



Pedestrian Safety Demonstration Project

Borough of Milltown, Middlesex County, NJ
2019



About The Report

This report has been prepared as part of the North Jersey Transportation Planning Authority (NJTPA) Complete Streets Technical Assistance Program, with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or its use thereof.

The report was authored by staff at the Alan M. Voorhees Transportation Center (VTC) at Rutgers, The State University of New Jersey, and reviewed by Sustainable Jersey, the NJTPA, officials from the Borough of Milltown, and the Middlesex County Office of Planning.

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North Jersey Transportation Planning Authority

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Acknowledgments

The authors of this report would like to extend special thanks to the following individuals for making this workshop possible: Mayor Eric A. Steeber, Councilwoman Doriann Kerber, Business Administrator Randy Bahr, Police Chief Brian Knelle, and Ralph Jasionowski, Department of Public Works. Lastly, Rutgers graduate students Aishwarya Shrestha, Aishwarya Anandavasagan, and Manas Ranjan provided critical support in the preparation of this report.

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Executive Summary

Complete Streets are streets designed for all users, all modes of transportation, and all ability levels. They balance the needs of drivers, pedestrians, bicyclists, transit riders, emergency responders, and goods movement based on local context.

-State of New Jersey Complete Streets Design Guide

This report summarizes two pedestrian safety improvement projects in the Borough of Milltown, New Jersey that were completed through the North Jersey Transportation Planning Authority (NJTPA)'s Complete Streets Technical Assistance Program. Two demonstration projects were implemented on North Main Street at the intersections of Ford Avenue and Church Street with the goal of addressing the long crosswalk distances, parked cars obstructing the view of crosswalks and vehicles not stopping for people in the crosswalks. The NJTPA worked with the Alan M. Voorhees Transportation Center at Rutgers, the State University of New Jersey (VTC), and Sustainable Jersey (SJ) to provide technical assistance to the borough.

The Borough of Milltown was one of nine municipalities selected through the NJTPA's competitive grant program, which provides up to \$10,000 in technical assistance to support the Borough's efforts to advance or implement complete streets, which are roads designed for all users, including vehicles, people walking, bicyclists and public transportation.

Milltown requested assistance with improving pedestrian safety by using a demonstration project — which is also referred to as tactical urbanism — to show the public what potential improvements could look like before implementing any permanent changes, such as using paint to demonstrate how extending the curbs to shorten the crossing distance for pedestrians would work. This report provides insights into the demonstration planning process and provides several recommendations for continuing to promote complete streets in Milltown.

Because North Main Street is a county road, the Borough of Milltown partnered with Middlesex County on this project. The project team gathered stakeholder and public input as part of its analysis of pedestrian safety concerns on North Main Street. Following that analysis it recommended several improvements, many of which the county implemented, including installing higher visibility crosswalks and using paint, signage and plastic bollards to more clearly delineate areas where parking is prohibited. The bollards were placed on Ford Avenue and East Church Street. The project team also suggested placing bollards on North Main Street and using planters to narrow a large commercial driveway on that road, however these improvements



Figure 1. A photo taken before the project was implemented at the intersection of Main Street and Ford Avenue, looking southeast.

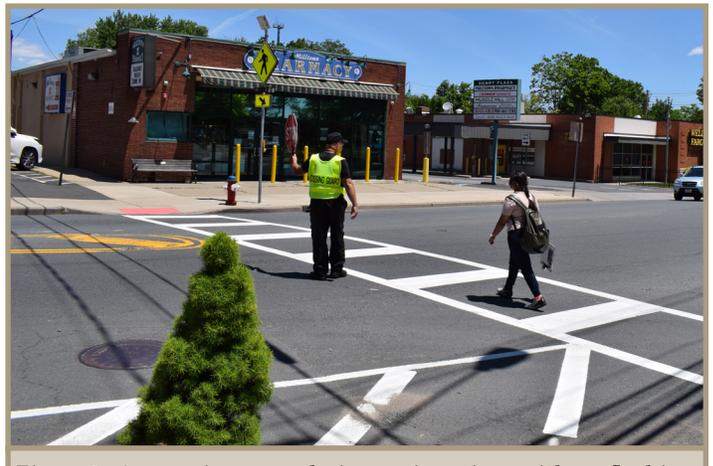


Figure 2. A crossing guard, in conjunction with a flashing pedestrian-activated signal, assists a student across Main Street at the Ford Avenue intersection, looking northeast on Main Street.

were not yet in place at the time this report was published.

This report recommends completing the proposed improvements on North Main Street, developing a complete streets implementation plan, and identifying additional locations for similar pedestrian improvements. It suggests Milltown continue monitoring the changes to the intersections in order to identify opportunities to adjust the plans, including the addition of planters and other design elements. The report also recommends the municipality continue its work to improve pedestrian safety at other locations throughout the borough. Such projects should make use of the various tools provided through demonstration projects that help to ensure community-driven outcomes. Through all of this, the borough should continue its public outreach and work to spread awareness of complete streets goals. The long-term recommendations include installing pedestrian-activated flashing crossing signals at the East Church Street intersection.

The project proved to be successful in addressing pedestrian safety concerns in the community. Surveys collected after the project was implemented garnered positive feedback, including improved compliance with crosswalk laws, including vehicles stopping for pedestrians in the crossing. The findings of these surveys are detailed in the report.

The lessons learned from the demonstration projects can be applied to other municipal-owned roads in Milltown. Tools to guide this process can be found in the Methodology section of this report. Milltown has also taken advantage of another tool the NJTPA offers, Street Smart NJ, a pedestrian safety campaign that works to raise awareness of New Jersey's pedestrian-related laws and change the behaviors that contribute to pedestrian-vehicle crashes. The Borough should continue its efforts to education drivers and pedestrians to improve road safety. Additional Street Smart NJ information and a list of potential funding resources are provided in the appendices of this report.



Figure 3. A photo taken prior to project implementation at the intersection of Church Street and Main Street, looking northwest.



Figure 4. The installed improvements at the intersection of Church Street and Main Street, looking northwest.

Background

The North Jersey Transportation Planning Authority (NJTPA) created the Complete Streets Technical Assistance (CSTA) Program in 2018 to assist municipalities in advancing or implementing complete streets, which was a need identified through the Together North Jersey consortium. Complete streets are roads designed for all users, including vehicles, people walking, bicyclists and public transportation.

Sustainable Jersey (SJ) and the Alan M. Voorhees Transportation Center (VTC) at Rutgers, the State University of New Jersey, were retained to provide technical assistance for this program. The CSTA Program was designed to support nine municipal governments seeking to implement complete streets in their communities. Municipalities were selected for the program based on the following criteria: the need for technical assistance, commitment to implementation, stakeholder support, and the strength of the municipal team.

The Borough of Milltown was among the nine communities selected to receive technical assistance. In September of 2018, the CSTA project team worked with stakeholders to identify intersection improvements for the demonstration project. Residents and Borough officials identified two intersections on North Main Street as priority locations for demonstration projects: Ford Avenue and Church Street.

Main Street in Milltown is a downtown corridor with many destinations for pedestrians and drivers. As a county road connecting North Brunswick and East Brunswick, Main Street is often used as cut-through to avoid nearby highways and as such vehicles travel at “speeds that often exceed the limit by 5 to 15 mph.”¹ These conditions increase the likelihood of conflicts between drivers and pedestrians. In addition to speeding drivers, a May 2018 survey conducted by Keep Middlesex Moving, as part of Milltown’s Street Smart NJ pedestrian safety campaign, revealed more than 72 percent of observers indicated that they saw drivers failing to stop for pedestrians at crosswalks. In response, the Borough has prioritized identification of permanent changes that will lead to a safer, more vibrant Main Street.

What is a Complete Street?

Complete streets are streets designed for all users, all modes of transportation, and all ability levels. They balance the needs of drivers, pedestrians, bicyclists, transit riders, emergency responders, and goods movement based on the local context. Complete streets should be tailored to the specific needs of the surrounding environment. A school zone, for instance, may require reduced speed limits, narrower travel lanes, and wider sidewalks to induce a safer setting for students. Meanwhile, streets along transit routes will incorporate the needs of bus and rail commuters by installing benches, shelters, and enhanced lighting and signs.

Regardless of the context, complete streets should be designed to improve safety for pedestrians and bicyclists who are the most vulnerable road users. Reduced speed limits, raised medians, and other design elements can be used to create a safer environment for seniors, children, and people with disabilities.

To put traffic speeds into perspective, a 10 mph reduction in vehicle speed dramatically decreases the chance of pedestrian fatalities in a collision. The U.S. Department of Transportation (USDOT) cites collisions in which pedestrians are struck by a vehicle traveling 40 mph as being fatal 85 percent of the time. Comparatively, at 30 mph, pedestrian fatality rates drop to 45 percent, and down to five percent at 20 mph (Figure 2 and Figure 3)¹. Complete streets recognize that users of all transportation modes, whether it be car, bus, train, or taxi, at some point during their journey become a pedestrian. Creating a safer environment benefits everyone.

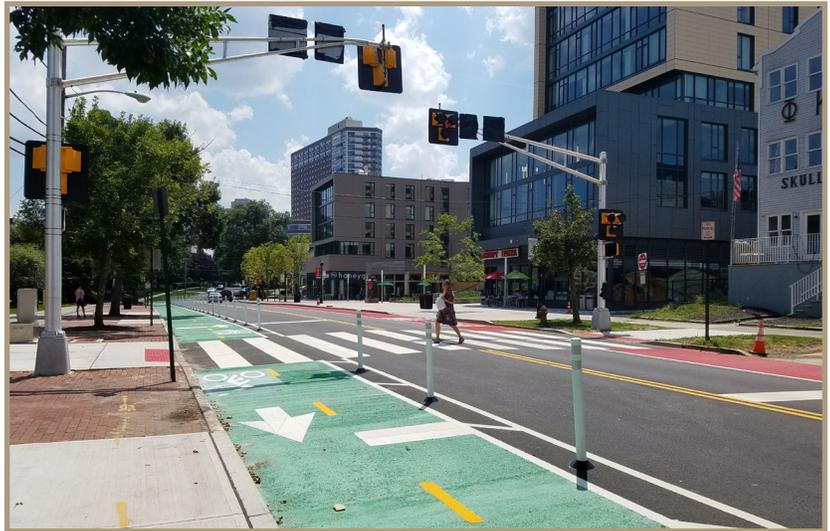


Figure 5. A complete street, as seen in New Brunswick, New Jersey. No two complete streets are alike, as they should always reflect the context of the street and the character of the community.

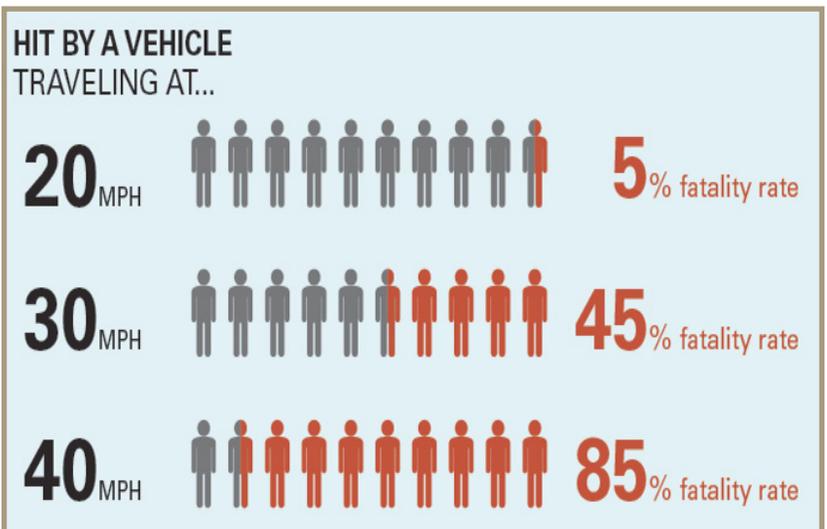


Figure 6. Graphic showing increased fatality rate as vehicle speeds increase.

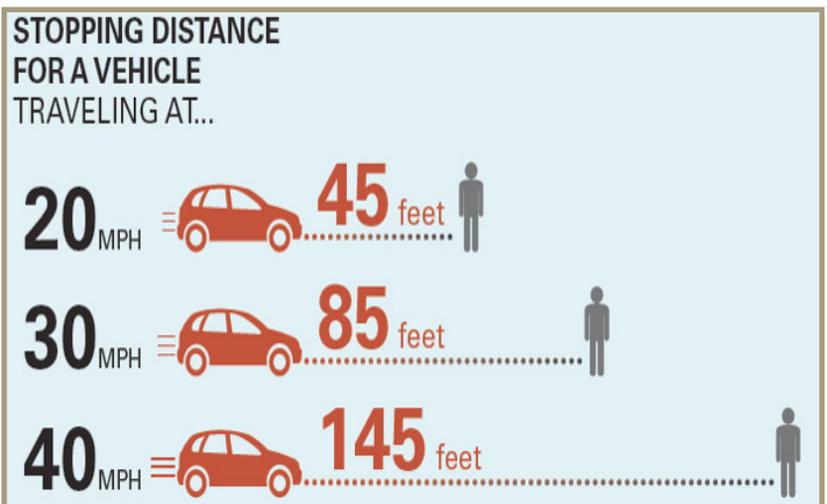


Figure 7. Graphic showing increased stopping distance as vehicle speeds increase.

1. Leaf, William A., and David F. Preusser. 1999. Literature review on vehicle travel speeds and pedestrian injuries. DOT HS 809 021. Washington, DC: U.S. Department of Transportation. <http://www.nhtsa.dot.gov/people/injury/research/pub/HS809012.html>

Benefits of Complete Streets

While the primary benefit of complete streets is improved safety for all road users, there are other positive outcomes. Complete streets create better places to live, work, and do business. These benefits include mobility, equity, health, quality of life, economic vitality, and environmental health.

Mobility

Creating or enhancing multi-modal transportation options creates mobility opportunities for everyone, including non-drivers, youth, and senior citizens (Figure 8). In turn, increased mobility improves access to jobs and services, which is crucial for people who cannot afford or choose not to own a car, as well as those who are unable to drive due to a disability or their age.

Equity

Complete streets designs decrease the need for people to have automobiles to access opportunity. Transportation costs comprise a significant portion of a household budget, approximately 20 percent in the United States. Much of this is due to the high cost of automobile ownership, including insurance, fuel, maintenance, registration fees, and financing. However, household transportation costs drop to just 9 percent in communities with improved street connectivity and accommodations for other modes.² Connected communities allow residents to use less energy and spend less money to get around, allowing for fewer car trips and the use of other less expensive modes of transportation like bicycling, walking, or public transit. Providing a variety of transportation choices across different price points allows families to free up more money for housing or other needs.

Health

Complete streets enhance opportunities for increased walking and bicycling which in turn leads to the numerous health benefits associated with increased physical activity (Figure 9). The Center for Disease Control (CDC) supports complete streets as a means to prevent obesity.

Quality of Life

Livable, walkable communities diminish the need for automobiles. Walking or bicycling around town creates a sociable environment, fostering interactions between family, friends, or clients and increasing community involvement. These interactions, in turn, entice users to enjoy the surroundings they would otherwise ignore in a car. A reduction in vehicle use can also increase the quality of life thanks to reductions in noise and stress associated with congestion and crashes (Figure 10).



Figure 8. When a street lacks accessible sidewalks and ramps, it is not complete.



Figure 9. Trails, such as this one in Monroe, New Jersey, can encourage exercise and lead to improved health.



Figure 10. Complete Streets in Asbury Park help foster a lively social environment.

2. U.S. Department of Transportation (January 3, 2014), "Transportation and Housing Costs," Livability Initiative, https://www.fhwa.dot.gov/livability/fact_sheets/transand-housing.cfm#foot1.

Economic Vitality

Improving streetscapes revitalizes business districts. Complete streets generate more foot traffic when they create great places where people want to be, which can encourage both residents and visitors to spend more money at local shops and restaurants that they may have driven past before. Such is the experience in Somerville, New Jersey, where one block of Division Street was converted to a pedestrian plaza. The area witnessed a sharp decline in vacant commercial properties; vacancy dropped from 50 percent to zero after the plaza was developed (Figure 11).³



Figure 11. Division Street in Somerville was converted into a pedestrian plaza that has become a popular gathering space.

Environmental Health

By reducing automobile use, complete streets can contribute to cleaner air. Additional sustainable design elements installed along complete streets can also bring other environmental benefits. For example, landscape improvements (green streets) can reduce impervious cover, reduce or filter stormwater runoff, and contribute to water quality improvement (Figure 12).



Figure 12. Green infrastructure used to narrow the roadway and provide a shorter crossing distance for pedestrians.

Complete Streets in New Jersey and Milltown

New Jersey is a leader in the complete streets movement. In 2009, the New Jersey Department of Transportation (NJDOT) was among the first state DOTs in the nation to adopt an internal complete streets policy. In 2010, the National Complete Streets Coalition ranked NJDOT's complete streets policy first among 210 state, regional, county, and municipal policies nationwide. Communities of all sizes throughout the state have joined NJDOT in adopting complete streets policies. Of New Jersey's 21 counties, eight have adopted complete streets policies. Additionally, 153 municipalities have implemented complete streets policies affecting 3.8 million (44 percent) of the state's residents (Figure 13).⁴ Both Monmouth County and Red Bank adopted complete streets policies in 2010.

3. "Complete Streets Case Study: Somerville, New Jersey," Alan M. Voorhees Transportation Center, 2016.

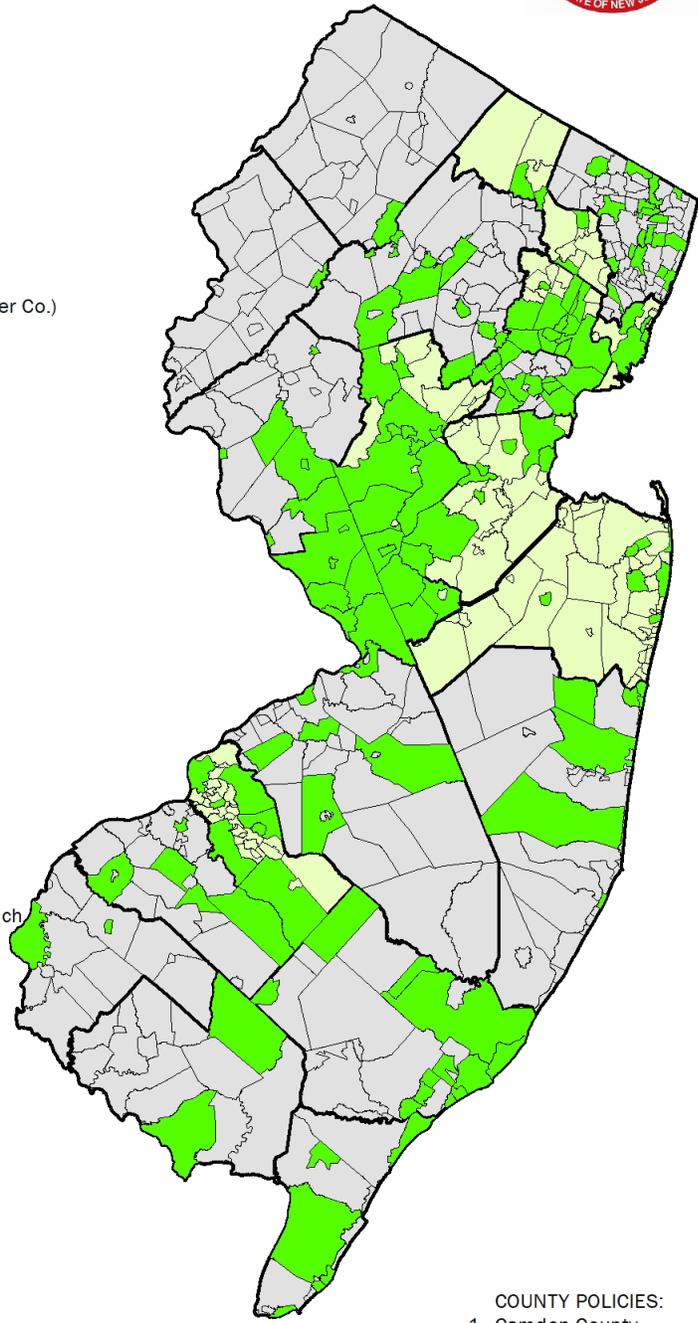
4. New Jersey Bicycle and Pedestrian Resource Center, "NJ Complete Streets Policy Atlas," 2018. <http://njbikeped.org/complete-streets-2/>.

New Jersey Complete Streets Policies as of June 20, 2019



MUNICIPAL POLICIES:

1. City of Asbury Park
2. City of Atlantic City
3. Borough of Bay Head
4. Township of Bedminster
5. Borough of Bergenfield
6. Berkeley Heights Township
7. Township of Bloomfield
8. Borough of Bloomingdale
9. Township of Bordentown
10. Borough of Bound Brook
11. Township of Bridgewater
12. City of Brigantine
13. Borough of Buena
14. City of Burlington
15. Borough of Caldwell
16. Borough of Califon
17. City of Camden
18. City of Cape May
19. Borough of Chatham
20. Township of Cherry Hill
21. Township of Chester
22. Township of Cranford
23. Township of Denville
24. Town of Dover
25. Township of Downe
26. Township of East Amwell
27. City of East Orange
28. Township of East Windsor
29. Borough of Eatontown
30. City of Egg Harbor
31. City of Elizabeth
32. Borough of Emerson
33. Township of Ewing
34. Borough of Fair Haven
35. Borough of Fanwood
36. Borough of Far Hills
37. Borough of Flemington
38. Borough of Fort Lee
39. Township of Franklin (Hunterdon)
40. Township of Franklin (Somerset)
41. Borough of Freehold
42. Borough of Frenchtown
43. City of Garfield
44. Borough of Gibbsboro
45. Borough of Glassboro
46. Borough of Glen Ridge
47. Township of Gloucester
48. City of Hackensack
49. Town of Hackettstown
50. Borough of Haddon Heights
51. Township of Hamilton
52. Town of Hammonton
53. Borough of Harvey Cedars
54. Borough of Haworth
55. Borough of Highland Park
56. Borough of Hightstown
57. Township of Hillsborough
58. City of Hoboken
59. Borough of Hopatcong
60. Borough of Hopewell
61. Township of Hopewell
62. Township of Irvington
63. City of Jersey City
64. Township of Lacey
65. Township of Lakewood
66. City of Lambertville
67. Township of Lawrence
68. Leonia Borough
69. City of Linden
70. City of Linwood
71. Township of Little Falls
72. Township of Livingston
73. City of Long Branch
74. Township of Long Hill
75. Borough of Madison
76. Township of Mantua
77. Borough of Manville
78. Township of Maplewood
79. City of Margate
80. Borough of Maywood
81. Township of Medford
82. Borough of Metuchen
83. Township of Middle
84. Township of Millburn
85. Borough of Milltown
86. Township of Monroe (Gloucester Co.)
87. Township of Montclair
88. Township of Montgomery
89. Borough of Montvale
90. Township of Moorestown
91. Town of Morristown
92. Borough of Mount Arlington
93. Borough of Netcong
94. City of New Brunswick
95. Borough of New Milford
96. Borough of New Providence
97. City of Newark
98. Borough of North Haledon
99. City of North Wildwood
100. City of Northfield
101. Borough of Northvale
102. City of Ocean City
103. Township of City of Orange
104. Pemberton Township
105. Borough of Pennington
106. Township of Pennsville
107. City of Perth Amboy
108. Township of Plainsboro
109. City of Pleasantville
110. Borough of Point Pleasant
111. Borough of Point Pleasant Beach
112. Borough of Pompton Lakes
113. Princeton
114. Borough of Ramsey
115. Township of Randolph
116. Borough of Raritan
117. Township of Raritan
118. Borough of Red Bank
119. Village of Ridgewood
120. Borough of River Edge
121. Township of River Vale
122. Township of Robbinsville
123. Borough of Roselle
124. Borough of Roselle Park
125. Borough of Rutherford
126. Township of Scotch Plains
127. Borough of Sea Bright
128. Town of Secaucus
129. City of Somers Point
130. Borough of Somerville
131. Township of South Brunswick
132. Township of S. Orange Village
133. City of Summit
134. Borough of Tenafly
135. Township of Toms River
136. City of Trenton
137. City of Union City
138. City of Ventnor
139. City of Vineland
140. Township of Voorhees
141. Township of West Orange
142. Township of West Windsor
143. Township of Westampton
144. Town of Westfield
145. Borough of Westwood
146. City of Wildwood
147. Township of Winslow
148. Borough of Woodbine
149. Township of Woodbridge
150. City of Woodbury
151. Borough of Woodstown
152. Township of Woolwich
153. Township of Galloway



COUNTY POLICIES:

1. Camden County
2. Essex County
3. Hudson County
4. Mercer County
5. Middlesex County
6. Monmouth County
7. Passaic County
8. Somerset County

- NJDOT Complete Streets Policy
- County Complete Streets Policies
- Municipal Complete Streets Policies

Figure 13. Complete Streets Policies in New Jersey, as of March 18, 2019.

What are Demonstration Projects?

Demonstration projects, also referred to as tactical urbanism, are an approach to neighborhood building that uses short-term, low-cost, scalable interventions to effect long-term change related to street safety and public space⁷. This approach can draw attention to perceived shortcomings, widen public engagement, test interventions, and inspire action. Common demonstration projects include installing pop-up bike lanes, painting crosswalks and curb extensions to calm traffic, and streetscape enhancements like parklets and planters.

Benefits of Demonstration Projects

Flexibility

These projects champion flexibility in that the improvements are temporary. Rather than discussing the potential for a new crosswalk, the municipality can paint one and observe the new dynamic between pedestrians and drivers without committing to a permanent change. This allows residents and policymakers to witness the improvement and determine its effects.

Affordability

Typically, demonstration projects combine a wealth of volunteers with a shoe-string budget. Instead of investing in major infrastructure improvements, they offer a “lighter, quicker, cheaper” implementation through which the municipality can test new concepts—like a new bike lane or pocket park—without breaking the bank.

Community Input

At its core, demonstration projects are designed to spark a conversation about long-term change in the direction of complete streets. The projects solicit local ideas for planning challenges, taking the debate out of city hall and placing it on the street where people can visualize and respond to the proposed changes. They seek to spur conversation around neighborhood improvements and allow residents to evaluate changes before permanent installation.

Community input, however, does not need to wait until a project is installed. Community members, including residents, artists, school representatives, and municipal employees can help shape the project design during the planning phase. Kicking off the project with an open workshop, such as the one pictured in Trenton (Figure 14), can provide community members an important opportunity to influence the improvements. Participation does not have to stop there. Community members can also be invited to participate in the installation process, which provides several positive opportunities. First, community members are encouraged, through their participation, to take ownership of the project. Additionally, the installation could be organized around an event that is used as both a community building and an educational opportunity.



Figure 14. A workshop where community members learned about demonstration projects and had an opportunity to identify safety concerns at two intersections in Trenton, New Jersey. Participants also worked in teams to brainstorm creative solutions for each intersection.

Economic Development

By creating a more welcoming environment for pedestrians, demonstration projects can spur economic development in commercial corridors that rely on walk-in consumers. Moreover, when parklets are used, the projects can provide needed outdoor space for restaurants by converting a parking space into a protected seating area. In sum, demonstration projects are a do-it-yourself (DIY) approach to planning that develops social capital between citizens and organizational capacity between public and private institutions.

Best Practices in Demonstration Projects

Successful projects employ low risks for high returns, inspiring people to think differently about their surroundings. Examples include installing orange bollards next to a crosswalk, or painting curb extensions so that residents can experience safer, more visible street crossings and provide input for permanent implementation. Beyond function, demonstrations of projects have included the installation of planters and artwork to improve the aesthetic of streets.

Temporary Parklet – Montclair, NJ

Local nonprofit, Bike & Walk Montclair, crowdsourced monetary and in-kind donations from local businesses and recruited volunteers to build the “Porch on Walnut” (Figure 15). The parklet, which occupied two parking spaces in front of a restaurant, contained seating, planters, a pergola, and a bike rack. The project was designed to encourage community building and interaction.⁵



Figure 15. Parklet in Montclair (Photo credit: Bike & Walk Montclair)

Pedestrian Mall – Newark, NJ

The City of Newark joined forces with community organizations to install temporary improvements along Bergen Street between Lyons and Lehigh avenues in the South Ward neighborhood (Figure 16). Beautification amenities included parklets, bike lanes, curb bump-outs, and a pop-up library. The project, according to Newark Mayor Ras Baraka, was designed to give people a “glimpse” of what the block could become.⁶



Figure 16. Pedestrian Plaza in Newark, New Jersey (Photo credit: Better Block Newark)

5. <http://www.montclairlocal.news/wp/index.php/2018/09/14/walnut-street-parklet-to-hold-opening-saturday/>

6. <https://betterblocknewark.wordpress.com/2015/06/08/nj-com-hundreds-turn-out-for-glimpse-of-better-block/>

Painted Curb Extensions – Jersey City, NJ

The City of Jersey City engaged planning consultants to conduct a series of six walkability workshops (Figure 17). The workshops included a public-feedback board, tables and chairs, wayfinding signage, planters, and colorful paint⁷. By shortening the crossing distance for pedestrians, curb extensions provide a tangible experience for potential safety improvements, allowing participants to offer input for future implementation.



Figure 17. Painted curb extension in Jersey City (Photo credit: Street Plans)

Beta Bike Lane – Princeton, NJ

Volunteers, equipped with 16,000 feet of tape, dozens of cans of white spray paint, and several laminated signs, installed 5-foot wide bike lanes along Hamilton Avenue and Wiggins Street, a corridor spanning two grade schools and a public library.⁸ The intervention lasted 10 days; meanwhile, the municipality eliminated on-street parking to create space for bicyclists and encourage K-12 students to bike to school (Figure 18).



Figure 18. Volunteers painting temporary bicycle lanes in Princeton, New Jersey (Photo credit: Princeton)

7. <https://www.street-plans.com/jc-walks-pedestrian-enhancement-plan-jersey-city-nj/>

8. http://www.centraljersey.com/news/princeton-town-to-experiment-with-temporary-bike-lanes-during-bike/article_e71d0a3a-ffb9-11e7-94bf-03f54ca60ea0.html

Project Location

The Borough of Milltown is a compact 1.59 square-mile community in Middlesex County. The Borough is home to 7,016 residents. The median age is 41.2 years and 36 percent of residents have a college degree. Median household income in Milltown is \$106,500 with 7.8 percent of individuals living below the poverty level.⁹

Two intersections on North Main Street, at Ford Avenue and Church Street, were selected for the study. Both intersections have a high volume of students walking to the nearby Joyce Kilmer School, which is located just south of North Main Street (Figure 19). Both intersections also see a continuous flow of pedestrian and vehicular traffic. This is especially true during rush hour and school dismissal times, which includes the mid-day kindergarten dismissal. According to the results of the Student Travel Tally survey administered by the municipality in June 2018, 29 Joyce Kilmer students walked to school in the morning and 49 walked from the school in the afternoon. The speed limit on North Main Street is 30 mph at all times. A crossing guard is present on school days from 11:30 a.m. to 1:00 p.m. and from 2:30 p.m. to 3:30 p.m.

Main Street, a two-lane road, bisects Milltown and is composed of a mix of residential and commercial uses. It is the principal artery through Milltown, linking the borough to US Route 1 and Ryders Lane (County Road 617). Motorists often take Main Street on route to East Brunswick or North Brunswick to avoid traffic along Route 18. Cars also speed down North Main Street to beat truck traffic on Ford Avenue.

Public transportation along Main Street in Milltown is provided by NJ TRANSIT bus line 811 to New Brunswick, and Coach USA bus line 400 to New York City. Only three percent of employees aged 16 and older take public transportation to work, while 92 percent commute to work by car, truck, or van.¹⁰

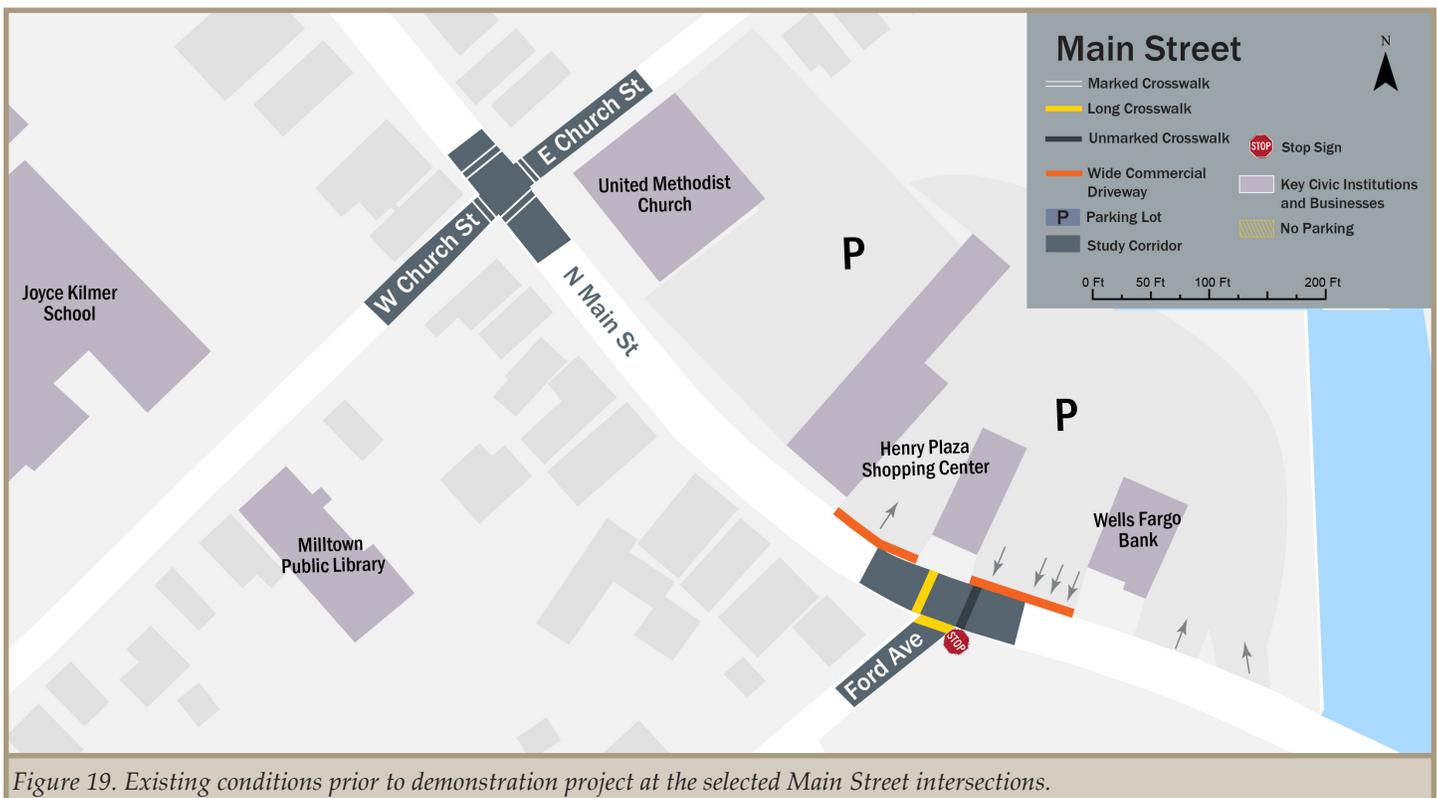


Figure 19. Existing conditions prior to demonstration project at the selected Main Street intersections.

9. American Community Survey 5-Year Estimates https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml?src=bkmk

10. American Community Survey 5-Year Estimates <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

Assessment of Need

Ford Avenue is a wide two-lane local road lined by residential and warehousing uses that generate truck traffic. Due to the presence of a river to the east and the south, and residential neighborhoods to the west, there is no alternative route for the trucks accessing the warehouses on Ford Avenue. The posted speed limit is 25 mph, but the road's 55-foot width is conducive to higher speeds.

The road meets North Main Street at an angle, creating a skewed t-intersection. Ford Avenue has a stop sign and stop bar, while North Main Street has the right of way (Figure 20). West of Ford Avenue, North Main Street has one lane in each direction. However, at the intersection, North Main Street widens to four lanes to the east, with one lane dedicated for turns onto Ford Avenue (Figure 21).

Additional confusion at the intersection is created by the presence of wide driveways along the north side of North Main Street. Vehicles entering and exiting the various commercial parking lots can conflict with traffic turning from Ford Avenue (Figure 22). The risk of pedestrian collisions is also heightened as vehicles are constantly crossing the sidewalk. The driveways serve a bank with drive-through lanes, a pharmacy, Dunkin Donuts, and other small businesses. Additionally, truck traffic is common in the area, due to the warehousing and distribution businesses on Ford Avenue (Figure 23).

There are standard parallel crosswalks from the southwest corner of the intersection across North Main Street (50-feet) and a crosswalk connecting the two sides of Ford Avenue (65-feet). The crosswalk across North Main Street was significantly faded during the site visit. It did however have a Rectangular Rapid Flash Beacon (RRFB) pedestrian light activated by a push button on each side of the street. Studies have shown that motorists are more likely to stop for pedestrians at a crosswalk with an RRFB. In turn, driver



Figure 20. The of the long crosswalk at the intersection of Ford Avenue and Main Street, looking northwest on Main Street (photo taken before installation).



Figure 21. Main Street expands into four lanes south of the Ford Avenue intersection, looking southeast on Main Street (photo taken before installation).



Figure 22. The wide shopping center driveway located across from the Ford Avenue intersection, looking northeast across Main Street (photo taken before installation).



Figure 23. The Ford Avenue intersection witnesses a high volume of truck traffic, looking northwest on Main Street (photo taken before installation).

compliance at Ford Avenue and North Main Street was said to be better than at Church Street and North Main Street, presumably because of the improved infrastructure at the former. For drivers traveling north on North Main Street, the visibility of the RRFB is obstructed by a lane directional sign and is not visible until the vehicle is within eighty feet of the crosswalk. Pedestrian activity is consistent at this intersection, though it is heightened during school and business hours. There are bus stops at this intersection but no signs are posted (Figure 24).

To the northwest of Ford Avenue, Church Street is a two-way, local road ending in a dead end to the east of the intersection. East Church Street is lined with homes and a church with a large parking lot. Joyce Kilmer School is located on West Church Street, which is a continuation of East Church Street southwest of Main Avenue.

The Church Street intersection has one lane of traffic in either direction. North Main Street is only 30-feet wide at this intersection, which helps lower vehicle speeds. There are four crosswalks with ADA compliant sidewalk ramps. There is no traffic signal or pedestrian-scale lighting. Motorists often park close to the intersection and block pedestrians' view of oncoming traffic. Nearby are two crosswalk street signs that residents complain are too low for motorists to see. All of the crosswalks at this intersection were significantly faded and in need of repainting, except for the western crosswalk over Church Street, which seemed to have been recently painted.



Figure 24. Fading crosswalks at the intersection of Main Street and Church Street, looking northwest on Main Street (photo taken before installation).

Data

Traffic

North Main Street witnessed an Annual Average Daily Traffic (AADT) of 14,374 in 2017 in an area near the study intersections, according to NJDOT. Preliminary traffic counts by the CSTA Project Team on the study site recorded approximately 382 vehicles in a 20-minute period. In the same study, observers concluded that motorists were often unwilling to stop for pedestrians at crosswalks. One observer, after noticing long wait times to cross the street, counted 13 cars driving through the crosswalk before one yielded to a pedestrian at the Ford Avenue intersection. Another observer witnessed a near-miss between a crossing guard and a motorist at the intersection of Church Street and North Main Street.

Crash History

From 2014 to 2018, one crash involving a bicyclist and two crashes involving pedestrians occurred along North Main Street near the two study intersections, though none occurred at either of the intersections of Ford Avenue or Church Street.

Methodology

In September 2018, the project team held a kick-off meeting with local stakeholders to discuss safety issues at the two study intersections. In October 2018, the project team led a site visit to identify opportunities for applying temporary solutions as part of demonstration project. Participants included municipal officials and representatives from Milltown Public Library, Middlesex County, engineering firm CME Associates, and United Way of Central Jersey.

Based on feedback from the municipality and findings from the site visit, the project team developed designs for road striping and temporary street furniture. The recommendations included improvements that were low cost and could be done quickly. Details regarding the design methodology and specific recommendations can be found in the Demonstration Findings and Recommendations sections of this report. The project team submitted the designs to the borough for comments, and then made modifications based on that discussion.

Following the initial meeting, the CSTA team developed designs for low-cost, simple improvements to increase pedestrian safety at both intersections. These designs were inspired by successful projects in New Jersey and around the country. For example, New Brunswick, New Jersey, began experimenting with plastic soft-hit bollards at intersections to prevent illegal parking and decrease turning radii (Figure 25 and Figure 26). After monitoring the effectiveness and maintenance costs, the city began to add the bollards to additional intersections. These examples were shared with the municipal team as a handout to ensure that all participants had the same understanding of the concepts being proposed. Figure 25 through Figure 29 are other images that were shared with the municipal team in order to illustrate real-world examples of the proposals.

As Main Street is a county road, the designs need to be approval by the county engineer. On February 6, 2019, the project team and Milltown officials met with Middlesex County planners to discuss the



Figure 25. Orange plastic bollards to prevent illegal parking before intersection. New Brunswick, New Jersey.



Figure 26. White plastic bollards to alter turning radius. New Brunswick, New Jersey.



Figure 27. Yellow plastic bollard, parking stop, plastic planter, bike parking. Asbury Park, New Jersey.



Figure 28. Orange plastic bollard, stop for pedestrian signs, bike parking. Collingswood, New Jersey.



Figure 29. Art in intersection, art in crosswalk. Asbury Park, New Jersey.



Figure 30. Demonstration paint, plastic bollards. Jersey City, New Jersey.

recommendations. During this meeting, Middlesex County agreed to implement the striping changes in April, once the temperature had warmed enough to allow road striping. Although the initial plan was to use low-cost paint as part of the demonstration, the county proposed using standard road paint to ensure that the safety changes remained in place for a longer period. Some of the other proposed improvements, such as plastic bollards and planters, are not part of the county toolkit, so it was decided that Milltown would add and maintain those once striping was completed. As of this writing, the bollards were only installed on the municipal-owned side streets.

The CSTA project team developed public outreach materials explaining the concepts incorporated in the demonstration project, why it is important, and how members of the community could participate. The Borough of Milltown assisted the project team by distributing outreach materials through existing communication channels, including the municipal website, public information boards, contacts with local schools and businesses, and local events.

In May 2019, Middlesex County completed the striping improvements. Following implementation, the CSTA project team solicited feedback on the improvements from stakeholders via an intercept survey administered in the area of the study site. The project team incorporated the survey findings into the recommendations presented in this report. Some of the improvements, such as planters, were not in place at the time of this writing, but Milltown has agreed to work with local property owners to add them at a later date.

In addition to the project team, this report has been reviewed by officials from the Borough of Milltown and the



Figure 31. Sidewalk built using parking stops, Seattle, Washington.



Figure 32. Street realignment with white plastic bollards, paint. Seattle, Washington.

Installation Design

North Main Street and Ford Avenue

The primary objectives for the intersection of North Main Street and Ford Avenue were to improve visibility between drivers and pedestrians, reduce driver speeds, and limit illegal parking close to the crosswalks to maintain sight lines. To accomplish these objectives, the design called for the crosswalks to be updated with high visibility longitudinal striping (ladder crosswalks, Figure 34). Crosswalks painted with longitudinal lines provide a stark contrast to the other markings on the road and are therefore more noticeable to drivers approaching the crosswalk. The CSTA team also suggests the use of on-street signage to remind drivers that it is state law to stop for pedestrians in the crosswalk.

New Jersey state law bars parking within 25-feet of crosswalks in order to improve visibility between drivers and pedestrians. However, many drivers use the space to either park illegally or as a loading zone. In order to increase compliance with the law, the design proposed the addition of flexible plastic bollards and crosshatching in locations where parking is not permitted. Aside from further preventing illegal parking, the plastic bollards also help make the road appear narrower, decreasing traffic speeds. Their placement also discourages wide and fast right-hand turns. However, their soft-hit nature means they can be driven over by emergency vehicles.

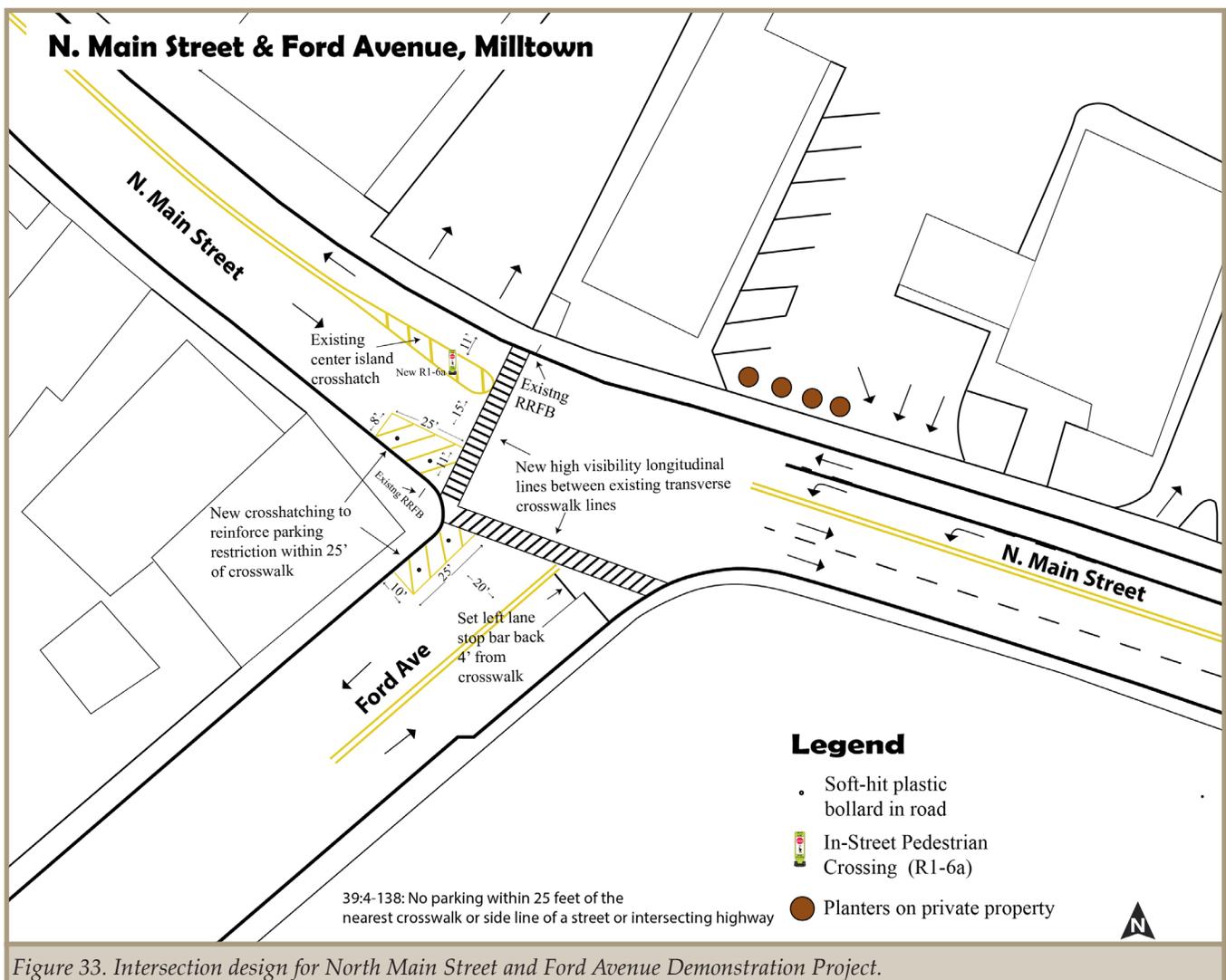


Figure 33. Intersection design for North Main Street and Ford Avenue Demonstration Project.



Figure 34. High visibility ladder crosswalks at Ford Avenue, looking eastward.

On the north side of North Main Street, Wells Fargo Bank and Milltown Pharmacy share a combined driveway that has a width of 75 feet (Figure 34 and Figure 35). The wide driveway means multiple cars can enter and exit the driveway at the same time. This creates a series of conflicts as drivers may turn across each other's paths. These events also create an uncomfortable walking environment for pedestrians as they maneuver around cars blocking the sidewalk and making quicks turns without checking for pedestrians. In order to better organize traffic and provide a more attractive streetscape, the proposed design recommended the use of planters to reduce the number of exit points.



Figure 35. Though not as wide as the exit, the wide entrance to the shopping center creates potential problems, especially during school dismissal times, looking northward across Main Street.

North Main Street and Church Street

Similar to the Ford Avenue intersection, crosshatching was suggested to discourage parking too close to the crosswalks (see Figure 36). In addition, signage was also suggested to remind drivers that parking is not permitted beyond posted signs. The installation of high visibility longitudinal crosswalks with the no-parking signs help ensure that approaching drivers and pedestrians entering the crosswalk are able to see each other.

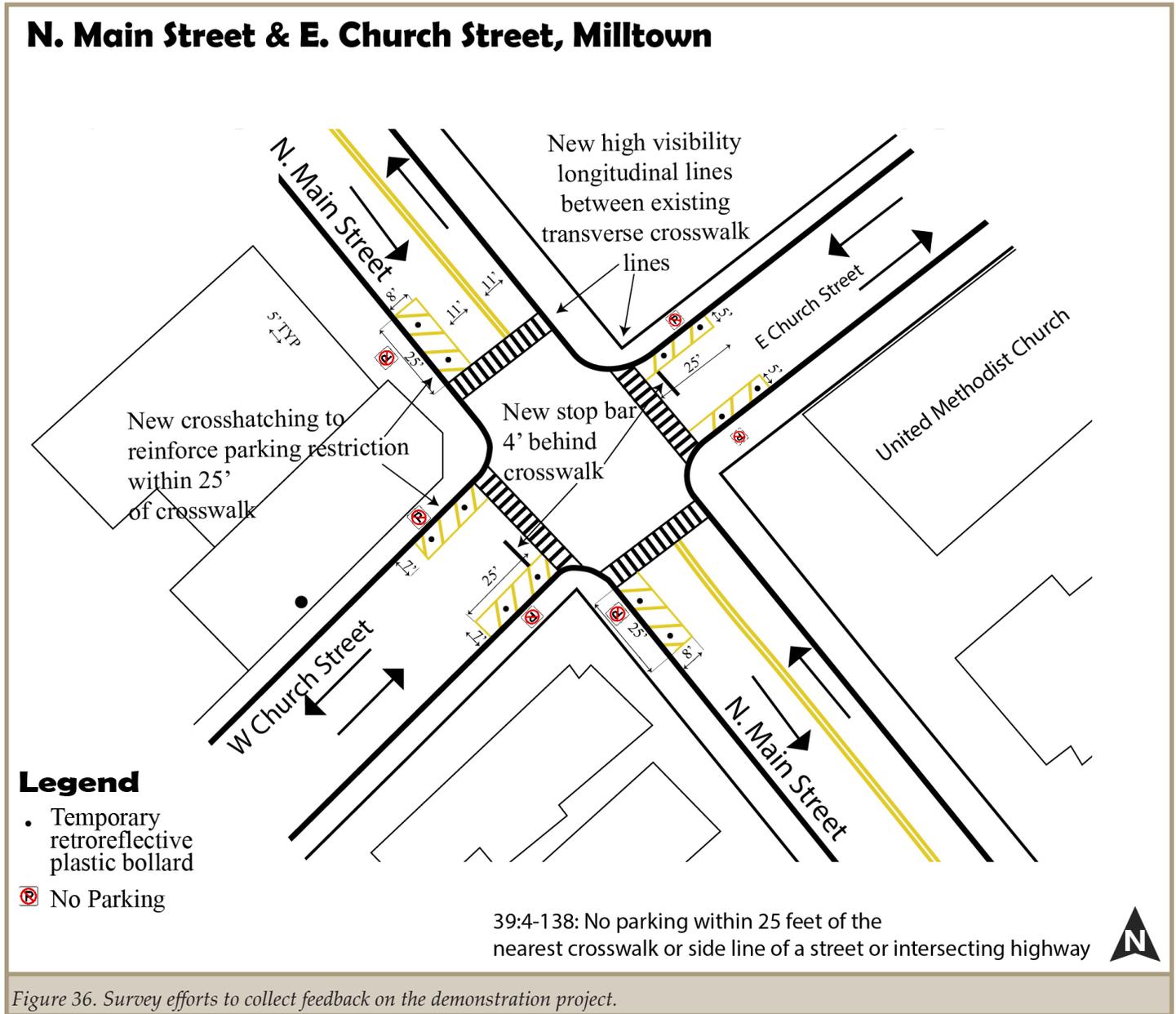




Figure 37. Crosswalks at the intersection of Main Street and Church Street, looking southwest.



Figure 38. Plastic bollards and paint reinforce no parking near the intersection, looking southwest.



Figure 39. "No Parking" sign and paint reinforce no parking near the intersection, looking southeast.

Findings and Potential Considerations

Feedback from the demonstration project was collected via an intercept survey conducted at both the Ford Avenue and Church Street intersections with North Main Street. The purpose of the survey was to collect feedback from road users regarding the changes to each intersection. Respondents were asked a series of questions including how often they visit the intersection, how they reach the intersection, and whether the changes made crossing the intersection feel safer (see Appendix for the full survey).

A total of 54 surveys were collected between noon and 4 p.m. on Tuesday June 4, 2019. Out of these, a majority of the respondents (82 percent) either lived or worked in the neighborhood. More than three-quarters of respondents (76 percent) cross through at least one of the two intersections several times per week, either walking or driving. None of the respondents mentioned riding a bicycle through the intersections. Nearly 40 percent of respondents reach the intersections by walking, among them 35 percent reported they also drive through the intersection.

Respondents noted an overall positive response to the changes as 65 percent affirmed that the intervention has improved the attractiveness of the intersections. However, nearly 32 percent, said that they never actually noticed the intervention and do not agree with the majority view that the improvements made the intersection more attractive. However, the positive change is important to note as 68 percent believe that the intervention has improved pedestrian safety at the crossings. Additionally, 48 percent of respondents confirmed that post-intervention they would like to walk more often through either intersection. However, 43 percent of respondents said the intervention will not make any difference in their frequency of walking in the area. One respondent noted that they are unable to drive and so they will continue to walk through the intersection as always. Only 30 percent of the respondents said the changes would not improve pedestrian safety.

When asked their personal opinion about the changes and what they like the best, most of the respondents said the project improved safety for children from the nearby schools by making the crosswalks more visible to drivers. They also noted enhanced aesthetics. As a recommendation, many of the respondents mentioned the need for more lighting. One respondent brought up the absence of bicycle lanes, which might be one reason bicyclists were not present during the surveying efforts. Another respondent questioned whether the bollards could cause problems for delivery trucks who wish to temporarily idle in the in the no-parking zone. Concerns were also raised regarding potential parking issues for nearby businesses, though a safer crosswalk would provide more opportunities for downtown visitors to park in the large parking area north of the Ford Avenue intersection and walk to the businesses.



Figure 40. Survey efforts undertaken by Rutgers University graduate students at the intersection of Main Street and Church Street, looking northward.

Recommendations

1. Complete Implementation of Proposed Improvements

At the time of evaluation, not all aspects of the plan had been implemented. This includes the use of plastic bollards on North Main Street and using planters to narrow the pharmacy and bank driveway (Figure 41). The addition of bollards on North Main Street could ensure that pedestrians in the crosswalk are visible to drivers. The addition of planters will better organize traffic exiting the bank and pharmacy and will have a secondary effect of beautification.

Other proposals discussed during the design process and recommended here include the addition of bicycle racks near the library and/or school. Adding bicycle parking may encourage more residents to use that mode. The use of an in-street “stop for pedestrians in crosswalk” sign was also discussed with the municipality. Placing them near the crosswalks could make the intersections even safer. A similar sign is attached to a crosswalk sign in front of Milltown Diner. The municipality should consider moving this sign closer to the intersection, and removing the stickers that obscure the message.



Figure 41. Plastic bollards not yet installed on Main Street, looking north.

2. Develop a Complete Streets Implementation Plan

Adopting a complete streets policy, as Milltown did in 2018, is an important first step toward implementation, as it defines the meaning of complete streets and establishes clear goals. The most successful policies state that complete street practices and principles should be a standard part of regular road maintenance, planning, and design. Additionally, it is important for municipalities to identify the ways in which the municipality will accomplish the goals, which can be achieved through an implementation plan.

An implementation plan and checklist can also be developed to ensure that complete street solutions are incorporated on roads throughout the borough. A successful implementation plan should provide a framework for ensuring complete streets are incorporated into appropriate projects throughout the borough. Developing a plan can begin by revising current policies, standards, procedures, and processes to better facilitate complete streets projects. The plan should include priorities, estimated timelines, and plans for providing education and training.

Forming a Complete Streets Advisory Committee could also prove beneficial in promoting implementation. Additionally, points are available to municipalities seeking Sustainable Jersey certification for adopting and instituting a complete streets policy. The New Jersey Department of Transportation offers a guide to policy development and a separate guide on how to create an implementation plan. These resources are among those available at <http://njbikeped.org/complete-streets-resources/>. A new model policy guide was recently released by NJDOT ([Complete and Green Streets for All: Model Complete Streets Policy and Guide](#)), which could be used as a template for updating Milltown’s municipal policy, if needed. Developing a complete streets implementation plan, bicycle and pedestrian plan, and/or complete streets checklist are all additional tools that Milltown can employ to continue to advance these strategies.

3. Involve the Community and Provide Educational Opportunities

Education is an essential element in creating safer streets for all users, and particularly for bicyclists and pedestrians who are the most vulnerable users. Enforcement of pedestrian crosswalk laws provides one tool for encouraging drivers to watch for pedestrians. There are additional opportunities to provide positive encouragement as well. The Street Smart NJ campaign is one marketing tool that municipalities can use to promote safe driving, walking, and bicycling (see Figure 42 and Appendix for additional details). Milltown has participated in Street Smart NJ in the past and should organize future campaigns to reinforce the program's safety messages. Safe Routes to School programs provide various educational opportunities for youth and parents. Community events provide an excellent opportunity to spread awareness about complete street goals. One such example can be found in New Brunswick's Ciclovía, which temporarily closes a street to cars and opens it up to bicyclists, pedestrians, and various activities (Figure 43).

The borough may also consider involving local artists and community groups in the design and painting of murals in other intersections in the town. Incorporating children in the process would also present an excellent learning opportunity for safe street crossings. Alternatively, local artists can work with groups of volunteers to identify artwork that speaks to Milltown's history, culture, or unique identity. The painting process can also deploy volunteers and can provide an excellent opportunity to build community support. Volunteers can be solicited to help with the painting as part of a community building event at the location. Such an event can incorporate educational opportunities surrounding complete streets methods and goals. Demonstration projects work best when the community is involved.

4. Church Street Upgrades and Long-Term Installations

The Church Street intersection would benefit from the same rectangular rapid flashing beacons (RRFB) that are installed as part of the warning signage for drivers at the Ford Avenue intersection. A greater number of cars were witnessed stopping for pedestrians in the crosswalk at the Ford Avenue intersection, which suggests that pedestrians are more visible to drivers at the Ford Avenue intersection. One important difference between the two intersections, located less than 500 feet apart, is the presence of the pedestrian-activated flashing signal at Ford Avenue, which serves to increase driver awareness of the presence of pedestrians in the crosswalk. Efforts should also be made to identify other locations throughout the borough that could benefit from similar upgrades.



Figure 42. One example of the Street Smart NJ educational campaign materials.



Figure 43. New Brunswick, Ciclovía, an excellent example of an opportunity to combine complete streets education with community building.

5. Consider Additional Locations

The borough should explore opportunities to employ similar safety projects at other locations, such as Van Liew Avenue and Chestnut Street. By standardizing proven techniques such as high-visibility crosswalks and crosshatching in the no parking zones, the municipality can upgrade intersections as roads are repaved as planned. Other opportunities could include intersection murals, pedestrian plazas (Figure 44, Figure 45, and Figure 46), artistic crosswalks, or parklets. Although any additional changes to North Main Street require county approval, improvements on municipal roads do not. Since the CSTA project began, Milltown has already made several additional improvements, including placement of new pedestrian signage and improved striping at major crosswalks at Parkview Elementary School, the Senior Center and some of the borough's larger parks.

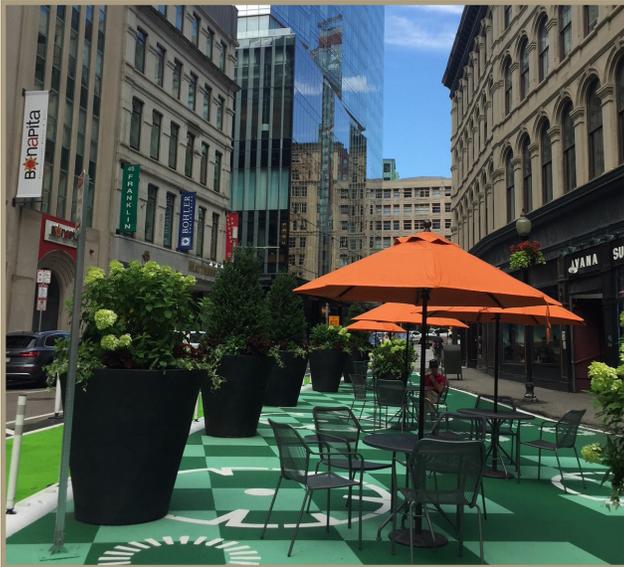


Figure 44. Tontine Crescent Tactical Plaza in Boston, MA. (Photo credit: Ground Inc)



Figure 45. In 2015, Jersey City created a new pedestrian plaza using planters, paint, tables and chairs. The plaza was successful and extended in 2018. Now the city is designing a permanent plaza with stone pavers, larger planters, benches, pedestrian safety bollards, and other public space features.

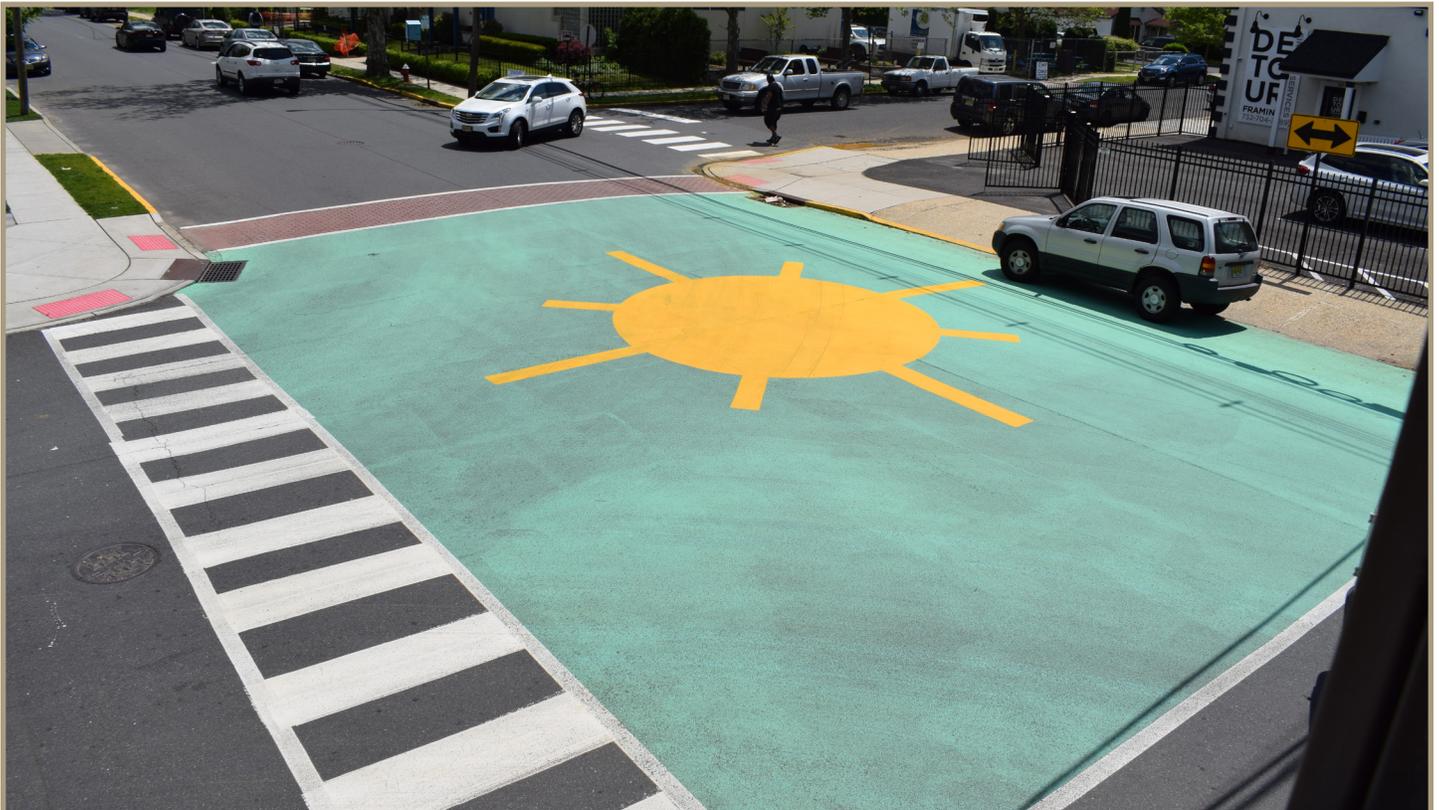


Figure 46. Intersection mural installed in Red Bank, New Jersey encourages drivers to look out for pedestrians.

Conclusion

The intersections of Ford Avenue and Church Street with North Main Street provide an essential connection between Milltown’s residential areas, downtown destinations, and the nearby elementary school. Given the important connection provided by these intersections, they routinely witness consistent pedestrian and vehicular traffic, which also includes large truck traffic. Local officials aware of the intersections’ safety challenges sought the help of the NJTPA’s Complete Streets Technical Assistance Program to design simple solutions that could improve safety at both locations. With a few quick improvements made through the demonstration project, crosswalk visibility at both intersections was improved. Overall, positive feedback was received from community members who felt the changes improved safety. Still opportunities exist to further enhance safety. This report summarized the demonstration process and provided recommendations for additional safety improvements, including developing a complete streets implementation plan and identifying additional locations for the use of tactical urbanism. Demonstration projects are a useful tool Milltown can continue to employ in order to test out the acceptability of various enhancements while creating opportunities for community participation in street design and safety improvements.



Figure 47. Crossing guard assisting family across Main Street at Ford Avenue, looking northeast.



Figure 48. Demonstration project at the intersection of Church Street and Main Street, looking northwest.

Appendix

A. Intercept Survey Instrument

B. Street Smart NJ Campaign Resources

C. Potential Funding Resources

D. Design Resources

A. Intercept Survey Instrument



Milltown

Tactical Urbanism Demonstration Project Main St & Church St | Main St & Ford Ave

Please circle your response for each question.

1. What brings you to Milltown? Do you:

Live here

Work here

Visit here

2. How often do you visit this intersection?

Several times per week

Once per week

Less than once per week

3. How do you usually get to this intersection?

Walking

Driving

Bicycling

4. Compared to the way the intersection was before, do the new changes make it:

More attractive

Less attractive

No difference

5. With the changes, do you want to walk to this area more or less often?

More often

Less often

No difference

6. With the changes, do you feel safer crossing Main Street?

More safe

Less safe

No difference

7. With the changes, will you walk in the area more often?

Yes

Possibly

No

Please fill in your answer on the space provided. Additional space may be found on the back of the survey.

8. What do you like most about the changes?

This effort is part of the Complete Streets Technical Assistance Program, which is a collaborative venture between Sustainable Jersey (SJ), the Voorhees Transportation Center at Rutgers University (VTC), and the North Jersey Transportation Planning Authority (NJTPA). Funded by the NJTPA, the program is designed to support municipal government efforts to implement complete streets.

Thank you for your time!

B. Street Smart NJ Campaign Resources



STREET SMART NJ FACT SHEET

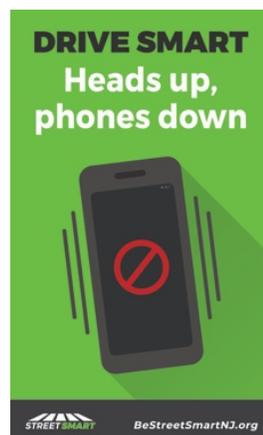
What is Street Smart NJ?

Street Smart NJ is a public education, awareness and behavioral change pedestrian safety campaign created by the North Jersey Transportation Planning Authority (NJTPA). The campaign combines grassroots public awareness efforts with social media, public outreach efforts and law enforcement to address pedestrian safety.

There are a number of different ways communities can participate. Nearly all campaigns enlist the involvement of community leaders, businesses and organizations and ask police to step up enforcement of pedestrian safety laws. Some campaigns have an evaluation component, including pre- and post-campaign surveys and observations at crash prone locations. Smaller campaigns may be limited to handing out information at community events and displaying signage around town.

More than 80 communities have participated in Street Smart in some way since the program's inception in 2013. NJTPA's goal is to increase that number to 100 campaign partners. Communities everywhere are invited to use the strategies and materials on the Street Smart website, bestreetsmartnj.org, to create their own campaigns. The website includes a 'How To' guide, printable materials, social media posts and a sample press release among other resources.

NJTPA staff are available to sit down with interested towns to discuss how to bring Street Smart NJ to their community.



Why do we need Street Smart?

Part of the impetus behind Street Smart NJ was that the Federal Highway Administration identified New Jersey as a pedestrian “focus” state due to the high incidence of pedestrian injuries and fatalities. In 2018, 175 pedestrians died as a result of pedestrian-vehicle crashes in New Jersey. From 2014 to 2018, 870 pedestrians were killed and thousands were injured on New Jersey’s roadways. That translates to one death every two days and 11 injuries daily.



Campaign Messages

The Street Smart NJ campaign urges pedestrians and motorists to keep safety in mind when traveling New Jersey’s roads. The program’s core message is “Walk Smart – Drive Smart – Be Street Smart” with specific messages including We look before crossing; Heads up, phones down; We slow down for safety; We stop for people – it’s the law; We use crosswalks; We cross at corners; We cross at the light; and We wait for the walk. The NJTPA has developed pedestrian safety tip cards, in English and Spanish, for public distribution built around the messages. The messages are also printed on posters, banners, street signs, coasters, tent cards and coffee sleeves.

Police Enforcement

One of the keys to Street Smart NJ’s success is law enforcement participation. Police officers engage and educate, rather than simply issue citations. In many communities that participate in Street Smart NJ police have issued warnings rather than citations and even rewarded good behavior with coupons, gift cards and free t-shirts. Street Smart NJ public awareness efforts are often conducted in conjunction with this increased enforcement.



Results

Evaluations of previous Street Smart NJ campaigns have shown positive results. There was a 28 percent reduction in pedestrians jaywalking or crossing against the signal and a 40 percent reduction in drivers failing to yield to crossing pedestrians or cyclists following campaigns the NJTPA managed in March 2016.

C. Potential Funding Resources

This appendix provides a list of common grant programs available to New Jersey communities for the advancement of complete streets initiatives, including both infrastructure and non-infrastructure projects, and programs to increase walking and bicycling. A table has been included that lists the most common grant sources for complete street related projects. Links to two online databases with additional funding sources has also been included. Grants listed are highly competitive and grant application requirements should be carefully reviewed before making the decision to apply. From the reviewers' perspective, application review is time-consuming and often applications will not be reviewed if all the required elements are not received by the published deadline. The most successful applications tell the story of the populations most in need of the proposed improvements, especially disadvantaged communities or vulnerable groups such as seniors. Applications should use compelling pictures, data and other documentation, and indicate how and why improvements are prioritized.

New Jersey Department of Transportation

The Division of Local Aid and Economic Development at the New Jersey Department of Transportation (NJDOT) provides funds to local public agencies such as municipal governments for construction projects to improve the state's transportation system. The state's Transportation Trust Fund and the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act — A Legacy for Users (SAFETEA-LU) legislation provides the opportunity for funding assistance to local governments for road, bridge and other transportation projects. NJDOT and the three metropolitan planning organizations that cover the state administer federal aid programs. NJDOT administers state aid programs. Below are some options for funding infrastructure projects through NJDOT.

State Aid Infrastructure Grant Programs

Municipal Aid: This program assists municipalities in funding local transportation projects, and all municipalities in New Jersey are eligible to apply. NJDOT encourages applications for pedestrian safety improvements, bikeways, and streetscapes. Additionally, a common strategy to implement on-street bike lanes is to include bike lane striping within repaving projects that are funded through this program. Learn more here: <https://www.state.nj.us/transportation/business/localaid/municipalaid.shtm>

County Aid: County Aid funds are available for the improvement of public roads and bridges under county jurisdiction. Public transportation and other transportation projects are also included. Learn more here: <https://www.state.nj.us/transportation/business/localaid/countyaid.shtm>

Bikeways: This program funds bicycle projects that create new bike path mileage, working towards NJDOT's goal of 1,000 miles of dedicated bikeways in New Jersey. Special consideration will be given to bikeways physically separated from vehicle traffic, but on-road bike lanes or other bike routes are also eligible for funding. Learn more here: <https://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm>

Safe Streets to Transit: This program encourages counties and municipalities to construct safe and accessible pedestrian linkages to all types of transit facilities and stations, in order to promote increased usage of transit by all segments of the population and decrease private vehicle use. Learn more here: <https://www.state.nj.us/transportation/business/localaid/safe.shtm>

Transit Village: This program awards grants for transportation projects that enhance walking, biking, and/or transit ridership within a ½ mile of the transit facility. Municipalities must already be designated as a Transit Village by the Commissioner of Transportation and the inter-agency Transit Village Task Force in order to be eligible to apply. Learn more here: <https://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm>

Other NJDOT Assistance

Bicycle and Pedestrian Planning Assistance: NJDOT offers Local Technical Assistance (LTA) funding through the Office of Bicycle and Pedestrian Programs. Under this program, on-call consultants are paired with communities to complete a variety of projects including bicycle and pedestrian circulation and master

plan studies, safety assessments, trail feasibility studies, bikeway plans, and improvement plans for traffic calming projects. For more information, please contact the state bicycle and pedestrian program coordinator at bikeped@dot.nj.gov

Federal Aid Infrastructure Grant Programs

Safe Routes to School: The Safe Routes to School Program provides federal funds for infrastructure projects that enable and encourage children in grades K-8, including those with disabilities, to safely walk and bicycle to school. Applicants can receive bonus points on the grant if they have School Travel Plans, a Complete Street Policy and Transit Village designation. Learn more here: <https://www.state.nj.us/transportation/business/localaid/srts.shtm>

Transportation Alternatives Program: The Transportation Alternatives Program provides federal funds for community based “non-traditional” transportation projects designed to strengthen the cultural, aesthetic and environmental aspects of the nation’s intermodal system. Municipalities can receive bonus points on the grant if they have an adopted Complete Street Policy and are a designated Transit Village. Learn more here: <https://www.state.nj.us/transportation/business/localaid/alternatives.shtm>

New Jersey Department of Environmental Protection: The Recreational Trails Program administered by the NJDEP Green Acres Program provides federal funds for developing new trails and maintaining and restoring existing trails and trail facilities including trails for non-motorized, multi-use (including land and water) and motorized purposes. Learn more here: <https://www.nj.gov/dep/greenacres/trails/index.html>

Health and Environment Funding

Sustainable Jersey: The Sustainable Jersey Small Grants program provides capacity building awards to municipalities to support local green teams and their programs, and is not project specific. Learn more here: <http://www.sustainablejersey.com/>

Sustainable Jersey for Schools: Sustainable Jersey for Schools grants are intended to help districts and schools make progress toward Sustainable Jersey for Schools certification. Learn more here: <http://www.sustainablejerschools.com>

New Jersey Healthy Communities Network: The New Jersey Healthy Communities Network is a partnership of grantees, funders and advocate organizations who seek to have collective impact on community well-being to support healthy eating and active living. The Community Grant Program provides opportunities to develop healthy environments for people to live, work, learn and play by funding policies, projects and programs that support walking and bicycling. Learn more here: <https://www.njhcn.org/>

Funding from Other Sources

Various other funding sources exist that may help municipalities further complete streets projects. Both Sustainable Jersey and Together North Jersey have developed comprehensive online databases that catalog the many funding sources available. They can be found at the following locations:

Sustainable Jersey Grants Portal: <http://www.sustainablejersey.com/grants-resources/grants-portal/>

Together North Jersey Funding and Resources Database: https://togethernorthjersey.com/?page_id=25162

Federal Funding

1. US Department of Transportation (USDOT)

Better Utilizing Investments to Leverage Development (BUILD, replaced TIGER)

2. Federal Highway Administration (FHWA) Programs

Congestion Mitigation and Air Quality Improvement (CMAQ)

Surface Transportation Program (STP)

Highway Safety Improvement Program (HSIP)

National Highway Performance Program (NHPP)

Transportation Alternatives Program (TAP)

Safe Routes to School (SRTS)

Local Safety / High Risk Rural Roads Program (HRRR)

National Highway System (NHS)

Recreational Trails Program - Including hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles.

Federal Lands Access Program (FLAP) - The Access Program supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators.

Emergency Relief - Repair or reconstruction after national disaster, can include bicycle and pedestrian facilities

3. National Highway Traffic Safety Association

NHTSA Section 402 State Highway Safety Program

NHTSA Section 405 Non-Motorized Safety Grants

4. Federal Transit Administration Programs

Urbanized Area Formula Program (UZA) - Public transit and bike routes to transit

Fixed Guideway Capital Investment Grants - Transit systems and bike parking

Bus and Bus Facilities Formula Grants - Includes bike parking facilities

Enhanced Mobility of Seniors and Individuals with Disabilities - Access to transit facilities for seniors

State Funding

5. Municipal Aid (\$140m)

6. County Aid (\$150m)

7. Local Bridges (\$44m)

8. Safe Streets to Transit (\$1m)

9. Transit Village (\$1m)

10. Bikeways (\$1m)

11. Local Aid Infrastructure Fund (\$7.5m)

12. Safe Corridors Highway Safety Funds

13. Urban Aid (\$10m)

14. New Jersey Trails Program (Department of Environmental Protection)

15. Other Funding Sources

16. Regional/Local CMAQ Initiatives Program (NJTPA)

17. NJ Division of Highway Traffic Safety

18. Open Space & Farmland Preservation

19. Homeland Security Transit Security Grant Program (TSGP)

Other Sources

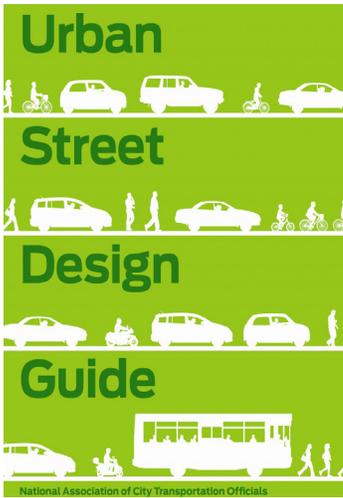
20. County Capital Program

21. Municipal Capital Programs

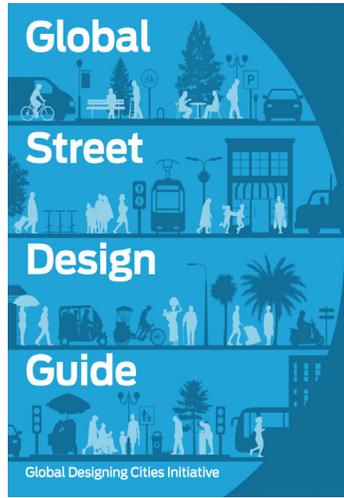
22. Foundations

D. Design Resources

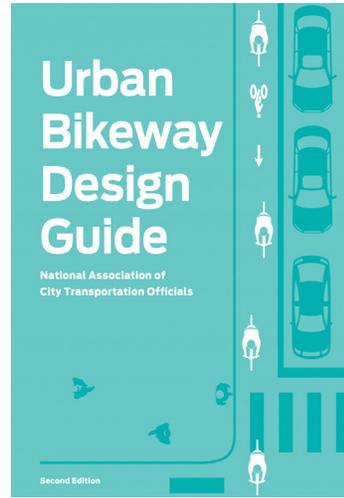
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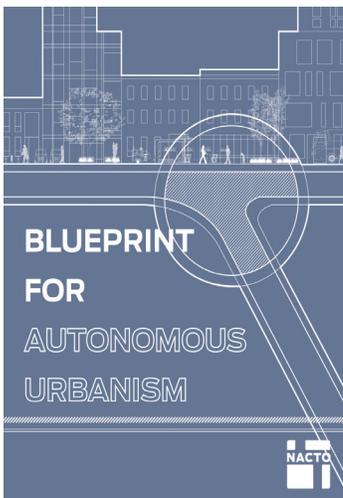
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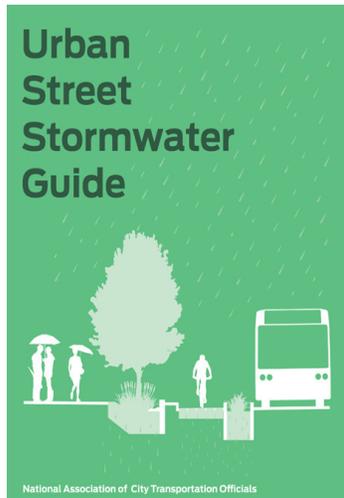
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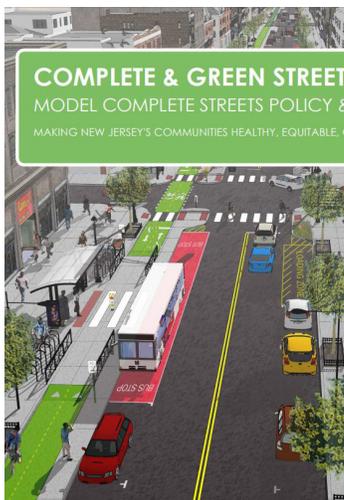


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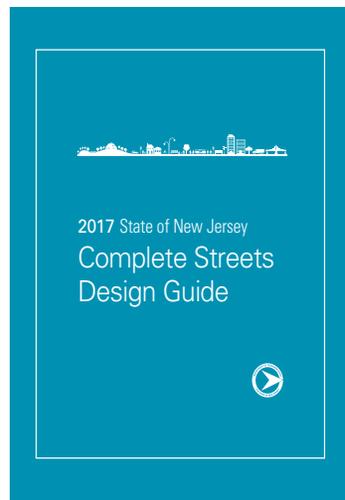


[Bike Share Station Siting Guide](#)

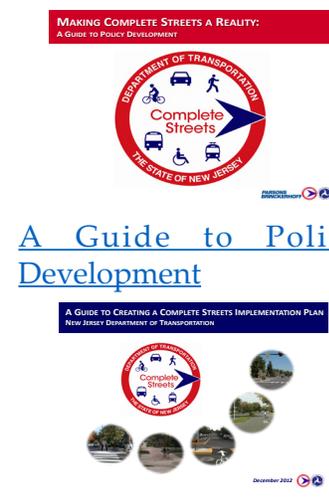
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[Complete & Green Streets for All: Model Policy and Guide](#)

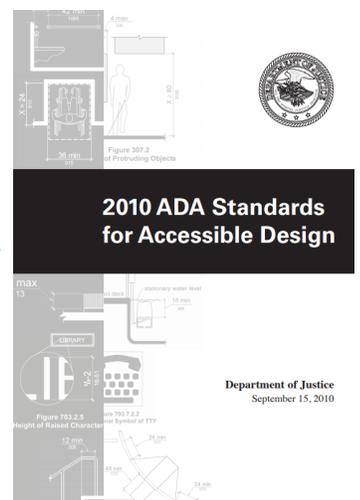


[2017 State of New Jersey Complete Streets Design Guide](#)



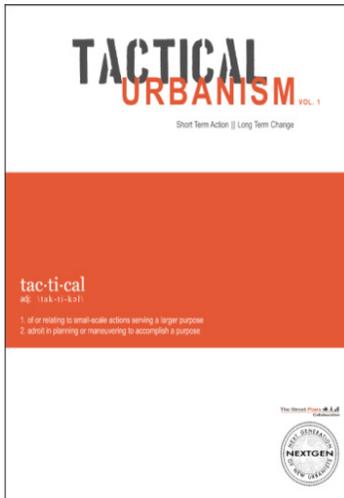
[A Guide to Policy Development](#)
[A Guide to Creating a Complete Streets Implementation Plan](#)

ADA Guidelines

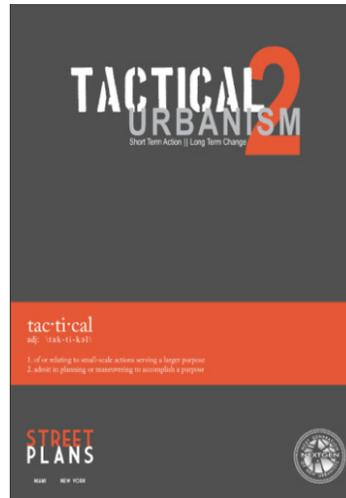


[2010 ADA Standards for Accessible Design](#)

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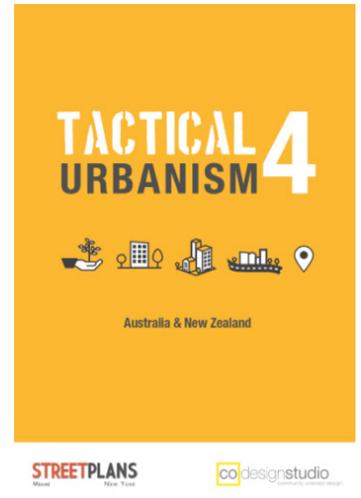
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[Tactical Urbanism 2](#)



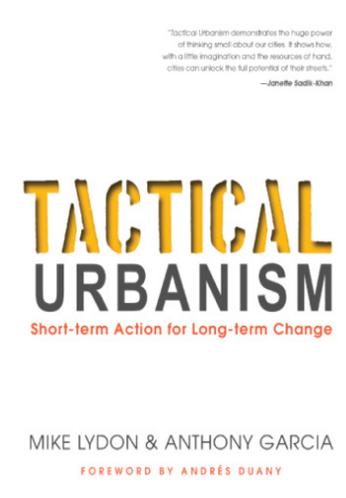
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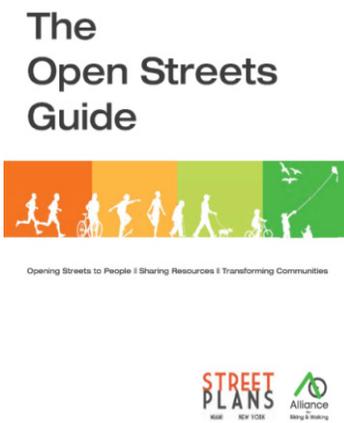
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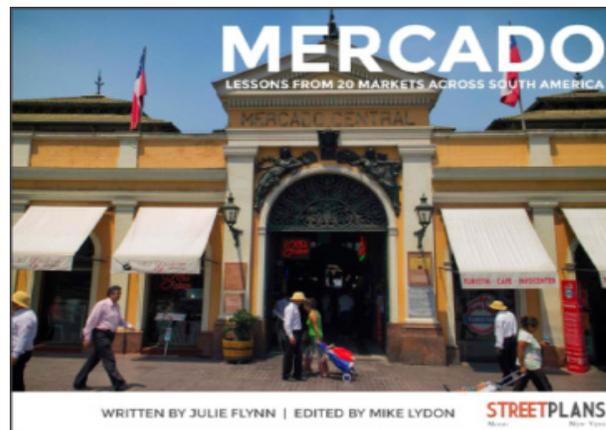
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