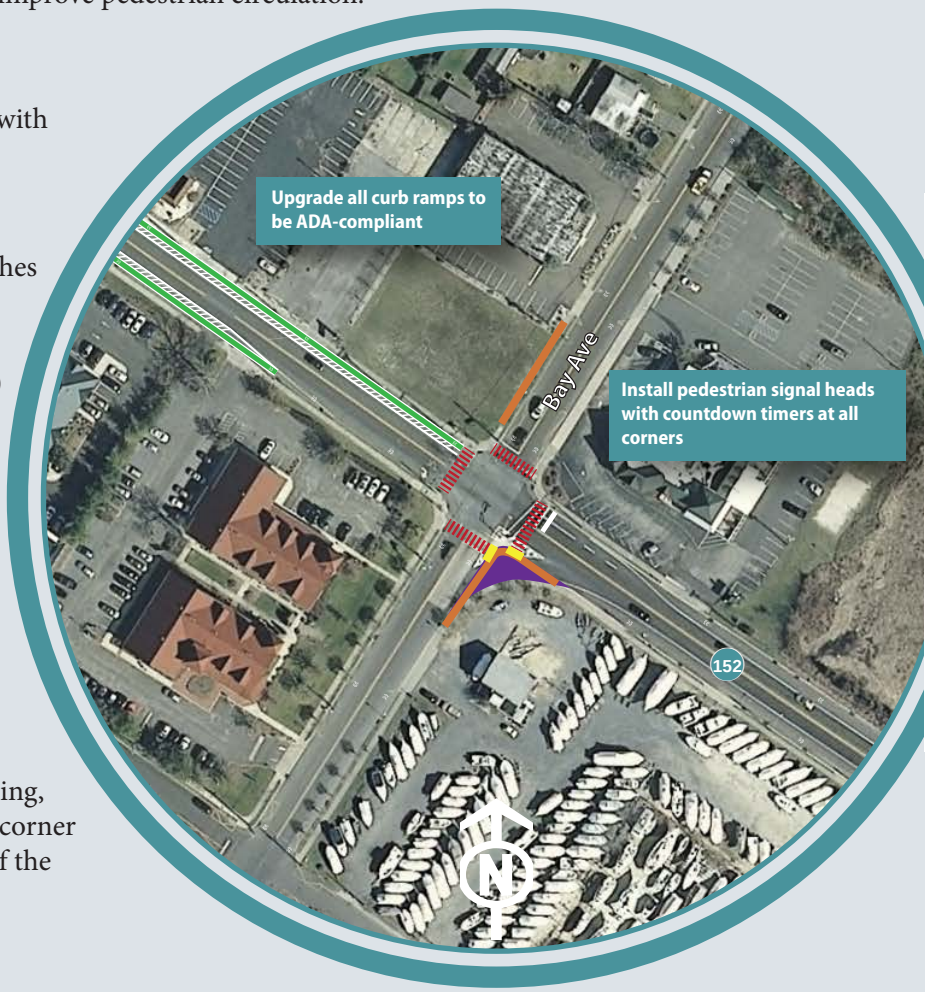


Figure 8-43 | Maryland Avenue (CR 620) / NJ Route 152 at Bay Avenue

- Install ADA-Compliant Curb Ramp
- Install Sidewalk
- Install Continental Crosswalk
- Channelized Right-Turn Realignment
- Move Stop Bar
- Install Bike Lane

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES

Short Term	Mid Term	Long Term
$ 3,500	$ 15,700	$ 15,100

NEW JERSEY AVENUE

New Jersey Avenue is one of the primary connections between the Somers Point Bike Path and the Bay Avenue Historic District. The bike path diverts off of First Avenue onto New Jersey Avenue east towards Shore Road, before turning south onto Center Street where it currently terminates. Bicyclists and pedestrians traveling from the bike path or Shore Road on New Jersey Avenue can access the municipal beach and the north end of the proposed Harborwalk along Bay Avenue. Several roadway upgrades are recommended to better accommodate access and connections between the Bike Path and Bay Avenue destinations: shared-lane markings along the roadway from First Avenue to Bay Avenue and the installation of a rectangular rapid flashing beacon (RRFB) at the intersection with Shore Road.

Shared-Lane Markings

New Jersey Avenue is 38 feet wide with parking on both sides of the street. The low speed limit of the street (25 mph) combined with the 12-foot travel lane and low traffic volumes allow for the addition of shared-lane markings along New Jersey Avenue from First Avenue to Bay Avenue (shown in Figure 8-28 on page 117). Shared-lane markings will clearly identify the route as a bicycle connection, improve motorists' awareness and expectation for the presence of bicyclists, help bicyclists better position themselves within the travel lane, and reduce the instance of wrong-way riding.

Rectangular Rapid Flashing Beacon

The addition of an RRFB at the intersection of New Jersey Avenue and Shore Road (shown in Figure 8-28 on Page 117) is recommended to improve the comfort of bicyclists and pedestrians crossing Shore Road, enhance the visibility of the crossing to motorists, and increase motorists' compliance with the stop-for-pedestrians law. As a result, the RRFB will further encourage use of New Jersey Avenue as a connection between the Somers Point Bike Path and Bay Avenue. The intersection should also be upgraded with high-visibility continental crosswalk striping.

OCEAN AVENUE

Similar to New Jersey Avenue, Ocean Avenue is a direct connection between the Somers Point Bike Path and Bay Avenue. Ocean Avenue connects to the northern terminus of Bay Avenue and would provide a connection between the bike path and the proposed Marshwalk. The addition of shared-lane markings and an RRFB at the corner of Ocean Avenue and Shore Road are recommended to encourage use of Ocean Avenue as a connection to Bay Avenue.

Shared-Lane Markings

Ocean Avenue is 38 feet wide with parking on both sides of the street. The addition of the shared-lane markings is recommended on Ocean Avenue from the Somers Point Bike Path to Bay Avenue.

Rectangular Rapid Flashing Beacon

Ocean Avenue was primarily categorized as a bicycle stress level 1 in the bicycle stress analysis conducted in the Existing Conditions chapter on page 66. However, the segments of Ocean Avenue that intersect Shore Road were categorized as level of stress 2 due to the lack of a signal at Shore Road and the 35 mph speed limit on that cross street. The addition of an RRFB at this intersection (shown in Figure 8-28 on Page 117) would reduce the stress level to 1 for that segment, ensuring a level of stress 1 on the entirety of Ocean Avenue between the bike path and Bay Avenue.

DAWES AVENUE

Similar to New Jersey Avenue, Ocean Avenue is a direct connection between the Somers Point Bike Path and Bay Avenue. Additionally, Dawes Avenue provides direct access to Dawes Elementary School. Input from the local steering committee indicated that the intersection of Dawes Avenue at Shore Road is a difficult pedestrian crossing location and a place the City and school have prioritized for improvements.

The addition of shared-lane markings throughout the corridor and an RRFB and shallow curb extensions at the corner of Dawes Avenue and Shore Road are recommended to encourage use of Dawes Avenue as a connection to Bay Avenue and to improve connections to Dawes Elementary School.

Shared-Lane Markings

Dawes Avenue is 34 feet wide with on-street parking on both sides of the street. The addition of the shared-lane markings is recommended on Dawes Avenue from the Somers Point Bike Path to Bay Avenue.

Rectangular Rapid Flashing Beacon

Dawes Avenue was primarily categorized as a bicycle stress level 1 in the bicycle stress analysis conducted in the Existing Conditions chapter on page 66. However, the segments of Dawes Avenue that intersect Shore Road were categorized as level of stress 2 due to the lack of a signal at Shore Road and the 35 mph speed limit on that cross street. The addition of an RRFB at this intersection (shown in Figure 8-28 on Page 117) would reduce the stress level to 1 for that segment, ensuring a level of stress 1 on the entirety of Dawes Avenue between the bike path and Bay Avenue.

Curb Extensions

Shore Road is 30 feet wide. Shallow curb extensions (e.g. 2-3 feet) would provide a subtle narrowing of the roadway, which would have a traffic calming effect, improve the visibility of pedestrians waiting to cross, and shorten the pedestrian crossings. In combination with the RRFBs and existing high visibility crossswalk striping, the curb extensions would improve the crossing for pedestrians on this school route.

GOLL AVENUE

Goll Avenue connects the southern terminus of Bay Avenue to Shore Road. It also connects bicycle and pedestrian traffic from Bay Avenue to the Ocean City Bike Path on the NJ Route 52 Memorial Causeway. This connection is essential to ensuring complete bicycle network connectivity from Bay Avenue to other bicycle facilities in Somers Point. Three improvements are recommended to make this essential connection: continuing the shared-lane markings from Bay Avenue to Shore Road, painting a left-turn bike box (illustrated in Figure 8-45 below) to connect cyclists from Goll Avenue to the wide, multi-use sidewalk along Shore Road that connects to the Ocean City Bike Path, and installing signage to designate the bike route connection (MUTCD D11-1).

Shared-Lane Markings

Shared-lane markings should be painted on the entirety of Goll Avenue (shown in Figure 8-28 on Page 117). The roadway consists of two 15-foot lanes with no parking and a low speed limit of 25 mph. Shared-lane markings would indicate a clear connection between the marked bike route on Bay Avenue to the Ocean City Bike Path on the NJ Route 52 Memorial Causeway.

Left-Turn Bike Box

A bike box should be painted before the intersection of Goll Avenue and Shore Road to accommodate cyclists turning left from Goll Avenue onto the existing approximately 10-foot multi-use sidewalk connecting to the Ocean City Bike Path. This treatment can be seen in Figure 8-45 below.

Figure 8-44 | Bike Route Aerial

Preferred bicycle route from Bay Avenue to Ocean City Bike Path

Figure 8-45 | Goll Avenue Bike Box Photosimulation

Simulation showing recommended bike box to facilitate connection from Bay Avenue to Ocean City Bike Path

BICYCLE NETWORK

Given the compact size and traditional development patterns observed in Somers Point, as well as existing off-road facilities and a high degree of existing roadway connectivity, a solid foundation for bicycle use exists within the City. The following recommendations aim to provide a more complete bicycle network and improve existing infrastructure to better accommodate bicyclists and make biking more convenient.

BICYCLE LEVEL OF STRESS

The *Existing Conditions Technical Memorandum* analyzed and categorized the entire roadway network in Somers Point based on a bicyclist's perceived level of stress. The resulting classifications were mapped to show the entire roadway network, and then higher level of stress roadways were removed to illustrate network connectivity issues within the City. The analysis demonstrated that while the vast majority of the roadway network in Somers Point could be classified as a level of stress 1 facility, and therefore appropriate for all potential users, the higher level of stress roads that bisect Somers Point are barriers to lower level of stress connectivity. These barriers create "islands" of low stress roads that do not connect to other "islands." In determining recommended bicycle improvements for the City, the project team sought to improve bicycle network connectivity from the perspective of Level of Stress. The bicycle improvements recommended here are intended to connect low stress islands, create a more robust low stress bicycle network, and provide better access to destinations within Somers Point and beyond its borders.

BICYCLE COMPATIBILITY ANALYSIS

The *Existing Conditions Technical Memorandum* analyzed the bicycle compatibility of the City's roadway network based on NJDOT guidelines. The majority of the City's roadway network is composed of local, residential streets with low speeds and low traffic volumes, requiring no separation from vehicular traffic or additional signage or striping to improve compatibility. However, several changes can be made to the City's primary arterials and secondary streets to create a less stressful environment for the average cyclist, which will have the largest impact on increasing bicycle use. The recommendations seek to provide separated bicycle and vehicular accommodations on higher volume and/or higher speed roadways, where possible, and to improve bicyclist comfort on secondary roadways using shared-lane markings where the existing cartway width may not allow for a separate bicycle facility. Shared-lane markings improve bicycle accommodations within constrained right-of-ways by alerting motorists of potential bicycle activity, instructing bicyclists where to position themselves within a travel lane, and reducing the incidence of wrong-way bicycling.

Example Shared-Lane Marking

SOMERS POINT

BICYCLE + PEDESTRIAN CIRCULATION STUDY

FIGURE 8-46

PROPOSED BICYCLE NETWORK

- Existing Bicycle Facility
- Proposed Cycle Track or Multi-Use Path
- Proposed Bike Lane
- Proposed Shared-Lane Marking

BICYCLE IMPROVEMENTS AND IMPACT ON STRESS LEVEL

The recommended priority bicycle network is shown in Figure 8-46 on the previous page. The recommended improvements and, if applicable, the impact on the Bicycle Level of Stress on the Somers Point roadway network is as follows:

Bike Lanes:

U.S. Route 9 (from NJ Route 52 to Groveland Avenue) – Striped bike lanes with a striped buffer on U.S. Route 9 between NJ Route 52 and Groveland Avenue would connect the proposed U.S. Route 9 multi-use path to the proposed shared-lane markings on Groveland Avenue. The combination of the bike lanes and speed reduction to 35 mph would reduce the level of stress of this segment from 4 to 3.

Maryland Avenue (Bay Avenue to Somers Point Bike Path) – Striped bike lanes along Maryland Avenue provide a critical connection from the Somers Point Bike Path to the Bay Avenue corridor, a central focus of this study. While the striped bike lanes in this segment would not impact the existing level of stress, which would remain at 2, it would enhance user comfort.

Multi-Use Path:

U.S. Route 9 (Mays Landing Road to NJ Route 52) – A proposed off-road multi-use path along U.S. Route 9 from NJ Route 52 to Mays Landing Road would connect the proposed bike lanes to the north, which provide connections to most residential areas in Somers Point, to a potential future multi-use path towards Beasley's Point. This path would reduce the level of stress of this segment from a 4 to a 1.

Cycle Track:

Somers Point - Mays Landing Road (U.S. Route 9 to N.J. 52) – A proposed cycle track along Mays Landing Road from NJ Route 52 to U.S. Route 9 would provide another critical connection to the proposed future multi-use path to Beesley's Point. This segment would connect the Ocean City Bike Path, the Somers Point Bike Path (with the missing connection completed), and the future multi-use path. This connection on Mays Landing Road is one of the most important links to creating a continuous future regional cycle network separated from vehicular traffic. Additionally, a cycle track would reduce the level of stress of this segment from 4 to 1.

Bay Avenue (Maryland Avenue to Ocean Avenue) – A proposed cycle track along Bay Avenue from Maryland Avenue to Ocean Ave would connect the Maryland Avenue bike lanes and the Bay Avenue development corridor to a potential new Marshwalk (shown in Figure 8-28 on Page 117). This cycle track would reduce the level of stress of this segment from 2 to 1.

Rectangular Rapid Flashing Beacon (RRFB):

U.S. Route 9 at New York Avenue - The addition of an RRFB at this intersection would provide a more comfortable crossing of U.S. Route 9, allowing the entire section of New York Avenue from the Jordan Road School to Bay Avenue to be marked as a preferred bike route with shared-lane markings. The stress level of the intersection

from the New York Avenue approaches would be reduced from a 4 to a 1.

U.S. Route 9 at Massachusetts Avenue – The addition of an RRFB at this intersection would provide a lower stress level crossing between two widely spaced traffic signals. The RRFB would reduce the stress level of this crossing from 3 to 1.

Somers Point Bike Path at Ocean Heights Avenue, Maryland Avenue, and Bethel Road – RRFB placed at these intersections would improve the visibility of cyclists and pedestrians using the Somers Point Bike Path.

Shore Road at New Jersey Avenue – The addition of a RRFB beacon at this intersection would help connect the Somers Point Bike Path (which diverts onto New Jersey Avenue) to the Bay Avenue corridor and the municipal beach. The RRFB at this intersection would reduce the stress level of this crossing from 2 to 1.

Shore Road at Dawes Avenue – The addition of a RRFB beacon at this intersection would help connect the Somers Point Bike Path and Dawes Elementary School to the Bay Avenue corridor. The RRFB at this intersection would reduce the stress level of this crossing from 2 to 1.

Shore Road at Ocean Avenue – An RRFB at this intersection would help connect the Somers Point Bike Path with Bay Avenue at its northern terminus. The RRFB at this intersection would reduce the stress level of this crossing from 2 to 1.

Shared-Lane Markings:

(Note: Shared-lane markings do not impact the level of stress metric; however, they provide a qualitative improvement on cyclist comfort and denote a preferred bike route.)

Groveland Avenue (U.S. Route 9 to Bay Avenue) – Groveland Avenue is the terminus of the U.S. Route 9 bike lanes. Shared-lane markings should be added to provide connections between U.S. Route 9 and Bay Avenue.

New York Avenue (Jordan Road School to Bay Avenue) – New York Avenue connects the Jordan Road School, U.S. Route 9, the New York Avenue School, the Shore Medical Center and Bay Avenue. Shared-lane markings should be used to mark this segment as a preferred bicycle route and increase the visibility of cyclists.

Ocean Avenue (Somers Point Bike Path to Bay Avenue) – Ocean Avenue connects the Somers Point Bike Path with the northern terminus of Bay Avenue.

Dawes Avenue (Somers Point Bike Path to Bay Avenue) – Dawes Avenue connects the Somers Point Bike Path and Dawes Elementary School with Bay Avenue.

New Jersey Avenue (Somers Point Bike Path to Bay Avenue) – The Somers Point Bike Path diverts briefly onto New Jersey Avenue. Shared-lane markings should be added from this point to Bay Avenue to mark this segment as a preferred connection between these two points.

Bay Avenue (Goll Avenue to Maryland Avenue) – Bay Avenue is currently categorized as a level of stress 2 facility. Shared-lane markings should be added to give cyclists an increased presence along the corridor.

Goll Avenue (Shore Road to Bay Avenue) – Goll Avenue connects Bay Avenue with the Ocean City Bike Path. Shared-lane markings along Bay Avenue should continue onto Goll Avenue

Speed Limit Change:

Shore Road (Harbor Lane to Ocean Heights Avenue) – Shore Road is currently posted as a 30 mph road south of Harbor Road to NJ Route 52 and 35 mph north of Harbor Avenue. Correspondingly, the level of stress of this roadway transitions from 3 to 4 as the speed limit increases at Harbor Lane. Reducing the speed limit from 35 to 30 north of Harbor Lane would provide a level of stress 3 facility for the entirety of Shore Road in Somers Point.

U.S. Route 9 – The speed limit along U.S. Route 9 currently transitions from 45-35-40 mph, moving south to north. The speed limit should be reduced to 35 mph along the entirety of the roadway within Somers Point.

SOMERS POINT

BICYCLE + PEDESTRIAN CIRCULATION STUDY

FIGURE 8-47

BICYCLE LEVEL OF STRESS

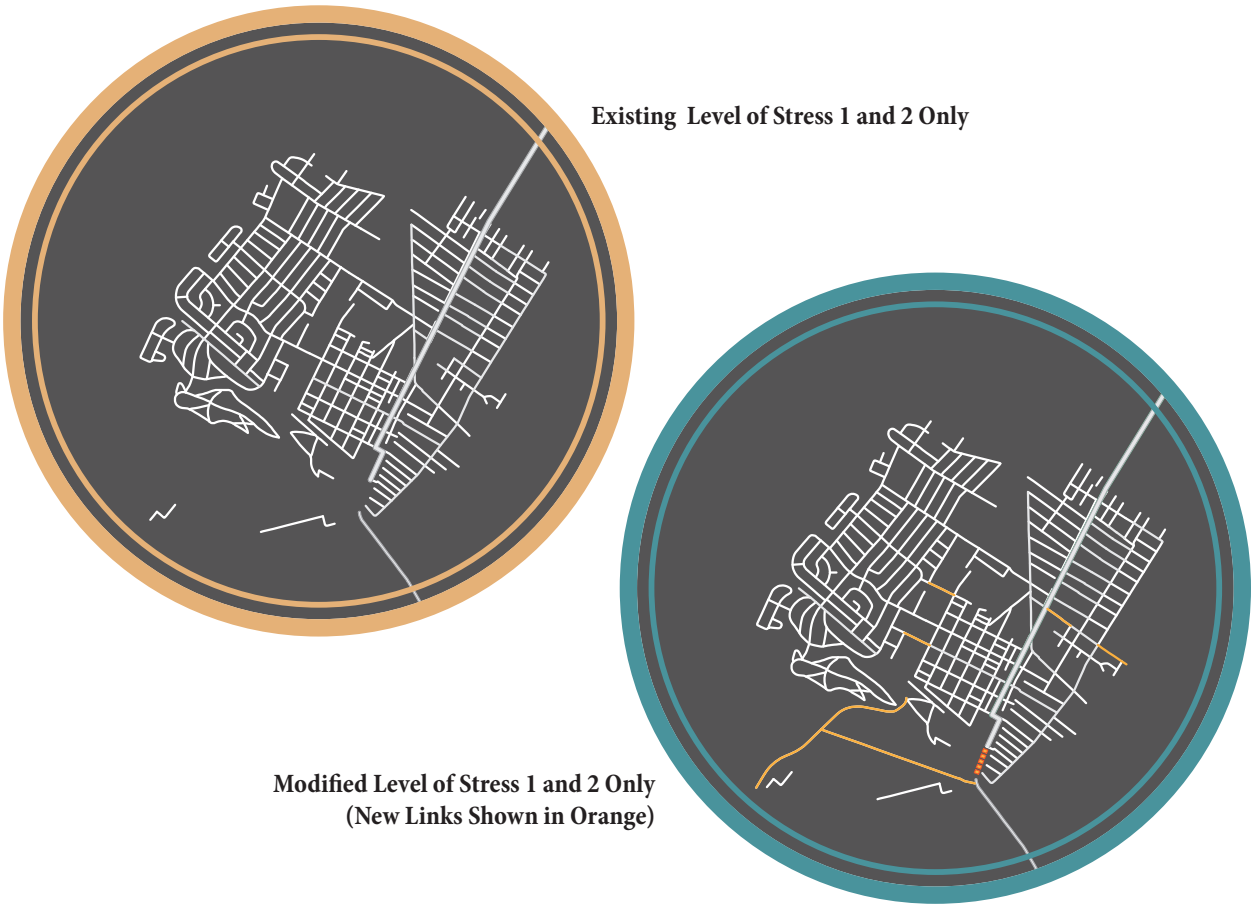
- Existing Bicycle Facility
- Level of Stress 1
- Level of Stress 2
- Level of Stress 3
- Level of Stress 4

RESULT OF BICYCLE RECOMMENDATIONS

Figure 8-47 shows the revised level of stress network with all the recommended bicycle improvements implemented. Figure 8-48 shows a comparison of the existing level of stress conditions and the revised network. Similar to the level of stress discussion in the *Existing Conditions Technical Memorandum*, the level of stress network is shown here in its entirety as well as with only levels of stress 1 and 2 shown. As can be seen in this comparison, the recommended bicycle improvements achieve the goal of connecting the "islands" of low stress facilities, better connecting origins and destination in the process.

This result is important for all current and potential bicyclists in Somers Point. The level of stress metric measures the comfort level of a roadway for different types of users. By focusing on providing connections that are either level of stress 1 or 2, Somers Point can accommodate current cyclists at all levels of age and ability as well as attract new riders from within and outside of the City. A well connected and low stress network allows all users to travel from the west side of the City to attractive destinations on Bay Avenue and it connects users of the Somers Point Bike Path to the Ocean City Bike Path, and the planned future path to Beesley's Point. Most importantly, it increases the livability and attractiveness of Somers Point by prioritizing and accommodating an active, healthy, and fun transportation mode for current and potential users.

Figure 8-48 | Bicycle Improvements Effects on Level of Stress



MULTI-USE PATH

Somers Point has an excellent system of existing off-road multi-use path facilities within the City, serving as a regional hub connecting the Somers Point Bike Path, Ocean City Bike Path/NJ Route 52 Causeway, and future bike path to Beesley's Point along the Garden State Parkway. The following strategies are recommended to enhance these facilities.

Improve Connectivity

There is currently a missing link between the Somers Point Bike Path and the Ocean City Bike Path/NJ Route 52 Causeway. To complete the network, the City should work with Atlantic County, NJDOT, and private property owners to implement the improvements previously recommended in the *Bicycle and Pedestrian Conditions Assessment - Somers Point Bike Path Gap* report completed in 2013.

Once completed, the future bike path to Beesley's Point via the new Garden State Parkway bridge will lack connectivity to the remainder of the regional network. This missing connection is being addressed through a separate NJDOT study - *Bicycle and Pedestrian Conditions Assessment and Recommendations for U.S. Route 9, Somers Point-Mays Landing Road to the Garden State Parkway 2013*. The study is currently being completed (as of September 2014), and the City should seek to work with NJDOT and the NJ Turnpike Authority to implement its recommendations. The improvements along that section of U.S. Route 9 should be integrated with other improvements to U.S. Route 9 and Somers Point-Mays Landing Road discussed in previous sections.

In addition to interconnections between the regional trails, connections should be improved between the trails and key destinations within Somers Point. The Bay Avenue Section details several concepts to enhance links between the Somers Point Bike Path and the City's Bay Avenue corridor.

Trail Wayfinding

Improving wayfinding along the regional trail network is another important tool to improving overall network connectivity. Appropriate signage will clearly identify interconnections between the trails as well as major destinations, making navigation along the trail system more intuitive. Clear signage will also make the trail system more accessible to visitors, and better link visitors to local destinations and businesses within Somers Point.

Signage should be provided at key decisions points throughout the network, including but not limited to:

Existing Network (Short-Term)

- Somers Point Bike Path at Ocean City Bike Path/NJ Route 52 Causeway
- Shore Road at Goll Avenue/Ocean City Bike Path/NJ Route 52 Causeway connection

Proposed Network (Mid/Long-Term)

- Somers Point Bike Path at: New Jersey Avenue, New York Avenue, Maryland Avenue, Groveland Avenue, and Ocean Avenue
- Bay Avenue at: New Jersey Avenue, New York Avenue, Maryland Avenue, Groveland Avenue, Ocean Avenue, Harborwalk, and Marshwalk
- Ocean City Bike Path/NJ Route 52 Causeway at Mays Landing Road
- U.S. Route 9 at: Mays Landing Road, Groveland Avenue, and New York Avenue
- Beesley's Point Bike Path/GSP Bridge at U.S. Route 9

Trail wayfinding should utilize the consistent, branded signage discussed in the Bay Avenue section, creating a cohesive look throughout the City.

Trail Crossings

The Somers Point Bike Path has numerous at-grade roadway crossings throughout the City. While most are marked, public input and field observations indicated very low compliance with motorists stopping for pedestrians at the trail crossings, particularly at higher volume roadways. Opportunities exist to enhance the visibility of the trail crossings and better connect them to the surrounding sidewalk network.

Crossings within the City typically fall into two categories: low-volume residential, local streets and higher volume secondary arterials (e.g. Bethel Road, Maryland Avenue, and Ocean Heights Avenue). The following examples can serve as templates for improving these types of crossings throughout the City.

Trail Crossings of Local Streets

Local residential streets tend to have low traffic volumes and low traffic speeds (25 mph). Crossings of this type should include the following treatments (illustrated in Figure 8-49):

- Standard crosswalk striping
- Fluorescent yellow-green trail crossing signage (MUTCD W11-15)
- Sidewalk, crosswalk, and ADA-compliant curb ramp connections to the surrounding sidewalk network

This treatment is common throughout the City, and should be replicated where it is absent or elements are missing.

Trail Crossings of Secondary Arterials

Secondary arterials have higher traffic volumes and speeds and require additional improvements to enhance the visibility of the crossing. Crossings of this type should include the following treatments (illustrated in Figure 8-50):

- Continental crosswalk striping
- Fluorescent yellow-green trail crossing ahead signage (MUTCD W11-15, W16-9p)
- Rectangular rapid flashing beacon
- Appropriate physical narrowing of roadway based on roadway context, such as curb extensions or pedestrian refuge islands

The proposed crossing improvements at Bethel Road and Maryland Avenue were discussed in more detail on pages 110 and 124, respectively.

Figure 8-49 | Local Street Trail Crossing Template

Install ADA-Compliant Curb Ramp
Install Sidewalk
Install Standard Crosswalk

Figure 8-50 | Secondary Arterial Trail Crossing Template

Install ADA-Compliant Curb Ramp
Install Continental Crosswalk
Install Sidewalk
Install Refuge Island & Curb Extensions

BICYCLE FACILITIES

Bicycle compatible infrastructure creates a bicycle friendly environment and encourages biking as a mode of transportation. Older infrastructure may not meet current standards and should be upgraded during regular maintenance cycles. Types of recommended infrastructure upgrades include:

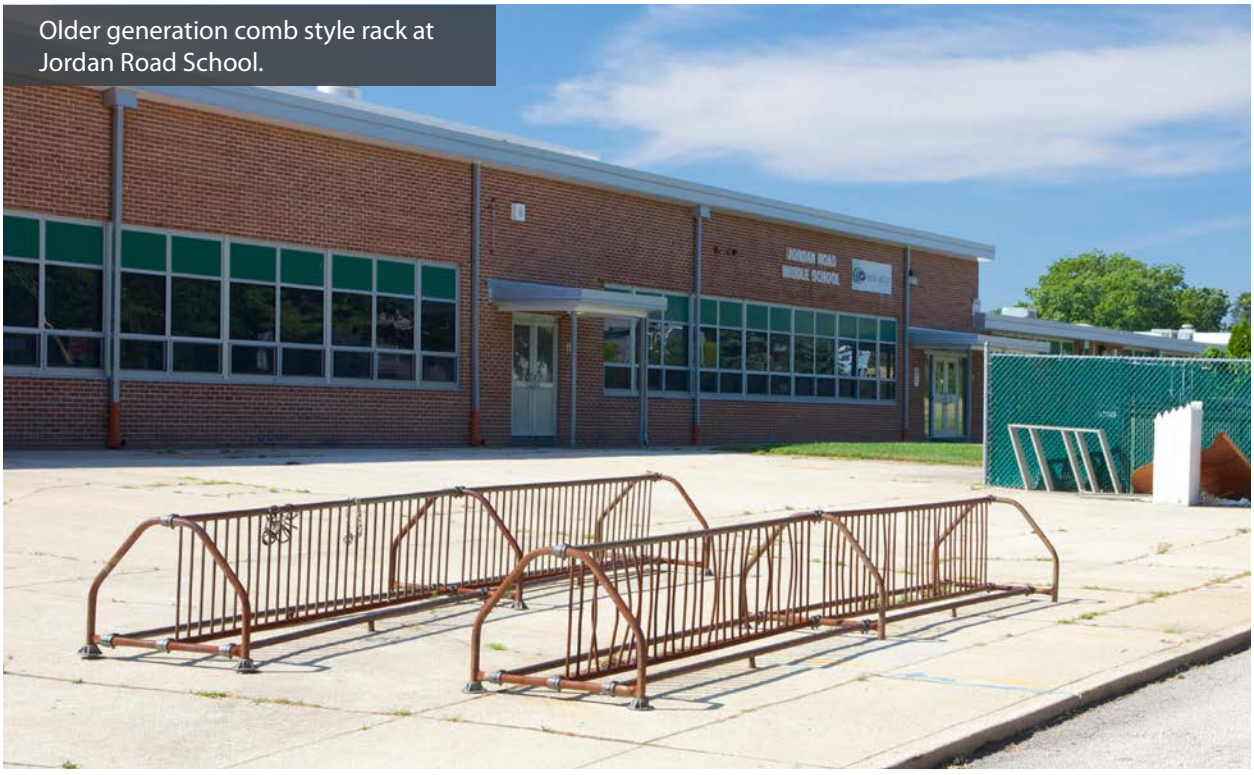
Bicycle Parking

The City has a limited amount of bicycle parking. Nearly all existing bicycle racks are an obsolete "wave" or "comb style". These rack designs do not adequately support the bike frame, have poor spacing, and are frequently used incorrectly. As the existing racks approach the end of their life cycle, they should be replaced with racks that meet current standards, such as the inverted-U, "A", or post and loop designs more commonly installed today. (Recommended bike rack designs can be found on page 68.)

The City should also install new racks at major public destinations currently lacking parking, such as the municipal beach, or City parks and recreational facilities. The City should also encourage businesses and require new develoment to provide bicycle parking to further expand parking capacity and improve the convenience of bicycling. Finally, the City should explore opportunities for bicycle corrals along Bay Avenue, as discussed on page 123.

Drainage Grates

Although a complete inventory was not conducted, field observations noted several drainage grates within the City that are an older non-bike safe design. Non-bike safe grates throughout the City should be replaced and upgraded to a bike-safe design during typical drainage system maintenance cycles or roadway projects. (Full drainage grate discussion can be found on page 68.)



Older generation comb style rack at Jordan Road School.

Bicycle Repair Stations

Sitting at the intersection of the regional off-road trail network, as well as having its own destinations to attract cyclists, Somers Point is well positioned to become a regional hub of bicycling activity. Providing additional bicycle facilities can further this reputation.

Bicycle repair stations are an amenity that can increase the bicycle friendliness of the City. The availability of repair stations increases the convenience of bicycling for both visitors and residents. Repair stations provide a place to make quick repairs or adjustments while on the road, such as fixing a flat tire, topping off the tire air pressure, or adjusting the seat height.

Bicycle repair stations, such as the one shown below, are an all-in-one service station. They typically include a hanger arm to suspend the bicycle from while it is being worked on; an air pump; and tools such as wrenches, screwdrivers, and tire levers. All elements of the repair station are secured and tamper-proof to prevent theft. A complete repair station typically costs approximately $1,300.

The City should investigate opportunities to install bicycle repair stations in highly visible locations at several prominent locations for bicyclists around the City, such as:

- Intersection of the NJ Route 52 Causeway and Somers Point Bike Path
- Along the Somers Point Bike Path near: Fehrl Field/recreational complex and Dawes Avenue School
- Bay Avenue near the municipal beach

Repair stations can also be effectively paired with bicycle parking areas.

Example bike repair station at Rutgers University, New Brunwick, NJ

ORDER OF MAGNITUDE MATERIAL COST ESTIMATES - BIKE NETWORK

The table below summarizes order of magnitude material cost estimates for the bicycle network, including striping improvements and trail crossing templates.

Treatment	Dist. (mi)	Est. Cost
Shared-Lane Marking	6.29	$22,500
Bike Lane	0.19	$1,300
Buffered Bike Lane	1.78	$18,400
Two-Way Cycle Track	1.27	$36,300
Multi-Use Path	1.10	$94,600

Crossing Templates		
Template Type	**Unit**	**Est. Cost**
Local Streets	Each	$11,700
Secondary Arterials	Each	$22,300

9 NEXT STEPS

The proposed recommendations provide a range of engineering, education, enforcement, and encouragement concepts and strategies to improve bicycle and pedestrian mobility throughout Somers Point. Prioritized and enacted over time, as funding is available, they will foster higher levels of walking and biking activity in the City, spur economic activity along the commercial corridors, and create a more robust network to link residents with the places they want to go.

The City should work with the South Jersey Transportation Planning Organization (SJTPO) to prepare and submit problem statements to NJDOT to advance improvements along state highways. A variety of funding sources are also available to support local bicycle and pedestrian improvements and programs. The New Jersey Bicycle and Pedestrian Resource Center has compiled a summary of available resources, which will be included as an appendix to the final report.

Community beach on Bay Avenue

Cyclist and pedestrian on the NJ Route 52 Causeway multi-use path

Family crossing Shore Road

Somers Point Bike Path near New York Avenue School

APPENDIX A

BICYCLE ANALYSIS CRITERIA

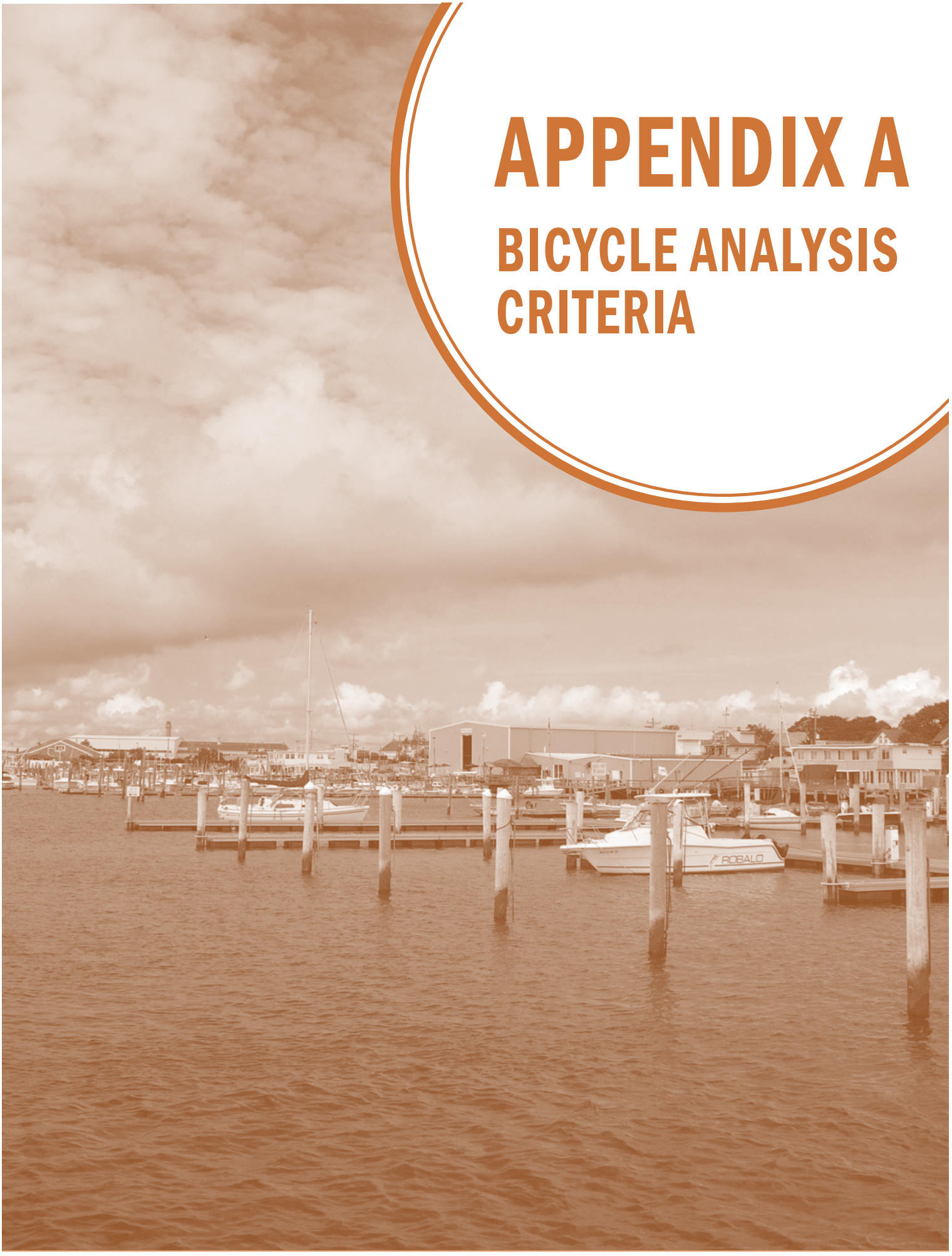


Table A-1| Minimum Conditions for Bicycle Compatibility

AADT up to 2,000

Posted Speed Limit	Urban w Parking	Urban w/o Parking	Rural
Up to 30 mph	12 ft – shared lane	11 ft – shared lane	10 ft – shared lane
31 – 40 mph	14 ft – shared lane	14 ft – shared lane	12 ft – shared lane
41 – 50 mph	15 ft – shared lane	15 ft – shared lane	3 ft – shoulder
Greater than 50 mph	Not Compatible	4 ft – shoulder	4 ft – shoulder

AADT 2,001-10,000

Posted Speed Limit	Urban w Parking	Urban w/o Parking	Rural
Up to 30 mph	14 ft – shared lane	12 ft – shared lane	12 ft – shared lane
31 – 40 mph	14 ft – shared lane	14 ft – shared lane	3 ft – shoulder
41 – 50 mph	15 ft – shared lane	15 ft – shared lane	4 ft – shoulder
Greater than 50 mph	Not Compatible	6 ft – shoulder	6 ft – shoulder

ADT 10,000 or Trucks over 5%

Posted Speed Limit	Urban w Parking	Urban w/o Parking	Rural
Up to 30 mph	14 ft – shared lane	14 ft – shared lane	14 ft – shared lane
31 – 40 mph	14 ft – shared lane	4 ft – shoulder	4 ft – shoulder
41 – 50 mph	15 ft – shared lane	6 ft – shoulder	6 ft – shoulder
Greater than 50 mph	Not Compatible	6 ft – shoulder	6 ft – shoulder

Source: Bicycle Compatible Roadways and Bikeways, 1996, NJDOT

Table A-2 | Level of Stress Analysis Criteria

Criteria for Level of Stress in Mixed Traffic

	Street Width		
Posted Speed Limit	2-3 Lanes	4-5 Lanes	6+
Up to 25 mph	LOS 1 or 2	LOS 3	LOS 4
30 mph	LOS 2 or 3	LOS 4	LOS 4
35+ mph	LOS 4	LOS 4	LOS 4

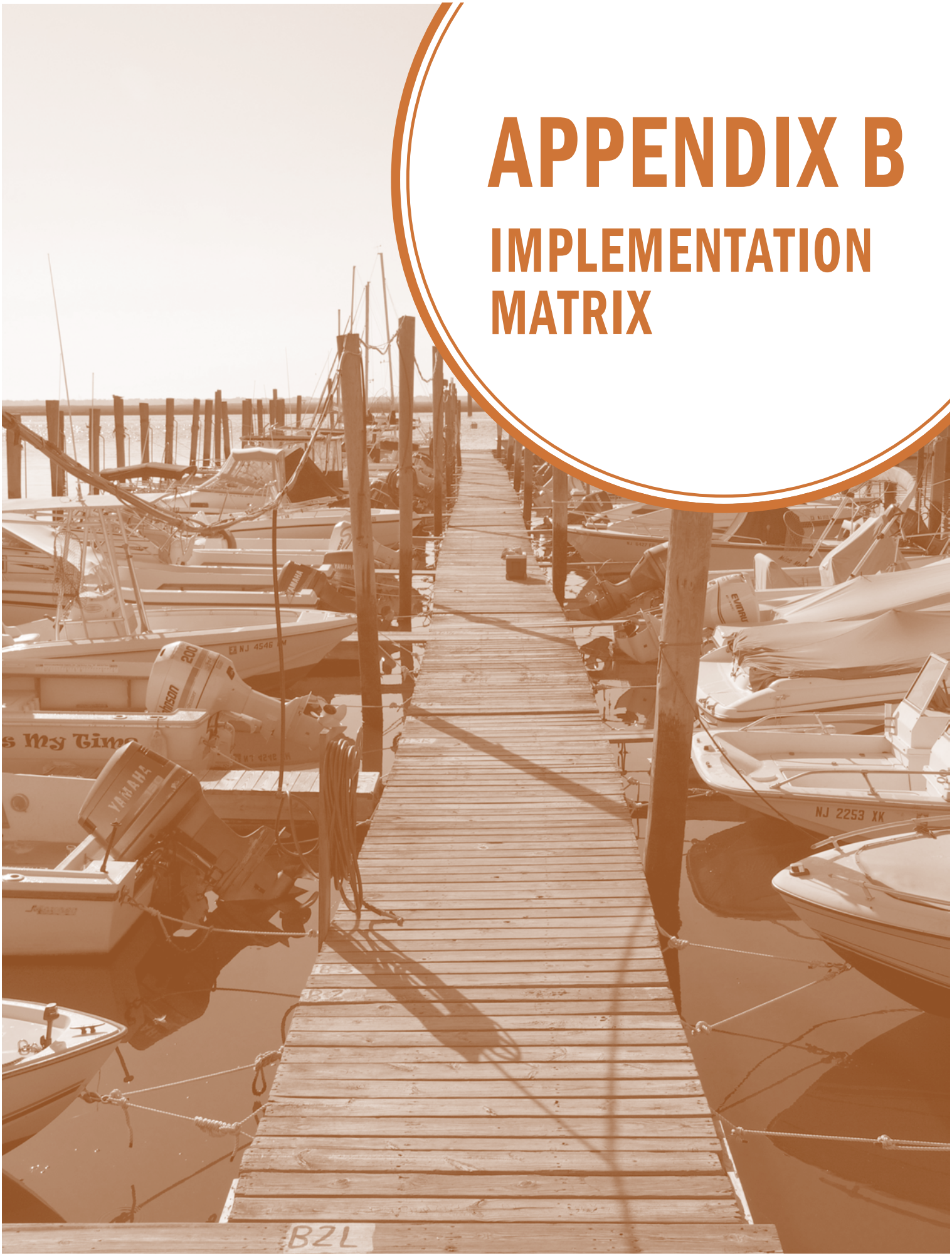
Level of Stress for Mixed Traffic in the Presence of a Right Turn Lane

Configuration	Level of Stress
Single right-turn lane with length ≤ 75 ft. and intersection angle and curb radius limit turning speed to 15 mph	(no effect on LOS)
Single right-turn lane with length between 75 and 150 ft., and intersection angle and curb radius limit turning speed to 15 mph	LOS ≥ 3
Otherwise	LOS = 4

Level of Stress for Unsignalized Crossings Without a Median Refuge

	Width of Street Being Crossed		
Speed Limit of Street Being Crossed	Up to 3 lanes	4-5 Lanes	6+
Up to 25 mph	LOS 1	LOS 2	LOS 4
30 mph	LOS 1	LOS 2	LOS 4
35 mph	LOS 2	LOS 3	LOS 4
40+ mph	LOS 3	LOS 4	LOS 4

Source: Low-Stress Bicycling and Network Connectivity, Mineta Transportation Institute, 2012



APPENDIX B

IMPLEMENTATION MATRIX

IMPLEMENTATION MATRIX

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at Somers Point-Mays Landing Road	Pedestrian	Intersection Spot Improvement	Install NJ TRANSIT bus stop signage	$200	Short-Term	NJ TRANSIT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install detectable warning surface at NW and SW corner curb ramps	$700	Short-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install continental crosswalk striping	$4,000	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars 4' behind crosswalk striping	$170	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install ADA-compliant curb ramps at all corners	$2,800	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk at SE corner	$1,800	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate extending sidewalk at SE corner ~400' to east	$11,100	Long-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate access changes at the NE corner to consolidate driveways	$0	Long-Term	NJDOT	Atlantic County, Somers Point
U.S. Route 9 at NJ Route 52/West Laurel Drive	Pedestrian	Intersection Spot Improvement	Install continental crosswalk striping at crossings of the channelized right-turn lanes at the NW, NE, and SE corners	$1,600	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install appropriate signage for ramp crossings (W11-2, W16-7P)	$400	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe existing crosswalks with continental style striping	$6,900	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reconfigure the right-turn lanes at the WB and SB approaches to reduce the curb radii, slow traffic, and reduce lane width and crossing distance	$134,300	Long-Term	NJDOT	Somers Point
		Intersection Spot Improvement	Install new sidewalks and curb ramps to accompany the right-turn lane reconfiguration	$29,200	Long-Term	NJDOT	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at Connecticut Avenue	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stop at the SE corner	$100	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reconfigure curb ramps at all corners – install two ADA-compliant curb ramps at each corner, providing separate, direct access to each crosswalk	$5,600	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe existing U.S. Route 9 crossings with continental style striping	$2,500	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install standard crosswalks at the crossings of Connecticut Avenue	$500	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars a minimum of 4 feet behind crosswalk striping	$300	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk (~10 ft) along U.S. Route 9 northbound, north of the intersection	$300	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons	$9,000	Mid-Term	NJDOT	Somers Point
		Intersection Spot Improvement	Investigate access changes to the properties along the southbound approach – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection	$0	Long-Term	NJDOT	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at Groveland Avenue	Pedestrian	Intersection Spot Improvement	Install detectable warning surface with truncated domes at all curb ramps	$1,400	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stops at the SW and SE corners	$200	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install ADA-compliant curb ramps at the NW and NE corners for the crossing of the southbound approach	$1,400	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reconfigure curb ramp at the SW corner to reduce the slope, per ADA requirements	$700	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe existing U.S. Route 9 crossings with continental style striping	$2,400	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bar a minimum of 4 feet behind crosswalk striping at the southbound approach	$200	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk adjacent to the property at the SW corner (~440 ft)	$12,200	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons	$9,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate relocation of utilities at the SW corner to remove barriers to pedestrian circulation	$0	Long-Term	NJDOT	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at Chapman Boulevard	Pedestrian	Intersection Spot Improvement	Re-stripe existing U.S. Route 9 crossings and crossings of the channelized right-turn lanes with continental style striping	$3,600	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install appropriate signage for ramp crossings (W11-2, W16-7P)	$400	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars a minimum of 4 feet behind crosswalk striping at the U.S. Route 9 crossings	$300	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install detectable warning surface with truncated domes at all curb ramps	$4,200	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stops at the NW and NE corners	$200	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk along the northbound approach (~640 ft)	$17,800	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate opportunities to install additional lighting	$0	Long-Term	NJDOT	Somers Point
U.S. Route 9 at Bethel Road	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stops at the NW and NE corners	$200	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install appropriate signage for ramp crossings (W11-2, W16-7P)	$400	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install new ADA-compliant curb ramps for the crossings of the channelized right-turn lanes at the SE and NW corners; stripe with continental style crosswalk striping	$2,800	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe the crossings of Bethel Avenue with continental style crosswalk striping	$6,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install ADA-compliant curb ramps, standard crosswalk striping, and stop bar at the intersection with Defeo Lane	$3,100	Mid-Term	NJDOT	Somers Point
		Intersection Spot Improvement	Realign channelized right-turn lanes at the NW and SE corners to reduce curb radii	$7,200	Long-Term	NJDOT	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at Ocean Heights Avenue (CR 559 Truck)	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stop at the SE corner	$100	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Somers Point
	Pedestrian	Intersection Spot Improvement	Realign U.S. Route 9 crossing at the northbound approach to be perpendicular to the roadway. Install new ADA compliant curb ramp at the SE corner to accommodate the realignment and strip with continental style crosswalk striping	$2,100	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe existing U.S. Route 9 crossings with continental style striping	$1,400	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars a minimum of 4 feet behind crosswalk striping at the U.S. Route 9 crossings	$200	Mid-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk at the NW and NE corners (~900 ft)	$25,000	Mid-Term	NJDOT	Atlantic County, Somers Point
U.S. Route 9 at Massachusetts Avenue	Pedestrian	Intersection Spot Improvement	Conduct a traffic signal warrant analysis to determine if the intersection meets requirements to install a traffic signal	$0	Short-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install rectangular rapid flashing beacons (RRFBs).	$25,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install high visibility continental crosswalk striping at U.S. Route 9 crossings	$2,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars a minimum of 4 feet behind crosswalk striping at the Massachusetts Avenue crossings	$200	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install standard crosswalk striping at crossings of Massachusetts Avenue	$500	Mid-Term	NJDOT	Somers Point
		Intersection Spot Improvement	Install ADA-compliant curb ramps at all crossings, perpendicular to the roadway	$5,600	Mid-Term	NJDOT	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
U.S. Route 9 at New York Avenue	Pedestrian	Intersection Spot Improvement	Install rectangular rapid flashing beacons (RRFBs). Due to the proximity of the Jordan Road School, utilize fluorescent yellow-green background signage	$25,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install high visibility continental crosswalk striping at U.S. Route 9 crossings	$2,000	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install standard crosswalk striping at crossings of New York Avenue	$500	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install ADA-compliant curb ramps at all crossings, perpendicular to the roadway	$5,600	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Reposition stop bars a minimum of 4 feet behind crosswalk striping at the New York Avenue crossings	$100	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk to fill gaps in the network along U.S. Route 9 in the vicinity of the intersection (~330 feet)	$9,200	Mid-Term	NJDOT	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate access changes to properties along the corridor – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection	$0	Long-Term	NJDOT	Somers Point
NJ Route 52 at Somers Point-Mays Landing Road (CR 559)/ Shore Road (CR 585)	Pedestrian	Intersection Spot Improvement	Reposition signing and trim vegetation at the SE corner	$600	Short-Term	NJDOT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install wayfinding signage to identify connections between the Somers Point Bike Path, Ocean City Bike Path/ NJ Route 52 Causeway, and major destinations in Somers Point	$0	Short-Term	NJDOT	Atlantic County, Somers Point
Somers Point-Mays Landing Road (CR 559) at Broadway	Pedestrian	Intersection Spot Improvement	Complete the sidewalk network along the westbound side of Broadway	$3,100	Mid-Term	Atlantic County	Somers Point
	Pedestrian	Intersection Spot Improvement	Instal high visibility continental crosswalk striping at the driveway crossings	$1,400	Mid-Term	Atlantic County	Somers Point
		Intersection Spot Improvement	Install ADA-compliant curb ramps	$4,200	Mid-Term	Atlantic County	Somers Point

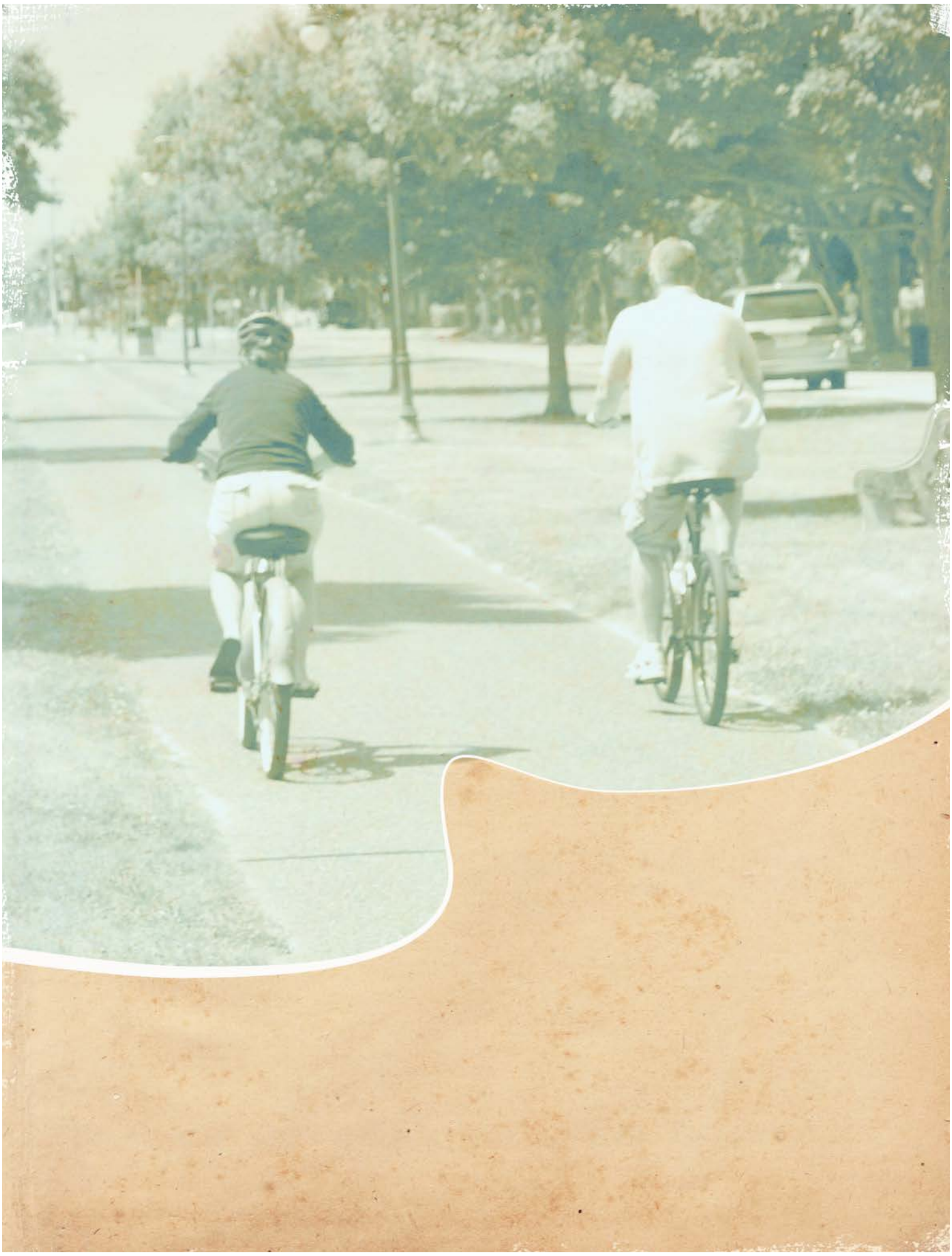
Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
Shore Road at New York Avenue	Pedestrian	Intersection Spot Improvement	Realign the crossing of the northbound approach to create a perpendicular crossing of Shore Road, significantly reducing the crossing distance. Install ADA-compliant curb ramps to accommodate the crosswalk realignment and reposition the stop bar a minimum of 4 feet behind the crosswalk. Utilize the split phasing at the intersection to mitigate potential visibility issues and reduce potential conflicts between pedestrians crossing at the northbound approach and vehicles turning right at the eastbound approach - coordinate the 'Walk' signal for the crossing of the northbound approach with the westbound green. Install a "No Turn on Red" sign at the eastbound approach (MUTCD R10-11a)	$900	Mid-Term	Atlantic County	Somers Point
	Pedestrian	Intersection Spot Improvement	Install pedestrian signal heads with countdown timers, and reposition the signal head and push button at the SW corner to accommodate the realigned crosswalk	$9,600	Mid-Term	Atlantic County	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate opportunities to install additional lighting, such as pedestrian scale lighting along Shore Road	$0	Long-Term	Atlantic County	Somers Point
Bethel Road at Groveland Avenue	Pedestrian	Intersection Spot Improvement	Install detectable warning surface with truncated domes at all curb ramps	$1,400	Short-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Restripe crosswalks across Bethel Road as continental style	$2,400	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Reposition the stop bar at the northbound approach a minimum of 4 feet behind the crosswalk	$100	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install sidewalk at NE corner along Bethel Avenue (~100 ft)	$2,800	Mid-Term	Somers Point	
		Intersection Spot Improvement	Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons	$9,000	Mid-Term	Somers Point	

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
Bethel Road at First Avenue/ Somers Point Bike Path	Pedestrian	Intersection Spot Improvement	Realign First Avenue to create a perpendicular roadway connection to Bethel Road.	$4,400	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install continental crosswalk striping and ADA-compliant curb ramps at all three crossings	$6,600	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install rectangular rapid flashing beacons (RRFBs).	$25,000	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install pedestrian refuge island at SB approach	$1,000	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install curb extensions at NB approach	$7,200	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install painted intersection	$4,000	Mid-Term	Somers Point	
	Pedestrian	Intersection Spot Improvement	Install sidewalk at NW corner and connection between VFW Hall and Somers Point Bike Path	$4,800	Mid-Term	Somers Point	
Maryland Avenue (CR 620) at Shore Road (CR 585)	Pedestrian	Intersection Spot Improvement	Install signage at existing bus stops north of the intersection	$200	Short-Term	NJ TRANSIT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate bus stop usage and evaluate additional passenger amenities, as applicable	$0	Short-Term	NJ TRANSIT	Atlantic County, Somers Point
	Pedestrian	Intersection Spot Improvement	Install detectable warning surface with truncated domes at all curb ramps	$1,400	Short-Term	Atlantic County	Somers Point
	Pedestrian	Intersection Spot Improvement	Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons	$9,000	Mid-Term	Atlantic County	Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate access changes to the property at the SW corner – alter driveway access to slow traffic, consolidate driveways, provide a designated pedestrian area, and set the driveways back from the intersection	$0	Long-Term	Atlantic County	Somers Point
		Intersection Spot Improvement	Investigate reducing the curb radius at the SE corner	$1,300	Long-Term	Atlantic County	Somers Point

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
Maryland Avenue (CR 620) / NJ Route 152 at Bay Avenue	Pedestrian	Intersection Spot Improvement	Install detectable warning surface with truncated domes at all curb ramps	$3,500	Short-Term	Atlantic County	NJDOT, Somers Point
	Pedestrian	Intersection Spot Improvement	Re-stripe crosswalks at all approaches with continental style striping	$4,000	Mid-Term	Atlantic County	NJDOT, Somers Point
	Pedestrian	Intersection Spot Improvement	Install sidewalk at NW corner along southbound approach (~100 ft)	$2,800	Mid-Term	Atlantic County	NJDOT, Somers Point
	Pedestrian	Intersection Spot Improvement	Install pedestrian signal heads with countdown timers and pedestrian-actuated push buttons	$9,000	Mid-Term	Atlantic County	NJDOT, Somers Point
	Pedestrian	Intersection Spot Improvement	Investigate removing the channelized right-turn island at the northbound approach. Install curbing, vegetation, and sidewalk at the SE corner to accommodate the elimination of the channelized right-turn lane.	$15,100	Long-Term	Atlantic County	NJDOT, Somers Point
U.S. Route 9	Vehicular	Corridor	Conduct speed study to evaluate implementing a consistent 35 mph speed limit	$0	Short-Term	NJDOT	Somers Point
	Pedestrian/Bike	Corridor	Install multi-use path between GSP and Somers Point-Mays Landing Road	TBD	Mid-Term	NJDOT	NJ Turnpike Authority, Somers Point
	Pedestrian/Bike	Corridor	Install multi-use path between Somers Point-Mays Landing Road and Rt 52	$94,600	Long-Term	NJDOT	Somers Point
	Pedestrian	Corridor	Complete sidewalk network between Rt 52 and Ocean Heights Ave	n/a	Long-Term	NJDOT	Somers Point
	Pedestiran, Bike, Vehicular	Corridor	Enhance access control at properties with uncontrolled access along the corridor	n/a	Long-Term	NJDOT	Somers Point
	Pedestrian	Corridor	Enhance transit access with improved signage and amenities	n/a	Mid-Term	NJ TRANSIT	NJDOT, Somers Point
	Bike	Corridor	Restripe shoulders with buffered bike lanes between Rt 52 and Groveland Ave	$14,300	Mid-Term	NJDOT	Somers Point
		Corridor	Create comprehensive corridor development plan	n/a	Long-Term	Somers Point	NJDOT

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
Somers Point - Mays Landing Road (CR 559)	Bike	Corridor	Restripe shoulders with buffered bike lanes between Rt 9 and Rt 52	$14,300	Mid-Term	Atlantic County	Somers Point
	Bike	Corridor	Construct two-way cycle track between Rt 9 and Rt 52	$20,500	Long-Term	Atlantic County	Somers Point
West Laurel Drive	Vehicular	Corridor	Construct gateway treatment with splitter island	$1,200	Mid-Term	Somers Point	NJ Turnpike Authority
	Pedestrian	Corridor	Install curb extensions at intersections with Ambler Rd, Vassar Dr, Jordan Rd, and 10th St	$57,600	Mid-Term	Somers Point	
	Pedestrian	Corridor	Install contental crosswalk throughout corridor and "Stop for Pedestrians" signage (R1-6a)	$6,500	Mid-Term	Somers Point	
Shore Road (CR 585)	Vehicular	Corridor	Conduct speed study to evaluate implementing a consistent 30 mph speed limit	$0	Short-Term	Atlantic County	Somers Point
Bethel Road	Vehicular	Corridor	Evaluate potential to reduce the skew of intersections with side streets by converting streets to one-way pairs and reconfiguring the sidestreet approach	n/a	Long-Term	Somers Point	
Maryland Avenue (CR 620) / NJ 152	Vehicular	Corridor	Construct gateway treatment with splitter island	$1,200	Mid-Term	NJDOT	Atlantic County, Somers Point
	Vehicular	Corridor	Conduct speed study to evaluate shifting the speed limit drop to 25 mph from the Bay Ave intersection to the Somers Point municipal border	$0	Short-Term	NJDOT	Atlantic County, Somers Point
	Bike	Corridor	Install bike lane from Shore Road to Somers Point Bike Path	$1,300	Mid-Term	Atlantic County	Somers Point
		Corridor	Install buffered bike land from Bay Ave to Shore Road	$4,100	Mid-Term	Somers Point	Atlantic County

Location	Type of Improvement	Category	Improvement	Approximate Material Cost	Implementation Term	Lead Agency	Supporting Agency/ Agencies
Bay Avenue	Bike	Corridor	Install shared-lane markings from Maryland Ave to Goll Ave	$5,800	Short-Term	Somers Point	
	Pedestrian	Corridor	Install curb extensions at major intersections along corridor	$57,600	Long-Term	Somers Point	
	Pedestrian	Corridor	Outline brick crosswalks with white striping	$1,900	Short-Term	Somers Point	
	Pedestrian	Corridor	Investigate opportunities for a Harborwalk along harborside between Rt 52 and the municipal beach	n/a	Long-Term	Somers Point	
	Pedestrian	Corridor	Investigate opportunities for a Marshwalk between Maryland Ave and Ocean Ave	n/a	Long-Term	Somers Point	
	Bike	Corridor	Install two-way cycle track between Maryland Ave and Ocean Ave	$15,800	Mid-Term	Somers Point	
	Bike	Corridor	Install bike corrals at key locations along corridor	n/a	Mid-Term	Somers Point	
		Corridor	Install wayfinding signage throughout corridor	n/a	Long-Term	Somers Point	
New Jersey Ave at Shore Road	Bike	Intersection Spot Improvement	Install RRFB	$12,500	Mid-Term	Atlantic County	Somers Point
Ocean Ave at Shore Road	Bike	Intersection Spot Improvement	Install RRFB	$12,500	Mid-Term	Atlantic County	Somers Point
New Jersey Ave	Bike	Corridor	Install shared-lane markings from Bay Ave to Somers Point Bike Path	$1,700	Mid-Term	Somers Point	
Ocean Ave	Bike	Corridor	Install shared-lane markings from Bay Ave to Somers Point Bike Path	$2,600	Mid-Term	Somers Point	
Goll Ave	Bike	Corridor	Install shared-lane markings from Bay Ave to Somers Point Bike Path	$800	Mid-Term	Somers Point	
Goll Ave	Bike	Intersection Spot Improvement	Install bike box for turns to Somers Point Bike Path / Rt 52 Causeway connection	$300	Mid-Term	Somers Point	
New York Ave	Bike	Corridor	Install shared-lane markings from Bay Ave to 10th St	$6,100	Mid-Term	Somers Point	
Groveland Ave	Bike	Corridor	Install shared-lane markings from Bay Ave to Rt 9	$5,500	Mid-Term	Somers Point	



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