





Pedestrian Safety Demonstration Project

Borough of Red Bank, Monmouth County, NJ 2019









RUTGERS

Edward J. Bloustein School of Planning and Public Policy



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, and representatives of the Borough of Red Bank.

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North Jersey Transportation Planning Authority

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Table of Contents

Executive Summary	1
Background	2
What is a Complete Street?	3
Benefits of Complete Streets	4
What are Demonstration Projects?	7
Benefits of Tactical Urbanism	7
Best Practices in Tactical Urbanism	8
Project Location	10
Assessment of Need	11
Data	12
Methodology	13
Design	14
Findings and Potential Considerations	20
Recommendations	22
1. Develop a Complete Streets Implementation Plan	22
2. Involve the Community and Provide Educational Opportunities	22
3. Additional Improvements and Long-Term Installations	23
4. Consider Additional Locations	24
5. Enforcement at the Intersection	24
Conclusion	25
Appendix	26
A. Intercept Survey Instrument	26
B. Street Smart NJ Campaign Resources	26
C. Potential Funding Resources	26
D. Design Resources	26
A. Intercept Survey Instrument	27
B. Street Smart NJ Campaign Resources	28
C. Potential Funding Resources	30
D. Design Resources	33

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 a pedestrian safety improvement project at the intersection of Drs. James Parker Boulevard and South Bridge Avenue in Red Bank, New Jersey. The project was completed through the North Jersey Transportation Planning Authority (NJTPA)'s Complete Streets Technical Assistance Program. The goal of the project was to address vehicles failing to stop for people crossing at the intersection and to implement other pedestrian safety improvements. 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 Red Bank 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.

Red Bank initially sought assistance in implementing demonstration projects at two locations, the intersection of Drs. James Parker Boulevard and South Bridge Avenue, and the easternmost section of White Street. While a demonstration project was implemented at the intersection of Drs. James Parker Boulevard and South Bridge Avenue, municipal officials were unable to implement initial plans to create a temporary pedestrian plaza along White Street during the span of the project.

Through the demonstration project, an intersection mural was painted to alert drivers of the potential presence of pedestrians and a higher visibility crosswalk was installed. Traffic cones were also placed along the intersection to slow turning traffic. The project team also suggested bicycle parking be installed at the intersection and the placement of on-street signage to remind drivers that it is a state law to stop for people in crosswalks, however those improvements had not yet been implemented at the time this report was issued.

Surveys collected after the project was implemented garnered positive feedback, including participants reporting improved compliance with crosswalk laws.

This report recommends completing the additional improvements and calls for the Borough to continue monitoring the changes made to the intersection of Drs. James Parker Boulevard and South Bridge Avenue in order to adjust the plans and consider permanent changes. Additionally, it is recommended that the municipality revisit the White Street pedestrian plaza plans and consider other locations throughout the Borough where demonstration projects can be deployed to improve safety. Such projects should make use of the various tools provided in this report that help to ensure community-driven outcomes.

The recommendations were developed based on community and municipal feedback collected from intercept surveys, conversations with residents and municipal employees, and feedback provided to various media outlets.

The lessons learned from the demonstration project can be applied to other municipal-owned roads in Red Bank. Tools to guide this process can be found in the Methodology section of this report. Red Bank has already 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, which hosted a Street Smart NJ campaign in 2016, should continue its efforts to educate 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.

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 Red Bank was among the nine communities selected to receive technical assistance.

Within two square miles, the Borough of Red Bank offers many attractions, including dozens of restaurants, thriving retail corridors, and an arts district anchored by the Count Basie Theatre and the Two River Theater. The Borough's narrow gridded streets, some of which are cobbled, encourage walkability, and enhance economic development.

Challenges to walkability remain, however, as high-traffic corridors, like Shrewsbury Avenue, Bridge Avenue, and Maple Avenue cut off residents living in the western part of the Borough. Meanwhile, Red Bank's parking challenges result in drivers having to circle blocks looking for spaces, disrupting the ease of frequenting Red Bank's restaurants, nightspots, and eclectic shops. Enhancing the Borough's walkability could encourage the use of alternative modes of transportation that can alleviate some of the demand for parking.

Borough officials have sought alternatives to address mobility concerns, and have encouraged people to walk around Red Bank. Residents have mobilized around implementing a bike share program, which, given the success of bike share in other beach communities like Asbury Park, would inspire more people to explore alternatives to driving. However, Red Bank's transportation woes will not disappear with a bike share; a comprehensive solution to improve walkability and bikeability and alleviate traffic congestion requires input from residents, employees, and business owners. One strategy for exploring permanent solutions is to test temporary design features by using demonstration projects, which are also referred to as tactical urbanism.



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 3 and Figure 4). 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 2. 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.

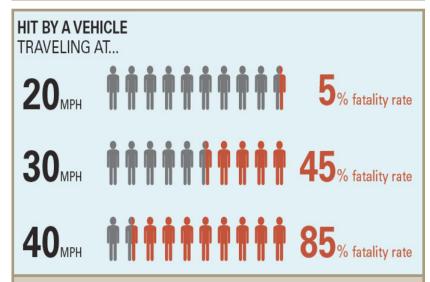
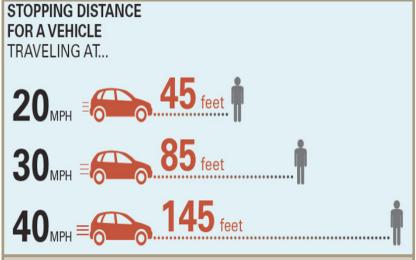


Figure 3. Graphic showing increased fatality rate as vehicle speeds increase.



^{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 opportunities creates mobility options 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



Figure 5. When a street lacks accessible sidewalks and ramps, it is not complete.



Figure 6. Trails, such as this one in Monroe, New Jersey, can encourage exercise and lead to improved health.

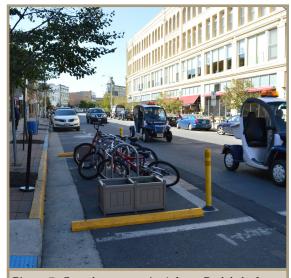


Figure 7. Complete streets in Asbury Park help foster a lively social environment.

also increase the quality of life thanks to reductions in noise and stress associated with congestion and crashes (Figure 10).

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).²

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).

Complete Streets in New Jersey and Red Bank

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



Figure 8. Division Street in Somerville was converted into a pedestrian plaza that has become a popular gathering space.

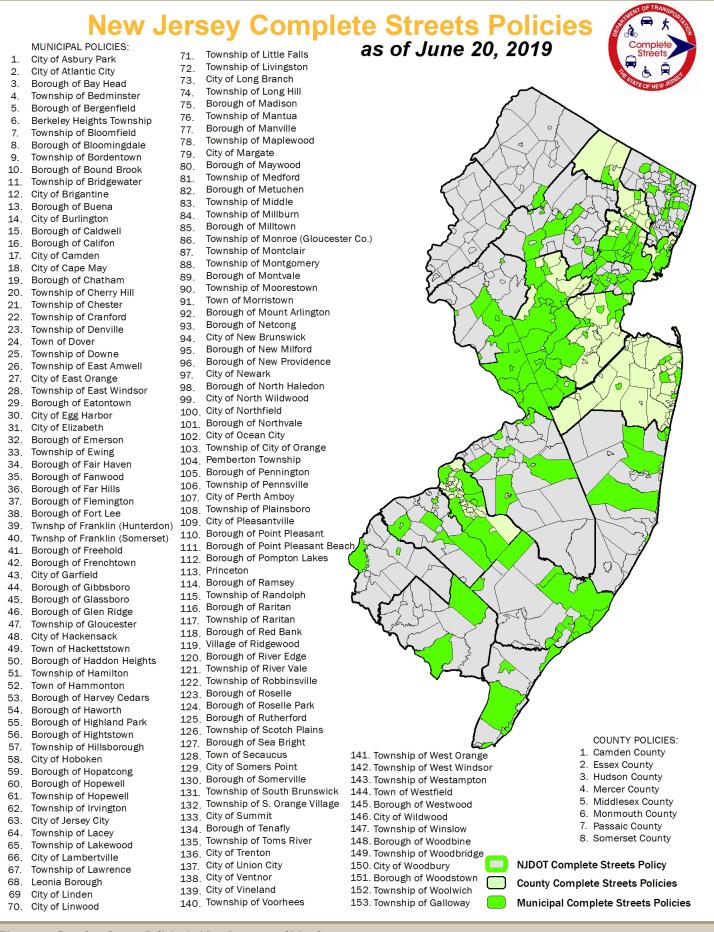


Figure 9. Green infrastructure used to narrow the roadway and provide a shorter crossing distance for pedestrians.

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).³ Both Monmouth County and Red Bank adopted complete streets policies in 2010.

^{2. &}quot;Complete Streets Case Study: Somerville, New Jersey," Alan M. Voorhees Transportation Center, 2016.

 $^{3.\} New\ Jersey\ Bicycle\ and\ Pedestrian\ Resource\ Center,\ "NJ\ Complete\ Streets\ Policy\ Atlas,"\ 2018.\ http://njbikeped.org/complete-streets-2/.$



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 space5. 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 its 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. It also allows for data to be collected, and the final permanent design to be modified based on what was learned during the temporary installation.

Affordability

Typically, demonstration projects combine a wealth of volunteers with a shoe-string budget. Instead of investing in a major infrastructure improvement, 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 11), can provide community



Figure 11. 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.

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.

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, the projects can provide needed outdoor space for restaurants by converting a single 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 to prevent illegal parking, so that residents can experience safer, more visible street crossings and provide input for permanent implementation. Beyond function, demonstrations projects have included the installtion of planters and artwork to improve the aesthetic of streets.

Temporary Parklet – Montclair, NI

Local nonprofit, Bike & Walk Montclair, crowdsourced monetary and in-kind donations from local businesses and recruited volunteers to build the "Porch on Walnut" (Figure 12). 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, and show how a permanent sidewalk extension could enhance the neighborhood⁴.



Figure 12. 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 13). 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 become⁵.



Figure 13. Pedestrian Plaza in Newark, New Jersey (Photo credit: Better Block Newark)

^{4.} http://www.montclairlocal.news/wp/index.php/2018/09/14/walnut-street-parklet-to-hold-opening-saturday/

^{5.} 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 14). The workshops included a public-feedback board, tables and chairs, wayfinding signage, planters, and colorful paint⁶. By shortening the crossing distance for pedestrians, curb extensions provide a tangible experience for potential safety improvements, allowing participants to offer input for future permanent implementation.



Beta Bike Lane – Princeton, NJ

The Princeton Bicycle Advisory Committee and volunteers used 16,000 feet of tape, dozens of cans of white spray paint, and several laminated signs to install 5-foot wide bicycle lanes along Hamilton Avenue and Wiggins Street, a corridor spanning two grade schools and a public library.9 The bicycle lanes replaced on-street parking for 10 days. The purpose of the pilot was to measure the effects of removing parking and to see how road users interacted with the modified space (Figure 15).



Figure 15. Volunteers painting temporary bicycle lanes in Princeton, New Jersey (Photo credit: Princeton)

Project Location

The Borough of Red Bank is located on the southern bank of Navesink River in northern Monmouth County. The municipality has approximately 12,000 residents and a median income of \$69,778.10 Red Bank has an extensive mix of businesses including entertainment, retail, medical, hospitality, educational, administrative, and dining. The compact nature of the community, at just 2.16 square miles, makes the town easily walkable for its residents and supports bicycling.

State, county, and local roads all cut through Red Bank, as do bus and rail transit. NJ TRANSIT's North Jersey Coast Line and State Route 35 (Maple Avenue), both traverse the borough in a southeast to northwest direction. Three county roads provide major east-west access: Front Street (CR 10), which parallels the waterfront to the north, Harding/Ridge Road (Route 34), and Newman Springs Road (CR 520) which forms the border with Shrewsbury Borough to the south and terminates to the east at State Route 36 near the Atlantic Ocean. Two county routes provide north-south access: Shrewsbury Avenue (CR 13) on Red Bank's west side, and Broad Street, which is also Red Bank's main commercial street. Broad Street is under the jurisdiction of Monmouth County (CR 11) to Harding Road, and under the jurisdiction of Red Bank from Harding Road to Front Street.

Red Bank benefits from a near-complete sidewalk network but has limited on-street bicycle facilities such as bicycle lanes or shared-lane markings. Roads with reduced vehicle traffic are generally bicycle-compatible, though the state and county roads, which experience higher traffic speeds and lack dedicated bicycle space, are uncomfortable for all but the most experienced cyclists. Priority bicycle routes identified in the borough's complete streets policy include Shrewsbury Avenue, Monmouth Street, Oakland Street, Peters Place, Harding Road, Reckless Place, and Broad Street.

Sidewalks in the vicinity of the train station, as well as between parking areas and other pedestrian trip generators, are typically in good condition. Sidewalks within a half-mile radius of the station are generally continuous with adequate connectivity. However, crosswalks in the immediate vicinity of the station are significantly faded, and several pedestrian ramps outside of NJ TRANSIT property do not meet federal Americans with Disabilities Act standards. Most of the intersections on Shrewsbury Avenue, Broad Street and Maple Street require pedestrian ramp upgrades and crosswalk re-striping (Figure 16). Bicycle racks on the north side of the station building at Monmouth Street are often at full capacity. On the east side of the station are bicycle lockers with parking available for 58 bicycles.

The Borough of Red Bank is serviced by the NJ TRANSIT North Jersey Coast Line as well as several NJ TRANSIT bus lines (Figure 17). Average weekday boarding numbers in 2016 totaled 1,150. Travel times to New York Penn Station generally do not exceed 90 minutes.



Figure 16. Pedestrian crosses Broad Street in downtown Red Bank.

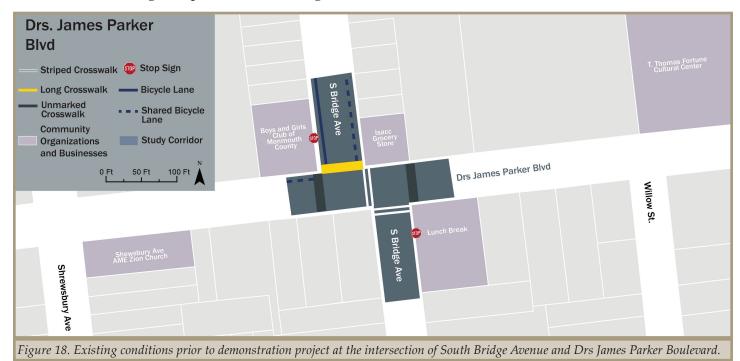


Figure 17. NJ TRANSIT North Jersey Coast Line crossing Chestnut Street in Red Bank.

Assessment of Need

Two locations were identified for potential demonstration projects, the intersection of Drs. James Parker Boulevard and South Bridge Avenue and the easternmost section of White Street.

Local police, supported by crash statistics, identified the intersection of Drs. James Parker Boulevard and South Bridge Avenue as a problem area known for high traffic counts, dangerous driving, and speeding. The surrounding area is predominantly home to low-income and minority residents and is part of Red Bank's Safe Routes to School Network, a plan that emphasizes the expansion of bike lanes and high-visibility crosswalks. There are three marked crosswalks at the intersection, two crossing South Bridge Avenue and one crossing the eastern side of Drs. James Parker Boulevard (Figure 18). The crosswalks over Drs. James Parker Boulevard at the eastern end and western end of the intersection are not marked. Sightlines are an issue for cars turning into pedestrian crossings.



Two community organizations are located near the intersection, bringing a significant amount of pedestrian and bicycle traffic through the area. The organizations are the Boys & Girls Club of Monmouth County and Lunch Break, which provides food, clothing, life skills and fellowship to those in need. A corner grocery store also attracts bicycle and pedestrian traffic to the intersection. Drivers are known to idle in the bicycle lanes on South Bridge Avenue and in the no-parking zones around the intersection to access these services.

Further danger comes from traffic passing by at high speeds to avoid traffic on other nearby roads. Municipal officials noted it is common to see drivers speeding in order to make it to a train or make it through the lighted intersection at Shrewsbury Avenue. Some drivers use South Bridge Avenue to avoid traffic on Shrewsbury Avenue. Other drivers speed down Drs. James Parker Boulevard



Figure 19. The offset design of the intersection makes it challenging for vehicles to navigate even without the presence of pedestrians. This photo was taken after the mural was painted, but before the cones were set in to limit the width of the travel lanes.

in frustration after being forced to wait at a nearby railroad crossing. The intersection's high volume of vehicular traffic and speeding issues, coupled with its offset design create a potentially dangerous situation

for pedestrians as vehicles crossing Drs. James Parker Boulevard quickly maneuver through the intersection without stopping for people crossing. This was commonly witnessed during surveying efforts. Figure 19 highlights some of the safety issues that can occur at the intersection, with a dark blue pickup truck attempting to make a left-hand turn onto Drs. James Park Boulevard while a white delivery truck slows for the pedestrian in the crosswalk.

The second location identified for interventions was a short section of White Street in downtown Red Bank. White Street is primarily used to access large municipal parking lots that support the businesses located along Broad Street. White Street narrows from 38 feet to just under 20 feet approaching Broad Street, and resembles an alley more than a standard



Figure 20. A large truck blocking traffic on Broad Street while attempting to turn onto White Street.

road. However, this section is still bidirectional, and there are no turn restrictions for vehicles entering or exiting the road. This creates backups on Broad Street as vehicles wait for space to make a left turn (Figure 20). It also creates conflicts for pedestrians along the popular corridor.

The Borough asked the project team to investigate the feasibility of transforming the narrowest section of White Street into a pedestrian plaza. This pedestrian plaza would help support area businesses, provide a public gathering space, and remove traffic conflicts on Broad Street.

Data

Crash History

Since 2014, there have been two recorded crashes involving bicyclists and pedestrians at the Drs. James Parker Boulevard and South Bridge Avenue intersection in Red Bank. The first incident occurred on November 1, 2015 involving a car and a bicyclist. The crash occurred in the late hours of night when it was dark, street lights were on continuously, and the roads were wet. The car was making a right turn on South Bridge Avenue and the bicycle was traveling straight on Drs. James Parker Boulevard. A 65-year-old male cyclist suffered minor injuries. The second crash occurred on November 15, 2016 involving a pedestrian and a car. This crash also occurred at night when it was dark and street lights were on continuously. The 61-year-old female pedestrian sustained injuries while crossing at a marked crosswalk.

Methodology

In October of 2018, the CSTA project team worked with the municipal officials to identify two locations for the demonstration project (see "Demonstration Project Location" section). The intersection of South Bridge Avenue and Drs. James Parker Boulevard was selected to demonstrate how low-cost changes could be quickly implemented to improve pedestrian safety. A short section of White Street, near the downtown retail corridor, was selected as a location where a temporary pedestrian plaza could be installed to support the local economy.

The CSTA team developed designs for low-cost, simple improvements to increase pedestrian safety at both locations. These designs were inspired by successful projects in places around 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 21, Figure 22). After monitoring the effectiveness and maintenance costs, bollards were installed at intersections around the city. 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. Figures 20 through 23 are other images that were shared with the municipal team in order to illustrate real-world examples of the proposals.

The CSTA project team worked with municipal officials from October to December to finalize the project designs. Unfortunately, the arrival of winter meant that implementation was delayed until 2019 because paint does not stick to asphalt when the temperature is too cold. The improvements to the South Bridge Avenue and Drs. James Parker Boulevard were implemented on May 8, 2019.



Figure 21. Orange plastic bollards to prevent illegal parking before intersection. New Brunswick, New Jersey.



Figure 22. White plastic bollards to alter turning radius. New Brunswick, New Jersey.



Figure 23. Yellow plastic bollard, parking stop, plastic planter, bike parking. Asbury Park, New Jersey.



Figure 24. Orange plastic bollard, stop for pedestrian signs, bike parking. Collingswood, New Jersey.



Figure 25. Art in intersection, art in crosswalk. Asbury Park, New Jersey.



Figure 26. Demonstration paint, plastic bollards. Jersey City, New Jersey.

Following implementation, the CSTA project team solicited feedback from stakeholders via an intercept survey at the demonstration kickoff event. This input was incorporated in the recommendations section of this report.

Concerns over traffic patterns and emergency vehicle access delayed the White Street plaza project indefinitely. As of June 2019, the borough was looking to create a pedestrian plaza at a different downtown location.

In addition to the street designs, the CSTA project team developed outreach materials to acquaint community members with complete streets and design project goals. The public outreach materials explained the concept of design projects, why they are important, and how members of the community can participate. The Borough of Red Bank 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. At intersections along the study corridor were posters announcing the demonstration project.

The project team then drafted and shared plans for the two locations. The plans were distributed among municipal officials for comment and review. Edits were made to the plans to comply with the feedback, and the project team then created photo renderings to better illustrate how the improvements would look once implemented. The purpose of these renderings was to help the municipality promote the project to community leaders and the public.

Design

Drs. James Parker Boulevard and South Bridge Avenue

The demonstration project for the intersection of Drs. James Parkers Boulevard and South Bridge Avenue was designed to slow traffic and increase crosswalk visibility (Figure 27 and Figure 28). A mural painted in the intersection represented the centerpiece of the demonstration project. The design of the mural was left up to the municipality. The municipality selected the sun design because it was easy to pilot as it did not require anything beyond the standard road painting materials and techniques and displayed an eye-catching color choice. The sun design served to slow drivers down, direct attention to pedestrians, and provided a potential location for community art.



The design recommended the use of soft-hit plastic bollards to prevent illegal parking near the intersection. The bollards increased crosswalk visibility so that drivers would see pedestrians before they entered the crosswalk. Closing off this portion of the road to vehicular traffic also helped to slow turning traffic and eliminated the opportunity for drivers making a right-hand turn onto Drs. James Parker Boulevard to pull up alongside drivers crossing through the intersection (as the blue car is doing in Figure 19). As depicted in Figure 23, the new space creates an excellent opportunity to provide bicycle parking. During the surveying efforts, bicyclists were witnessed locking their bicycles to the stop sign as the southeastern corner of the intersection on South Bridge Avenue (Figure 29).

The bollards along the four corners of the intersection were included in the design to help to sharpen vehicular turns and discourage wide and fast right-hand turns. The design also included extending the double yellow center line 50 feet towards the intersection on both sides of Drs. James Parker Boulevard, which would help to discourage cars from cutting off the intersection by making wide, fast left-handed turns onto South Bridge Avenue.

The CSTA team also suggested the use of on-street signage that reminds drivers of the state law to stop for pedestrians in the crosswalk. The off-set design of the intersection makes it difficult to use such signage in the center of the road. However, the signs can be aligned with the cones/bollards on either side of the road with a similar effect. A high-visibility crosswalk was recommended on the western edge of the intersection. Unfortunately, the crosswalk could not be installed during the pilot period because of the position of a nearby telephone pole.

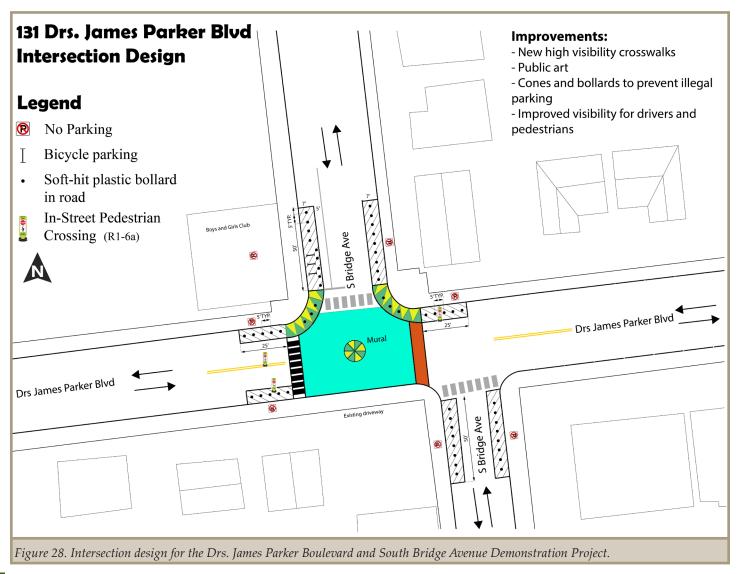




Figure 29. Bicycles locked to the South Bridge Avenue street sign suggest a need for bicycle parking in the area.

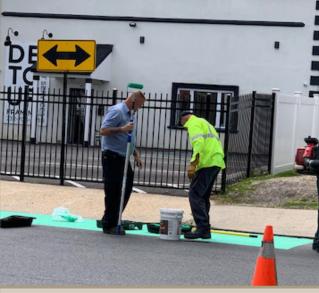


Figure 30. Red Bank municipal employees installing the demonstration project.







White Street Pedestrian Plaza

The design for the White Street pedestrian plaza incorporated a number of features to improve traffic flow and pedestrian safety. As with the Drs. James Parkers Boulevard project, soft-hit bollards were recommended to prevent illegal parking near the crosswalks. In addition, the use of planters was recommended to add a physical barrier between the roadway and the plaza. A number of signs were proposed to help direct traffic around the plaza.

The design of the plaza itself was left up to the municipality. However, the team recommended that the space be filled with seating, tables, and activities to draw interest. As pedestrian plazas can be a significant benefit to nearby businesses, it was also recommended that the municipality work with local businesses to assist with daily maintenance (such as trash removal). Other recommendations included temporary lighting and artwork. Ultimately, the borough declined to install the White Street temporary demonstration project. However, the borough could install soft hit bollards on Broad Street at any time to prevent illegal parking within 25 feet of the intersection with White Street, which will improve pedestrian visibility and safety.

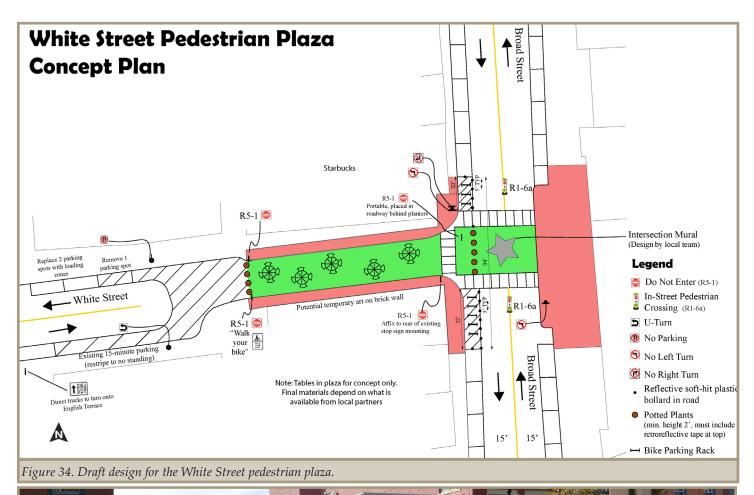




Figure 35. Looking west into White Street from Broad Street.





Figure 37. Daylight rendering of the proposed pedestrian plaza on White Street, looking east.



Figure 38. Nighttime rendering of the proposed White Street pedestrian plaza, looking west from Broad Street.

Findings and Potential Considerations

An intercept survey was used to gather input on the temporary changes from road users at the intersection of Drs. James Parker Boulevard and South Bridge Avenue. 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 full survey).

Due to project schedule requirements, the survey was conducted after the mural was painted, but before the bollards were installed. A total of 29 people were surveyed, most of which were residents of Red Bank (67 percent). More than 85 percent of respondents confirmed that they pass through the intersection several times per week either walking, bicycling, or driving. Most respondents walk to the intersection (82 percent), followed by driving (46 percent) and bicycling (28 percent). Ten percent stated they travel through the intersection using all three modes of transport.

The majority of respondents (90 percent) had a positive attitude towards the changes to the intersection and said the project made it more attractive than it was before. Fifty-seven percent of the respondents affirmed that these changes would motivate them to walk in this are more often. For 53 percent of the respondents, these changes at the intersection have made them feel safer in the area. Respondents also noted that the addition of bicycle parking would have a positive outcome on the use of bicycles, with 43 percent saying they would now like to bike to Drs. James Parker Boulevard and another 25 percent considering the idea of using a bicycle after the addition.







Figure 41. Survey efforts to collect feedback on the demonstration project.

When asked to elaborate on what they liked or disliked the most about the project, most of the respondents pointed out the way the use of bright colors created a more vibrant and appealing environment. This increase in attractiveness is also accompanied by the increase in safety of pedestrians, and the drivers. One of the respondents also pointed out that this increased vitality helps the business stand out more. However, one respondent stated that the only thing that would make the intersection safer would be a traffic signal. A couple of intercept survey respondents suggested that local children should be recruited to add to the art mural. One example given was to have them add their hand-prints to the intersection, which is one excellent way to incorporate the community in a demonstration project (see the Recommendations section for more).

Media reports about the project posted online offered another avenue for feedback, as readers posted comments about the project on the stories. Some of the initial comments were negative, with commenters expressing concern about the use of tax dollars and unhappiness with the chosen art design. However, much of the online dialogue was ultimately positive, with statements that drivers were slowing down more often and stopping for pedestrians at the crosswalk. Others expressed happiness that the municipality was taking steps to improve street safety.

"From what I have seen, traffic has certainly slowed down, which is a good thing. As a driver, I feel I have better visibility and less nervousness about cars flying up Drs. James Parker and t-boning me."

"I think this project turned out really well. In my experience, it benefits all users of the intersection - pedestrians, bikers and drivers. I especially like having a less obstructed view of the road, which resulted from removing parking spaces around the intersection. I hope that becomes a permanent change. I look forward to more demonstration projects like this."

"Visibility seems to have been greatly improved and the color scheme catches drivers attention... I think it is a great strategy for that intersection, has definitely made the area safer to bike, walk, and drive, and I would be in favor of keeping it there permanently. In fact, we should look at more problem areas in town to utilize this."

Feedback provided directly to the Borough was also largely positive. One resident requested that the curb extensions be made permanent and asked for a marked crosswalk along the western side of the intersection that could incorporate creative designs developed by local middle or high school students. Another resident noted that the improvements "definitely made the area safer to bike, walk, and drive, and I would be in favor of keeping it there permanently. In fact, we should look at more problem areas in town to utilize this."

The CSTA project team viewed the intersection for a few hours and observed the largest shift in behavior when the cones were placed around the intersection. Prior to the cones being placed, many drivers were seen stopping illegally near the intersection, blocking visibility. Other drivers were seen using the side of the road as an added lane. This behavior stopped as soon as the cones were put into place.

Maintaining the changes, installing permanent flexible bollards, and posting "stop for pedestrians in crosswalk" signage should help to further increase safety in the area. The following recommendations highlight some of the next steps that Red Bank can take in order to further promote safety for all road users in the Borough.



Figure 42. Traffic cone placement not only slows turning traffic, it also shortens the crosswalk distance.

Recommendations

I. Develop a Complete Streets Implementation Plan

Adopting a complete streets policy, as Red Bank did in 2010 and updated in 2018, is an important first step toward implementation of complete streets, as it defines the meaning of complete streets, establishes goals, and lays out the ways in which the municipality will accomplish the goals. The most successful policies state that complete street practices and principles should be a standard part of regular road maintenance, planning, and design. An implementation plan and checklist can also be developed to ensure that complete street solutions are incorporated on roads throughout the Borough.

The municipality remains on the right path year after year. Forming a Complete Streets Advisory Committee could also prove beneficial in promoting implementation. Additionally, points are available to municipalities that are seeking Sustainable Jersey certification for adopting and instituting a complete streets policy. The New Jersey Department of Transportation (NJDOT) 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) and could be used as a template for future updates to Red Bank's municipal policy, if needed. Additional tools that could help Red Bank reach its complete streets goals include developing an implementation plan, bicycle and pedestrian plan, and/or complete streets checklist.

2. Involve the Community and Provide Educational Opportunities

Education is an essential element in creating safer streets for all users. The Street Smart NJ campaign is one marketing tool that municipalities may use to promote safe driving, walking,

and bicycling (see Appendix for additional details; Figure 43). 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 Ciclovia (Figure 44), which temporarily closes a street to cars and opens it up to bicyclists, pedestrians, and various activities.

Red Bank has participated in Street Smart NJ in the past and should organize future campaigns to reinforce the program's safety messages.

The Borough should also consider involving local artists and community groups in the design of future intersection murals. During surveying efforts in Red Bank, the nearby after school program mentioned interest in decorating the intersections with children's hand prints to add visual





Figure 44. New Brunswick, Ciclovia, an excellent example of an opportunity to combine complete streets education with community building.

appeal and remind drivers that children are in the area. 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 Red Bank'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 often work best when the community is involved.

3. Additional Improvements and Long-Term Installations

One benefit of demonstration projects is that once they are installed adjustments can be made to address feedback and observed impacts to further enhance the project. One additional enhancement Red Bank could consider is striping a crosswalk over Drs. James Parker Boulevard at the western end of the intersection. While a telephone pole is currently located where a curb ramp would need to be installed for such a crosswalk, an ADA-compliant ramp could be installed to the west of the pole and crosswalk markings could guide pedestrians to this location. Several pedestrians were seen crossing at this unmarked crosswalk during the survey, suggesting demand for a striped crosswalk.

During the survey period, the CSTA team noted that most of the traffic conflicts arose from vehicles turning left off of South Bridge Avenue in both directions. This is attributable to the intersection's offset design. The municipality should investigate restricting all left turn movements from the northbound traffic direction. Aside from eliminating the conflicts caused by the turns, doing so should discourage drivers from using Bridge Avenue as a cut-through. This restriction can be implemented using signage but may require additional infrastructure and enforcement to guarantee compliance.

An additional low-cost improvement could be the installation of a flashing pedestrian crosswalk sign, such



Figure 45. The telephone pole on the opposite side of Drs James Parker Boulevard blocks the potential location of a curb ramp for a crosswalk.



Figure 46. The telephone pole blocks the potential location of a curb ramp for a crosswalk.



Figure 47. If a no-parking zone is created, a pedestrian ramp could be installed to support an additional crosswalk.

as a rectangular rapid flash beacon (RRFB), at the crosswalks over Drs. James Parker Boulevard. After being activated by a pedestrian pushing a button, these crosswalk signs make a flashing light pattern directed at motorists. This increases the visibility of pedestrians to drivers, and results in higher compliance rates at crosswalks. According to the Federal Highway Administration, it costs approximately \$10,000 to \$15,000 to purchase and install two solar powered units.

Additionally, the Borough conducted a bicycle and pedestrian study in 2010, which envisioned bicycle lanes on both sides of Drs. James Parker Boulevard and removal of parking on one side.⁷ Future plans could include temporarily installing such bicycle lanes with the intention of creating a permanent installation, if the lanes prove to be a success.

Once Red Bank feels the designs have been adjusted to best meet the needs and safety of all road users, plans should be made to make more permanent changes to the intersection, such as constructing curb extensions in place of the bollards.

4. Consider Additional Locations

The Borough should explore opportunities to employ demonstration projects at other locations. Such projects could incorporate similar designs, as several survey respondents stated that they would like to see murals at other locations.

Other opportunities include pedestrian plazas (Figure 48 and Figure 49), artistic crosswalks, or parklets. Feedback gathered from multiple outlets, including the intercept survey, clearly indicated that Red Bank's residents are interested in testing out similar tactics at other locations. Some respondents even showed interest in participating in such projects, which may prove promising for the future of complete streets in Red Bank.



Figure 48. Tontine Crescent Tactical Plaza in Boston, MA. (Photo credit: Ground Inc)



Figure 49. 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.

5. Enforcement at the Intersection

In conjunction with the recommendations detailed above, enforcement can play an important role in discouraging speeding and failure to stop for pedestrians in the crosswalk. In some municipalities, police departments use pedestrian decoy operations, during which plain-clothed police officers walk through problematic and highly visible intersections to identify drivers unwilling to stop for pedestrians in the crosswalk, to target drivers who are breaking the law.

^{7.} Red Bank Bicycle and Pedestrian Planning Project, 2010. http://www.redbanknj.org/DocumentCenter/View/148/Bicycle-Pedestrian-Planning-Project-2010-PDF

Conclusion

The intersection of Drs. James Parker Boulevard and South Bridge Avenue provides an important connection between Red Bank's nearby residential areas, key community organizations, the downtown and train station. Local officials aware of the safety challenges sought out the help of the NJTPA's Complete Streets Technical Assistance Program to design simple solutions that could improve safety at the intersection. With a few quick improvements made through the demonstration project, crosswalk visibility at the intersection was improved, but opportunities still exist to further enhance safety. This report summarized the process and provided recommendations for additional safety improvements. Recommendations included incorporating demonstration projects as a tool a tool to test out the acceptability of various enhancements while creating opportunities for community participation in street design and safety improvements.



Figure 50. Design prior to traffic cone setup, as witnessed just before surveying efforts on May 16, 2019.

Appendix

- **A.** Intercept Survey Instrument
- **B. Street Smart NJ Campaign Resources**
- **C.** Potential Funding Resources
- **D.** Design Resources

A. Intercept Survey Instrument



Tactical Urbanism Demonstration Project Please circle your response for each question. 1. What brings you to Red Bank? Do you: Live here Work here Visit here 2. How often do you visit this intersection? Several times per Once per week Less than once week 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 Drs James Parker Blvd? More safe Less safe No difference 7. With the addition of bicycle parking, will you bike to Drs James Parker Blvd? Yes **Possibly** No Please fill in your answer on the space provided. Additional space for comments may be found on the back of the survey. What do you like most about the changes? 8. This effort is part of the Complete Streets Technical tance Program, which is a collaborative venture

Thank you for your time!







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.

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 pedes- trian 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.

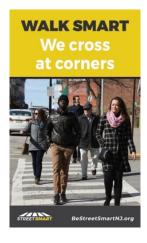
There are a number of different ways communities can participate. Nearly all campaigns enlist the involvement of community leaders, businesses and organizations and ask police to step up



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 dis- playing 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/municaid.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 NJDOTs 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.sustainablejerseyschools.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

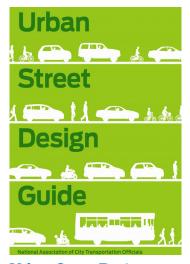
- 5. Municipal Aid (\$140m)
- 6. County Aid (\$150m)
- 7. Local Bridges (\$44m)
- 8. Safe Streets to Transit (\$1m)
- 9. Transit Village (\$1m)
- 10. Bikeways (\$1m)
- 11. Local Aid Infrastructure Fund (\$7.5m)
- 12. Safe Corridors Highway Safety Funds
- 13. Urban Aid (\$10m)
- 14. New Jersey Trails 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

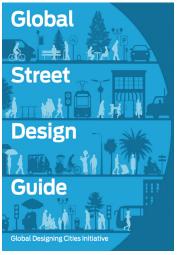
- 20. County Capital Program
- 21. Municipal Capital Programs
- 22. Foundations

D. Design Resources

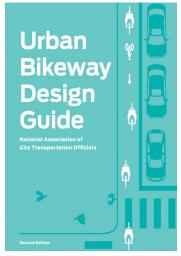
NACTO Guides



<u>Urban Street Design</u> Guide



Global Street Design Guide



<u>Urban Bikeway Design</u> Guide



Transit Street Design Guide



Blueprint for Autonomous Urban Street Stormwater Bike Share Station Siting **Urbanism**

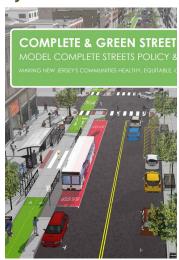


Guide



Guide

NIDOT Guides



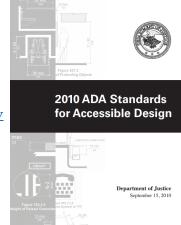
Guide



Guide



Complete & Green Streets 2017 State of New Jersey A Guide to Creating ADA Standards for for All: Model Policy and Complete Streets Design A Complete Streets Accessible Design Implementation Plan



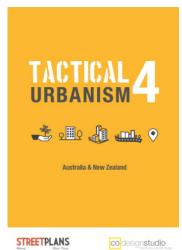
ADA Guidelines

Tactical Urbanism Guides



TACTICAL MODEL OF THE PROPERTY OF THE PROPERTY





Tactical Urbanism 1

Tactical Urbanism 2

Tactical Urbanism 3

Tactical Urbanism 4



TACTICAL URBANISM Short-term Action for Long-term Change

MIKE LYDON & ANTHONY GARCIA

Tactical Urbanism



<u>Tactical Urbanist's Guide to Materials and Design Version 1.0</u>

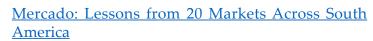


Tactical Urbanism 5





WRITTEN BY JULIE FLYNN | EDITED BY MIKE LYDON STREETPLANS





Public Space Stewardship Guide

The Open Streets Guide

