



# Dunellen Active Transportation Planning Study

Transit Friendly Planning  
Technical Assistance

Final Report | May 18, 2023



Dunellen



# Acknowledgments

NJ TRANSIT would like to thank all parties who participated in the creation of this Transit Friendly Planning study through meetings, conversations, stakeholder surveys, events, and other activities. Their feedback contributed greatly to the development of this study. It is our sincere hope that the Dunellen Active Transportation Planning Study will serve the Borough of Dunellen, helping its residents and visitors to safely and conveniently access the NJ TRANSIT system, downtown Dunellen, and the parks, schools, and other destinations throughout the borough.

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## **Disclaimer**

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# 1

# Introduction

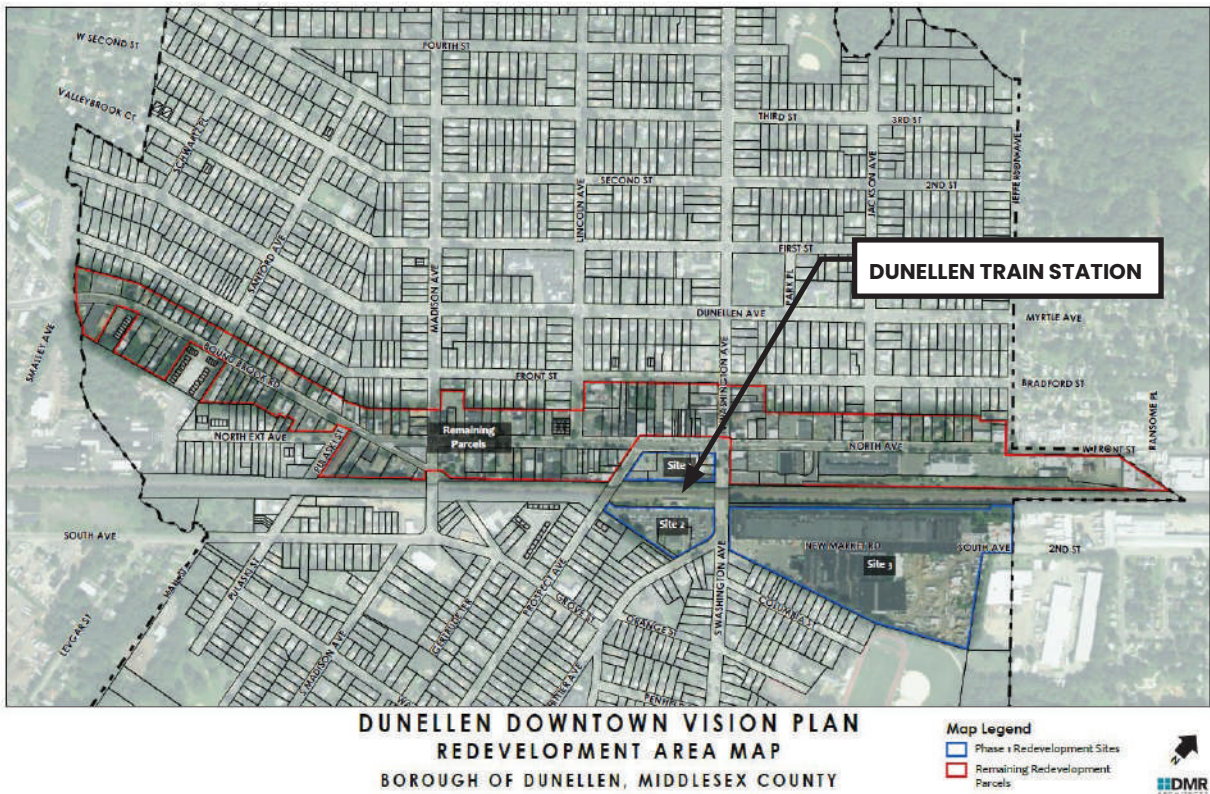
# Background

Dunellen is a 1.1-square-mile borough in Middlesex County, New Jersey with a population of 7,580 residents (American Community Survey 5-Year Estimate for 2021). Designated a Transit Village in 2012, the borough is home to Dunellen Train Station, a commuter railroad station served by NJ TRANSIT on the Raritan Valley Line, as indicated on Map 1.1.

The Borough of Dunellen administration is enthusiastic about redevelopment in accordance with the municipal [Downtown Redevelopment Plan](#) and supportive of local vitality as a 'suburban-esque' transit hub. Ongoing redevelopment efforts downtown near the train station have been characterized as a renaissance. As redevelopment efforts progress, it

is sensible to assess community needs and opportunities related to mobility on public rights-of-way, to ensure that the community's evolving vision for its future is comprehensive and achievable.

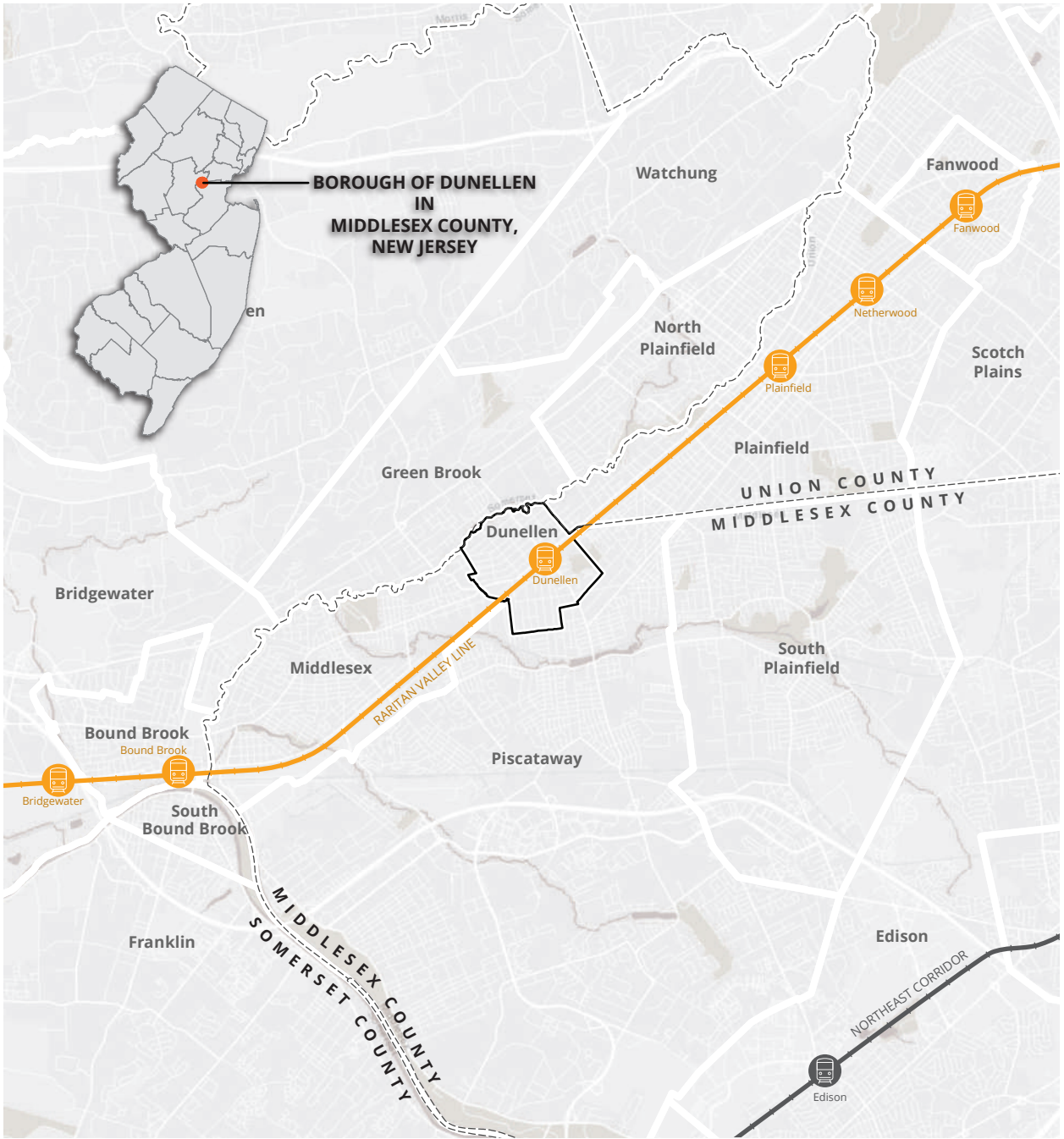
Representatives from Dunellen's administration have expressed a need for active transportation connectivity in support of ongoing redevelopment efforts. Beginning in the spring of 2022, representatives from NJ TRANSIT's Office Government & Community Relations and Transit Friendly Planning (TFP) Program have been engaged with representatives from the Borough of Dunellen in the development of this study.



## DUNELLEN DOWNTOWN VISION PLAN REDEVELOPMENT AREA MAP

Credit: Borough of Dunellen and DMR Architects.

**Map 1.1: Dunellen Regional Context**



Base Image Credit: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

- Borough of Dunellen**
- Municipal Boundary**
- County Boundary**
- Raritan Valley Line & Station**
- Other Commuter Rail Line & Station**



## Purpose

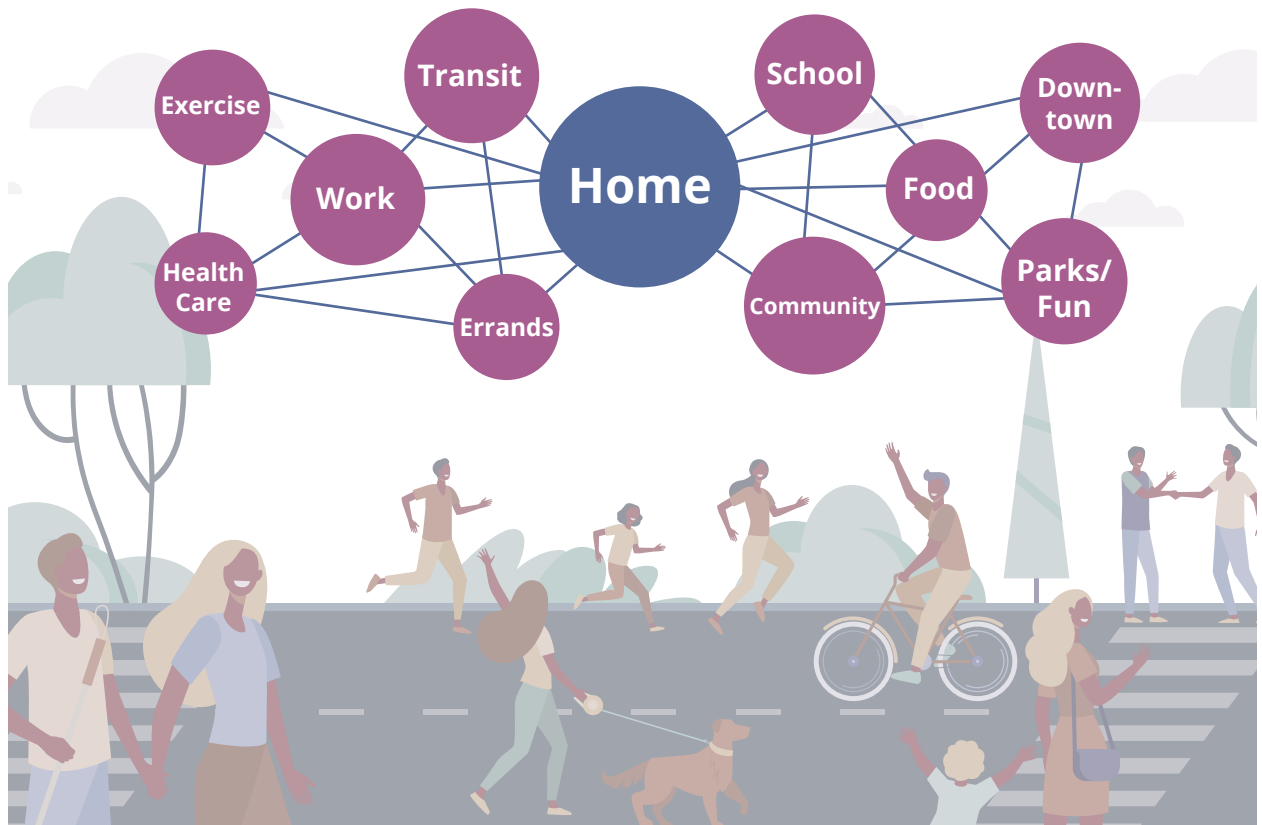
The purpose of this study is to explore potential infrastructure improvements in Dunellen in support of a safe, accessible, continuous, and convenient active transportation network with access to transit and other key community destinations.

Dunellen was identified as a potential study location using the TFP Program's technical assistance screening tool. The screening tool helps identify communities with transit-oriented development potential, using three screening levels and 25 sub-metrics to score and rank potential station areas and corridors.

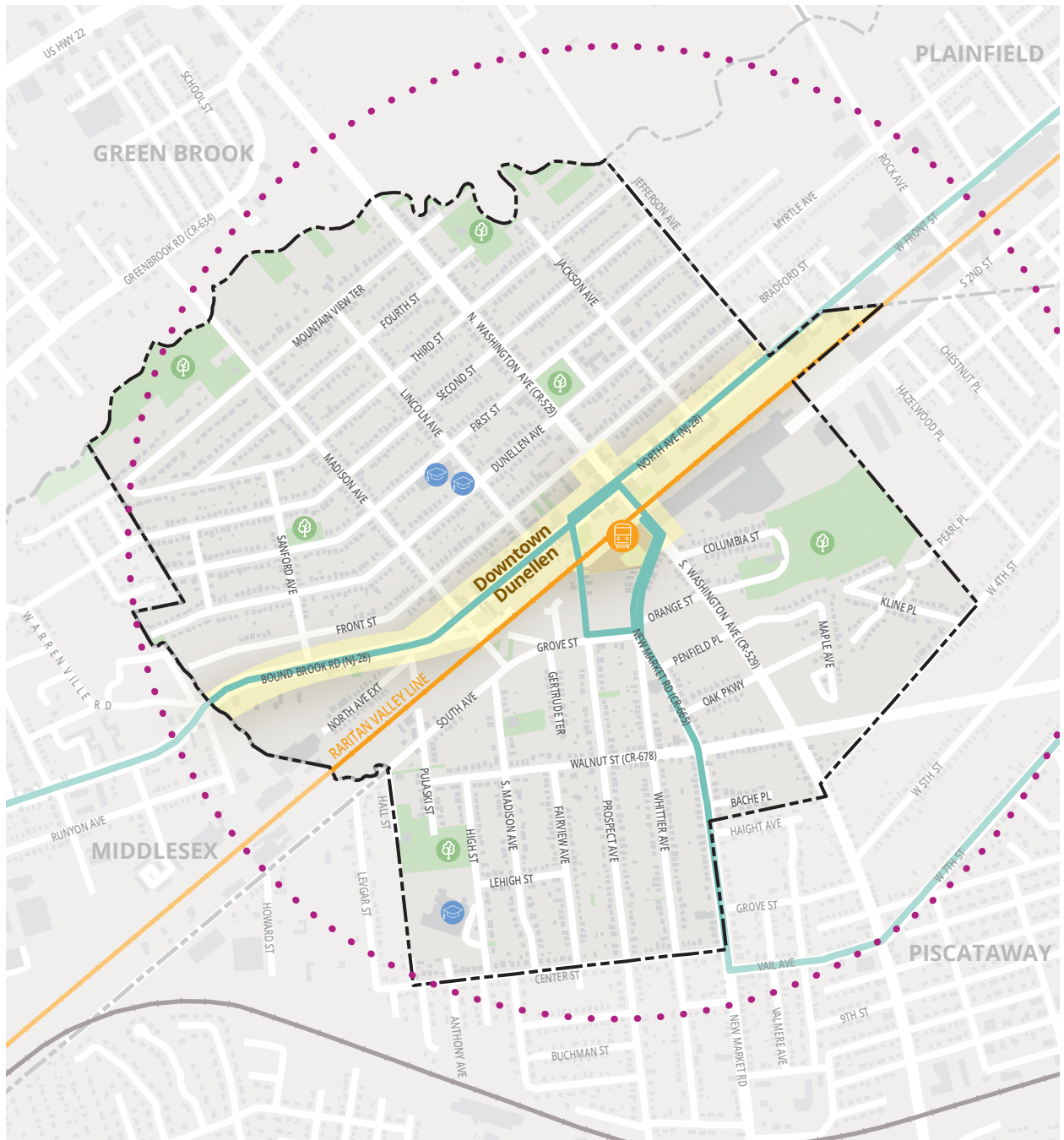









**DUNELLEN TRAIN STATION PLATFORM**

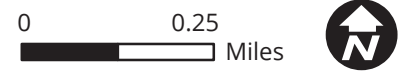
**The active transportation network should be safe, accessible, continuous, and convenient.**



Map 1.2: Borough of Dunellen Overview



-  **Downtown**
-  **Dunellen Train Station**
-  **Transit Walkshed**  
(0.75-mile radius)
-  **School**
-  **Raritan Valley Line**
-  **Park**
-  **NJ TRANSIT Bus Route**



# Active Transportation Definition

Active transportation is self-propelled, human-powered transportation, such as walking or biking.

Active transportation networks provide residents with safe options to walk or bike around the community and access key destinations, such as downtown, Dunellen Train Station, bus stops, and the schools, parks, shops, and meeting places that are part of daily life.



**BIKE LANE, SIDEWALK, AND TRANSIT**



**DOWNTOWN SIDEWALK**



**BIKE BOULEVARD**

“The success of a transit system depends on its users being able to readily access transit facilities using a variety of transportation modes, including walking, biking, bus, personal vehicle, and other mobility options like scooters and ride-hailing. As municipalities throughout the state seek to grow their downtowns, enhancing circulation to and from transit facilities will be critical to ensuring safe and convenient access to jobs, commerce, and recreation.”

—[Transit Friendly Planning: A Guide for New Jersey Communities](#)  
(NJ TRANSIT, 2022, p. 71)

## Benefits

- Active transportation empowers people of all ages, abilities, and backgrounds with healthy, economical mobility.
- Walking trips contribute to a healthier population, a general sense of neighborliness and civic pride, and local economic activity.
- Walking trips do not pollute and do not require large parking lots.
- Active transportation helps reduce traffic congestion, emissions, and pollution.
- Bicycles can expand the “access shed” of any transit stop and serve patrons from miles away without the need for large, expensive parking facilities.
- Bicycles are one of the most efficient ways to get around—they take up less space than a car and cost significantly less to buy, operate, and maintain.
- Bicycle mobility provides a crucial level of independence for young people.

## Resources

There is an ever-growing body of literature that describes best practices, policies, facility design, implementation, and maintenance procedures to support active transportation. Key resources include:

- [Federal Highway Administration \(FHWA\) Bicycle and Pedestrian Program](#)
- [National Association of City Transportation Officials \(NACTO\) Design Guides](#)
- American Association of State Highway and Transportation Officials (AASHTO)
  - [Guide for the Development of Bicycle Facilities](#)
  - [Guide for the Planning, Design, and Operation of Pedestrian Facilities](#)
- [Institute of Transportation Engineers \(ITE\) Complete Streets Resources](#)
- [Vision Zero Network](#)
- New Jersey Department of Transportation (NJDOT)
  - [Complete Streets Design Guide](#)
  - [Complete & Green Streets for All Guide](#)
- [New Jersey Bicycle and Pedestrian Resource Center](#)

As of this writing, the North Jersey Transportation Planning Authority (NJTPA) is developing an [Active Transportation Plan](#) for the region, of which Dunellen is part. Middlesex County is also in the process of developing a Vision Zero Plan and an update to its bicycle and pedestrian mobility plan.



Chapter 4:  
**Active Transportation**

Active transportation is self-propelled, human-powered transportation, such as walking or bicycling.

Easier and safer access to transit for pedestrians and bicyclists.

Ability for people of all ages, backgrounds, and abilities to engage in physical activity.

Local and regional mobility.

Ability to live our lives on our own terms.

Established transit routes and stations.

Transit has made pedestrian, bicycle, and wheelchair connections to destinations.

For real transportation.

Capital costs.

Operation and maintenance.

Community identity placemaking.

Future growth.

**Transit Friendly Planning**  
A Guide for New Jersey Communities

**NJ**  
TRANSIT

For more information on active transportation, read the Transit Friendly Planning Guide at [njtransit.com/transitfriendly](http://njtransit.com/transitfriendly)

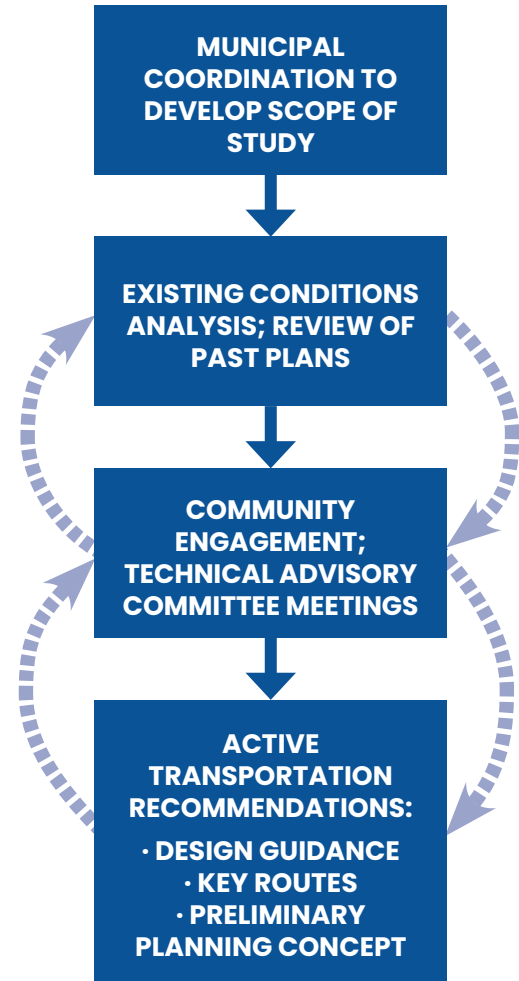
# Study Methodology

The study was conducted by staff members from NJ TRANSIT’s Transit Friendly Planning (TFP) Program and consultant, NV5. Initiated during the spring of 2022, the NJ TRANSIT Study Team coordinated with the Borough of Dunellen administration to determine a scope of work to address current needs and complement ongoing initiatives. The process diagram to the right indicates the main tasks that were undertaken in the development of this study.

The Borough of Dunellen was engaged in several long-term planning initiatives during 2022, in addition to this study, including:

- Master Plan Re-Examination
- Climate Resiliency Plan Element
- Complete and Green Streets for All Policy

The NJ TRANSIT Study Team coordinated with these complementary initiatives on components of community engagement, including a public input survey and community open house. See Chapter 3 for findings from the community outreach effort.



**STUDY METHODOLOGY DIAGRAM**

**COMMUNITY ENGAGEMENT FLYERS IN ENGLISH AND SPANISH**

# Transit Friendly Planning Program Mission

NJ TRANSIT's mission is to move New Jersey and the region by providing safe, reliable, and affordable public transportation that connects people to their everyday lives, one trip at a time.

This study has been developed by NJ TRANSIT through the Transit Friendly Planning (TFP) Program, providing technical planning assistance to the Borough of Dunellen. The TFP Program is dedicated to strengthening the link between public transit and land use, and strives to promote equitable, economically resilient, and environmentally sustainable outcomes that improve the quality of life for all New Jerseyans.

The TFP Program plays an active role in improving transit access and helping communities plan for the future. In 2022, the TFP Program published [Transit Friendly Planning: A Guide for New Jersey Communities](#) as a resource describing the most important principles in transit-friendly planning, which guide communities on how to:

- Encourage healthy, active, and economical modes of transportation that meet the mobility needs of people throughout the state.
- Promote equity, environmental justice, and the right to live, work, and move through safe and healthy communities with access to transit.
- Contribute to community identity and sense of place.
- Enhance economic vitality and access to retail and community services.
- Support vibrant, pedestrian-friendly activities and places.
- Enable people of all ages and abilities to access the economic, cultural, and environmental destinations that make New Jersey a great place to live and work.

—Transit Friendly Planning Guide, p. 5





# 2

## Existing Conditions

## Introduction

This chapter describes existing conditions related to active transportation in Dunellen. It includes summaries of land use and trip generators, demographic factors, the transit network, and the street network, including an assessment of crashes. Summaries of key active transportation conditions and opportunities conclude the chapter.

The descriptions throughout this chapter are derived from various geographic data, supplemented by observation of conditions in the field.



**DOWNTOWN DUNELLEN**

## Land Use and Trip Generators

Map 2.1 illustrates the general land use pattern of Dunellen. The borough is predominantly residential with a mixed-use downtown commercial core along North Avenue (NJ-28).

Map 2.2 illustrates a range of trip generators to which residents may walk or bike on a regular basis.

Dunellen Train Station is a central part of the downtown core, surrounded by the public library, municipal building, post office, and bank. North Avenue (NJ-28) runs parallel to the Raritan Valley Line embankment, and includes a variety of essential retail, including a supermarket, pharmacy, health clinics, and banks. There are also bars and restaurants, an ice rink, a vintage clothing store, and various convenience stores. Schools and parks are dispersed among the residential areas around town. Residential properties are generally compact and laid out in a modified grid network.

A few blocks north of the station, Washington Park serves as an anchor park for passive recreation and community events. Likewise, an anchor park for active recreation can be found at Columbia Park, a few blocks southeast of Dunellen Train Station.

At either end of North Avenue (NJ-28) are industrial districts that serve as local job centers or potential sites for infill redevelopment. Adjacent to the station on the south side of the tracks, a mixed-use redevelopment project called The Nell at Dunellen Station is nearly complete, and brings nearly 200 new rental units, 130 townhouses, and 10,000 square feet of new retail to the borough.

Given the density and compact size of Dunellen, it is reasonable to expect that many short-distance (<0.5 mile) trips from homes to and from the downtown core, transit, parks, or schools are possible and can be accommodated on foot or by bike.

## Photo Panel 2.1: Land Use Examples



**LOW-DENSITY RESIDENTIAL**



**APARTMENT RESIDENTIAL**



**COMMERCIAL**



**PARK / PUBLIC PROPERTY**

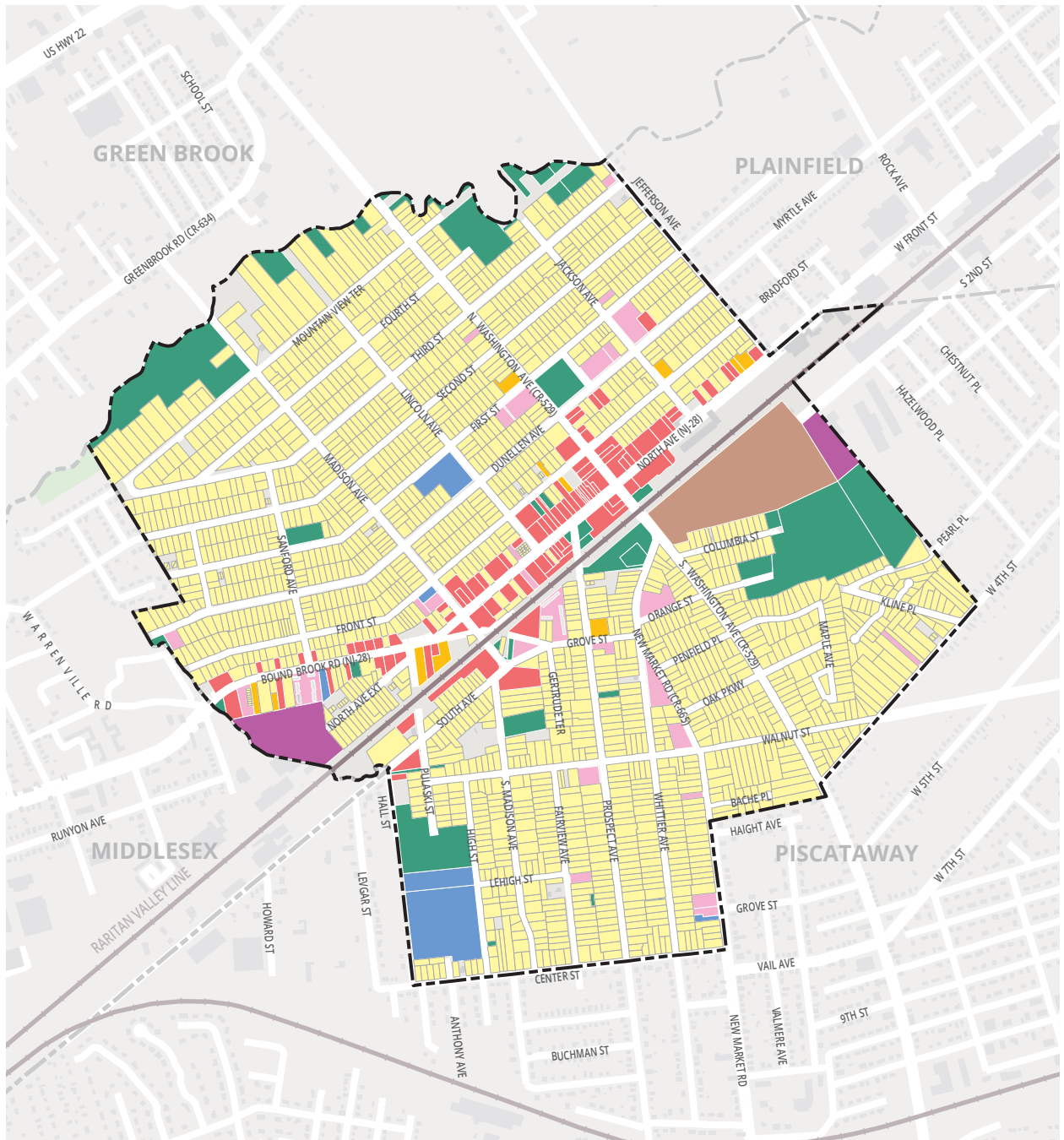


**SCHOOL**



**CHURCH / CHARITABLE**

Map 2.1: Land Use



- |   |   |   |
|---|---|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: red; border: 1px solid black;"></span> <b>Commercial</b>                 | <span style="display: inline-block; width: 20px; height: 10px; background-color: green; border: 1px solid black;"></span> <b>Park/Public Property</b> | <span style="display: inline-block; width: 20px; height: 10px; background-color: purple; border: 1px solid black;"></span> <b>Industrial</b>                          |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: yellow; border: 1px solid black;"></span> <b>Low-Density Residential</b> | <span style="display: inline-block; width: 20px; height: 10px; background-color: blue; border: 1px solid black;"></span> <b>School</b>                | <span style="display: inline-block; width: 20px; height: 10px; background-color: brown; border: 1px solid black;"></span> <b>Dunellen Stations Redevelopment Site</b> |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: orange; border: 1px solid black;"></span> <b>Apartment Residential</b>   | <span style="display: inline-block; width: 20px; height: 10px; background-color: pink; border: 1px solid black;"></span> <b>Church/Charitable</b>     |   |

0 0.25 Miles



Map 2.2: Borough of Dunellen Overview



- Downtown
- School
- Park
- Dunellen Train Station
- Raritan Valley Line
- NJ TRANSIT Bus Route
- Transit Walkshed (0.75-mile radius)

0 0.25 Miles



# Demographic Factors

Dunellen has an estimated 7,580 residents. With 6,891 residents per square mile, Dunellen ranks near the 90th percentile for population density among New Jersey municipalities and is the third most densely populated municipality in Middlesex County after New Brunswick and Highland Park.

Table 2.1 provides an overview of demographic factors from the American Community Survey (ACS) 5-Year Estimates from 2021. Selected factors are related to active transportation and are listed in comparison among Dunellen, Middlesex County, and New Jersey. The following are key observations.

## **Public Transportation**

The ACS estimates that a lower proportion of Dunellen residents commute by public transportation than the county or the state. Likewise, Dunellen residents tend to own vehicles at a higher rate per household and use them as a primary way to commute. Considering Dunellen’s population density, compact land use pattern, and centrally located commuter train station, it is reasonable to expect a higher rate of transit use.

Improvements to the active transportation network can encourage residents to use transit more often and attract new residents for whom Dunellen provides the opportunity to live car-free or car-light.

## **Age**

Dunellen has a slightly higher proportion of residents under 18 years of age, and a slightly lower proportion of residents 65 and over, in comparison to the county and state. Many people in these age groups are too young to drive or have given up driving for health reasons.

Improvements to the active transportation network can provide a sense of independence for these age groups, whether they are growing up and going to

school and recreation programs, or aging in place and enjoying Dunellen’s opportunities for socializing, shopping, and dining.

## **Disability**

The ACS estimates that there are 728 Dunellen residents living with a disability, roughly in proportion with the county and state. There are also about 18.4 centerline miles of streets in the borough. This means that a resident living with a disability might be expected to live every 135 feet around town.

Improvements to the active transportation network that address ADA accessibility enable those with physical disabilities to travel independently. Moreover, a recent law enacted in New Jersey ([C.27:1B-21.39](#)) will expand the scope of NJDOT’s Complete Streets Policy to, “require the consideration and implementation of design elements and infrastructure improvement projects that promote the ability of persons diagnosed with autism spectrum disorder and persons with intellectual and developmental disabilities to travel independently.” The planning and implementation of universal design measures can help ensure that people with disabilities are empowered to enjoy all the economic, health, and social benefits of independent mobility.

## **Non-English Speakers**

Dunellen has a higher proportion of people who speak English less than “very well” and a significantly higher proportion of people who speak Spanish than the state as a whole.

Planning for improvements to the active transportation network should include outreach to non-English speaking residents to ensure that proposed improvements are understood and address their needs for safety and mobility.

**Table 2.1: American Community Survey Demographic Summary**

	Dunellen Borough		Middlesex County		New Jersey	
<b>Area (sq. miles)</b>	1.1		322.8		8,722.6	
	<b>Total</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>	<b>Total</b>	<b>Percent</b>
<b>Population:</b>	7,580		858,770		9,234,024	
Density (residents per sq. mile)	6,891		2,660		1,059	
<b>Age:</b>						
Under 18 Years	1,892	25%	187,867	22%	2,040,442	22%
19 to 64 Years	4,728	62%	541,267	63%	5,699,066	62%
65 and over	960	13%	129,636	15%	1,494,516	16%

Source: American Community Survey, 2021 ACS 5-Year Estimates Data Profiles, Table DP05

<b>Transportation to Work:</b>						
Workers 16 years and over	3,525		416,538		4,489,790	
Car, truck, or van -- drove alone	2,711	77%	281,641	68%	3,021,839	67%
Car, truck, or van -- carpooled	265	8%	35,172	8%	341,548	8%
Public transportation (not taxi)	147	4%	33,841	8%	438,123	10%
Walked	14	0%	8,273	2%	115,825	3%
Other means	161	5%	9,714	2%	95,227	2%
Worked from home	227	6%	47,897	11%	477,228	11%
Mean travel time to work (minutes)	26.2		33.6		31.5	

Source: American Community Survey, 2021 ACS 5-Year Estimates Data Profiles, Table DP03

<b>Vehicles Available:</b>						
Occupied Housing Units	2,508		299,455		3,397,156	
No vehicles available	110	4%	24,324	8%	384,372	11%
1 vehicle available	796	32%	100,024	33%	1,157,958	34%
2 or more vehicles available	1,602	64%	175,107	58%	1,854,826	55%

Source: American Community Survey, 2021 ACS 5-Year Estimates Data Profiles, Table DP04

<b>Disability Status:</b>						
Non-institutionalized population with a disability	728	9.6%	81,543	9.6%	946,687	10.4%

<b>National Origin and Languages:</b>						
Born in United States	5,166	68%	552,646	64%	6,885,230	75%
Born in Puerto Rico, U.S. Island areas, or abroad	24	0%	19,318	2%	233,733	3%
Foreign Born	2,390	32%	286,806	33%	2,115,061	23%
English only	4,074	58%	441,128	54%	5,923,901	68%
Language other than English	2,906	42%	369,318	46%	2,779,747	32%
English less than "very well"	1,052	15%	123,615	15%	1,059,690	12%
Spanish	2,183	31%	141,689	17%	1,440,046	17%
Other Languages	723	10%	227,629	28%	1,339,701	15%

Source: American Community Survey, 2021 ACS 5-Year Estimates Data Profiles, Table DP02

# Transit Network

## Rail

Dunellen Train Station is centrally located downtown, accessible from North Avenue (NJ-28), Washington Avenue (CR-529), Market Road (CR-665), and Prospect Avenue. Trains on the Raritan Valley Line run between Newark Penn Station and Raritan Station, with weekday service alternating an extension to High Bridge Station. Trains typically run on hourly or half-hourly service, with at most four trains per hour during peak periods.

A five-year average shows an estimated 724 annual daily boardings at Dunellen Train Station. Dunellen Train Station also serves as a gateway for visitors from outside of Dunellen, who can benefit from wayfinding signs to point out key locations around town.

## Bus

The bus stops in Dunellen are destinations to which residents might be expected to travel frequently, through varying seasonal, weather, and lighting conditions.

The following four NJ TRANSIT bus lines serve the borough, at frequencies similar to or less frequent than the train:

- 59; 113 - Service between Dunellen and Newark or New York, with a terminal stop at Dunellen Train Station and other stops along North Avenue (NJ-28).
- 65; 114 - Service between Bridgewater and Newark or New York with stops along Bound Brook Road / North Avenue (NJ-28) and New Market Road (CR-665).

Average daily boarding and alighting data are included in Map 2.3. The bus stops along the 65 and 114 lines are in the process of being rerouted, as indicated on the map.



### BICYCLE PARKING

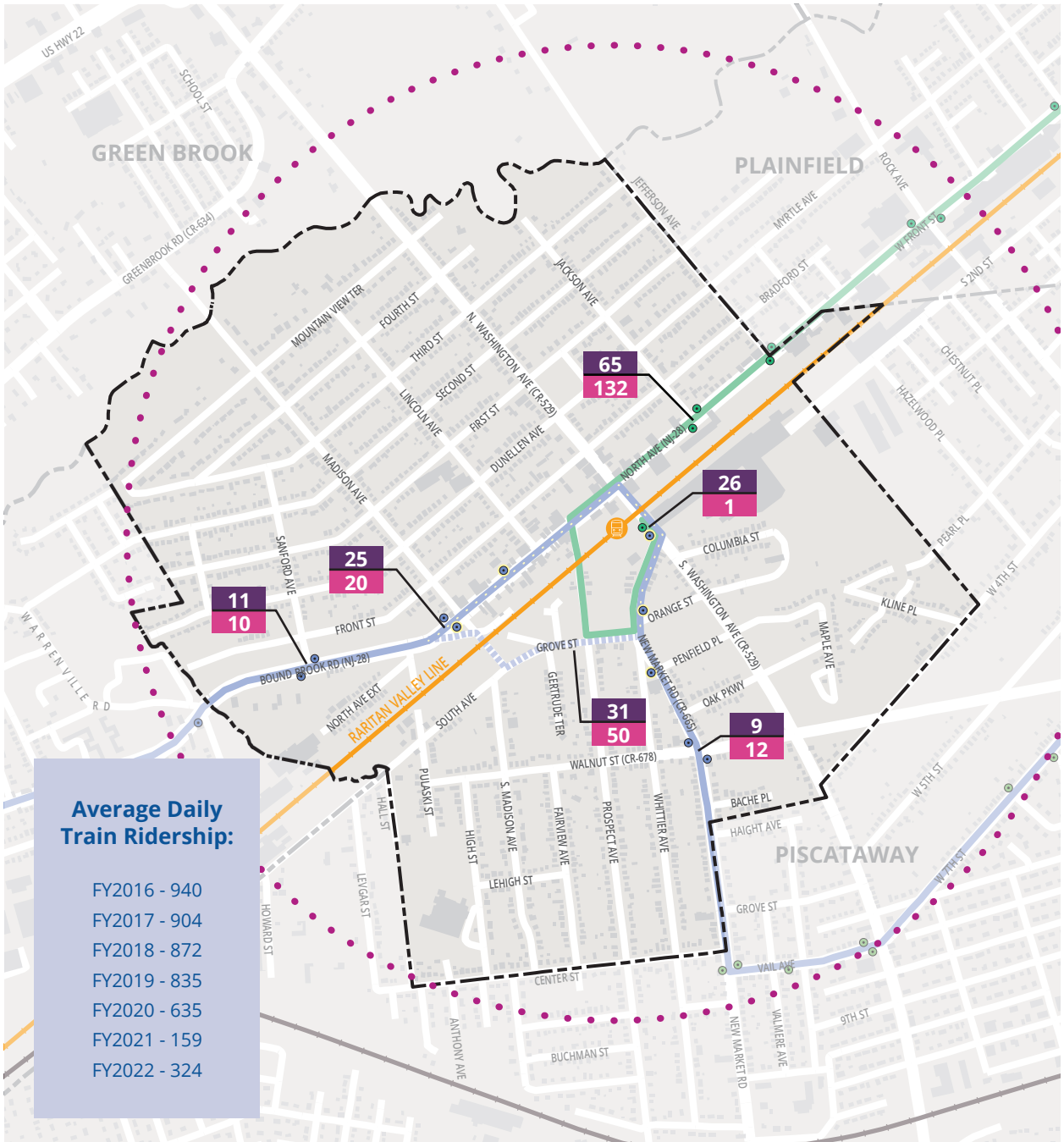
Bike racks and a bike locker on the north side of Dunellen Train Station.











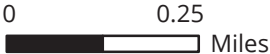




### BUS SHELTER

This shelter near Dunellen Train Station includes seating, shade, and a concrete pad for boarding.

**Map 2.3: Dunellen Transit Network**



 <b>Dunellen Train Station</b>	<b>NJ TRANSIT Bus</b>	<b>Planned Changes to #65 &amp; #114</b>
 <b>Raritan Valley Line</b>	 Stop location (colored to route)	 Route to be vacated
 <b>Train Station Walkshed</b> (0.75-mile radius)	 #59 & #113	 New Route
	 #65 & #114	 New Stop Locations
	 # Avg. Daily Boarding	 0 0.25 Miles
	 # Avg. Daily Alighting	

## Railroad Embankment

Dunellen has been served by railroad since the mid-1800s. Originally the railroad ran at grade with the surrounding terrain. The railroad was [elevated to the current embankment in the 1950s](#).

Today, the embankment enables pedestrians, bicyclists, and motorists to safely avoid the railroad. Grade-separated crossings are located at Washington Avenue (CR-529), Prospect Avenue, and Madison Avenue, as indicated on Map 2.4. There is also a pedestrian tunnel at Dunellen Train Station. These locations are important for daily mobility between the north and south sides of town.

Map 2.4 also indicates the location of Federal Emergency Management Agency (FEMA) flood hazard areas associated with Bonygutt Brook on the south side of Dunellen. For residents on the south side, the embankment underpasses are potential egress routes from flood hazard areas during flood events. Field measurements taken at the underpasses, marked as locations A, B, C, and D on Map 2.4, indicate available space to accommodate pedestrians and/or bicyclists.



### WASHINGTON AVENUE (CR-529)

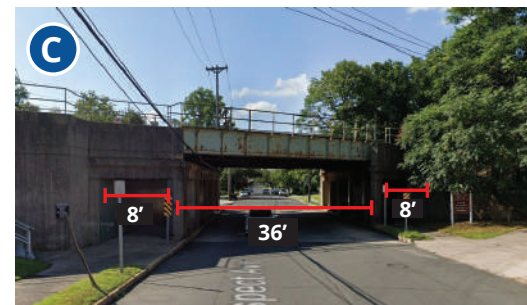
View south.

*Credit: Google Streetview.*



### PEDESTRIAN TUNNEL

Dunellen Train Station view of north side.



### PROSPECT AVENUE

View south.

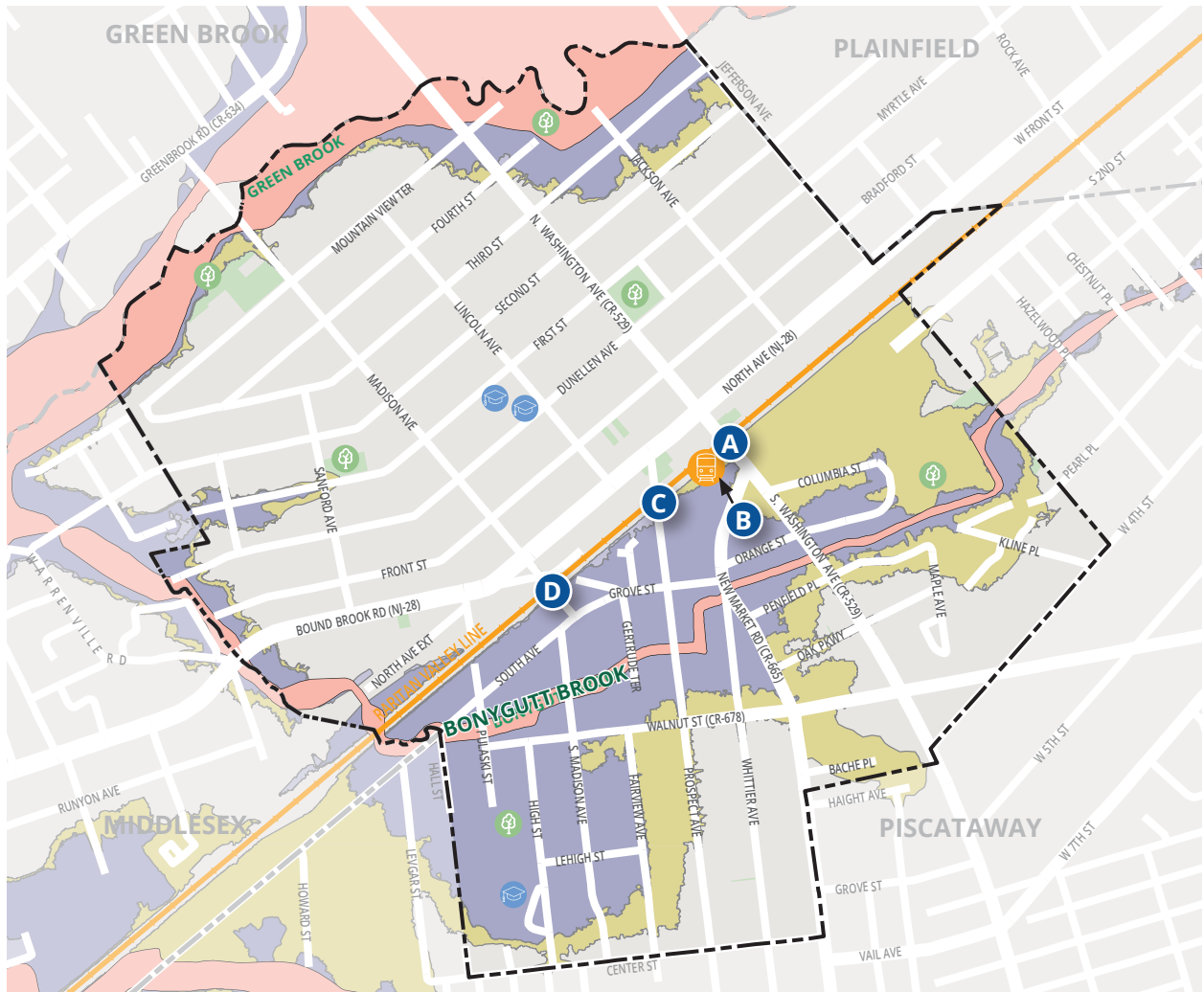
*Credit: Google Streetview.*



### MADISON AVENUE

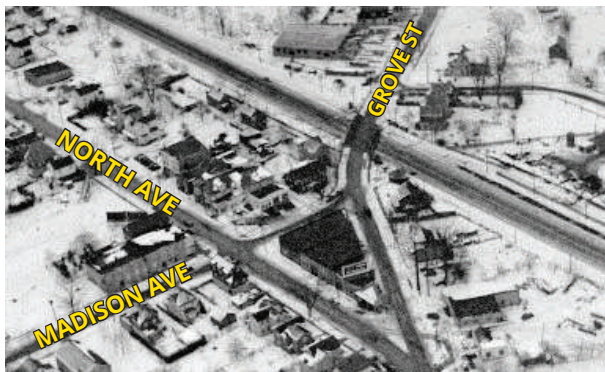
View south.

## Map 2.4: Grade-Separated Crossings



- Floodway
- 1.0 Percent Flood Hazard
- 0.2 Percent Flood Hazard

0 0.25 Miles



**1940S AERIAL PHOTO OF THE RAIL LINE WITH AN AT-GRADE CROSSING AT GROVE STREET**

*Credit: Dunellen Historical Society.*



**AERIAL IMAGE OF THE RARITAN VALLEY LINE EMBANKMENT WITH A GRADE-SEPARATED CROSSING AT MADISON AVENUE**

*Credit: Google Earth.*

# Street Network

## Overview

Map 2.5 provides an overview of the street network in Dunellen, including the jurisdiction, functional classification, and available traffic counts.

Overall, there are approximately 18.4 centerline miles of streets in Dunellen, laid out in a modified grid network with few dead ends.

## Local Streets

Over 75 percent of the street network is local and residential, under the jurisdiction of the Borough of Dunellen. Most streets have sidewalks and many residential streets have a four-ton weight limit to discourage unnecessary truck traffic.

This mostly residential grid network with sidewalks is conducive to walking and biking and can provide a strong foundation for active transportation network improvements.



**LOCAL STREETS**

## Biking in Dunellen

Dunellen's flat terrain, grid of streets, and compact development patterns are conducive to biking. In this image, a group of bicyclists have entered North Avenue from Lincoln Avenue and are heading east in the direction of Dunellen Train Station.

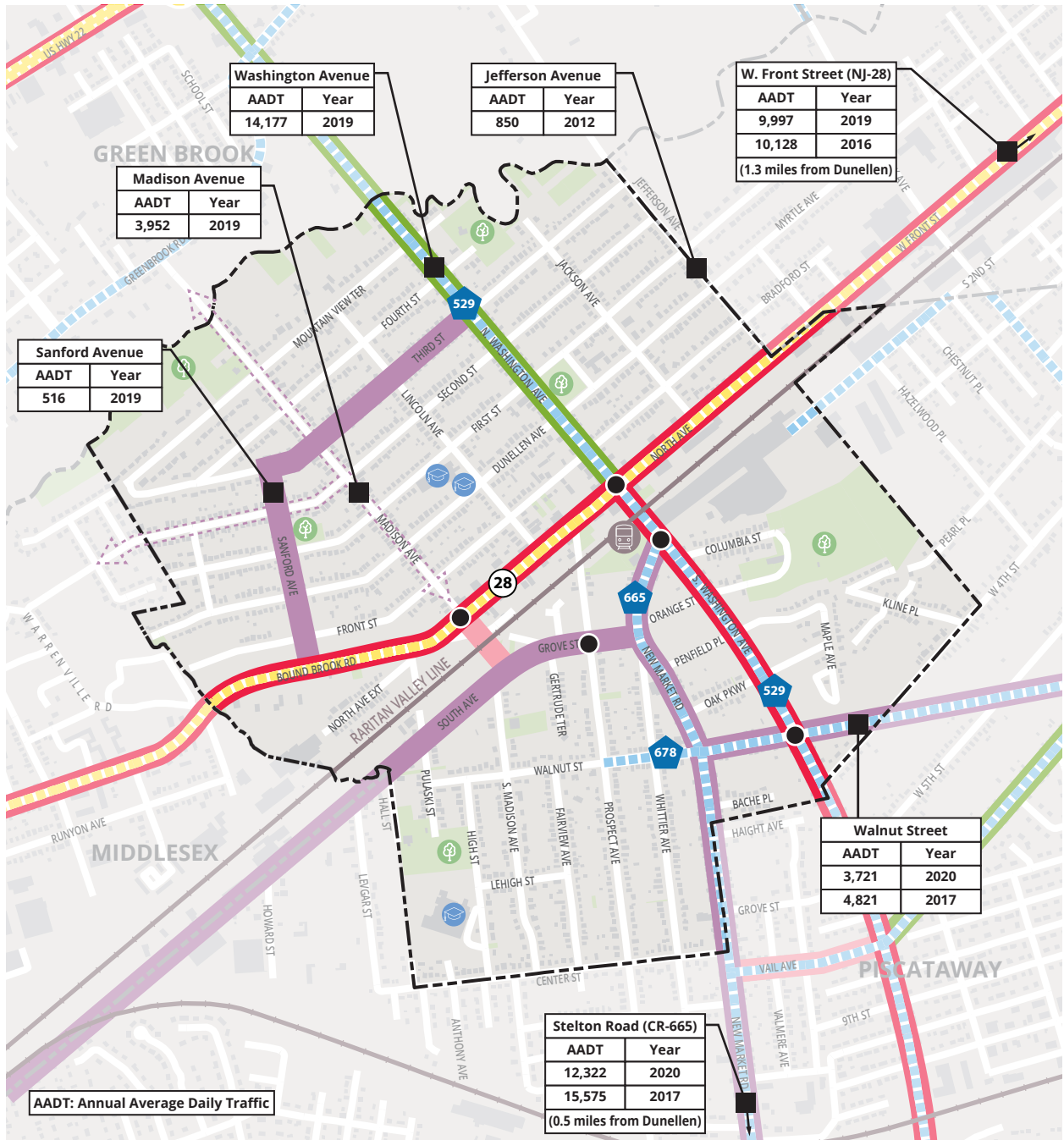


**HISTORICAL PHOTO**

Bicyclists on North Avenue, date unknown.

*Credit: Dunellen Historical Society.*

Map 2.5: Dunellen Street Network



**STREET JURISDICTION**

- Municipal
- County
- NJDOT

**FUNCTIONAL CLASSIFICATION**

- Local
- Urban Principal Arterial
- Urban Minor Arterial
- Urban Major Collector
- Urban Minor Collector

**OTHER**

- Traffic Signal
- Traffic Count Location
- Suspected Collector Street



## Collector and Arterial Streets

The remainder of the network is made up of collector or arterial streets under municipal, county, or state jurisdiction.

North Avenue and Bound Brook Road are both part of New Jersey Route 28 (NJ-28), a state highway that is roughly 26 miles long, running east-west, and connecting downtown and commercial areas from Somerville to Elizabeth. In Dunellen, NJ-28 serves roughly 10,000 vehicles on a daily basis, also accommodating bus transit and delivery vehicles serving the local businesses.

NJ-28 in Dunellen is also a destination unto itself, serving as Dunellen's main commercial street with a range of shops and eateries and aesthetically improved streetscape with wide sidewalks, trees, lighting, and furnishings.

Washington Avenue is part of the 10.5-mile County Route 529 (CR-529), running north-south from Edison to Warren. In Dunellen, CR-529 serves roughly 14,000 vehicles per day, and it is likely that many of those vehicles are connecting between Interstate 287 (I-287) south of Dunellen and U.S. Highway 22 (US-22) or Interstate 78 (I-78) north of Dunellen.

North Avenue (NJ-28) and Washington Avenue (CR-529) intersect in downtown Dunellen. From this intersection, the aesthetically improved streetscape continues north for one block on Washington Avenue (CR-529) where several business are located. This is an important location to consider pedestrian and bicyclist safety for those traveling to and from Dunellen Train Station, bus stops, downtown, or other destinations.

New Market Road (CR-665), Walnut Street (CR-678), and Grove Street/South Avenue connect to surrounding communities and have a higher traffic volume and truck mix.

Although Third Street and Sanford Avenue are classified as urban major collectors, they may exhibit lower traffic volume than nearby Madison Avenue and Second Street. Both Madison Avenue and Second Street are classified as local; however, they connect to collectors/arterials in neighboring towns with access to US-22, and function as collector streets in a residential context.



**WASHINGTON AVENUE (CR-529)**



**MADISON AVENUE**

## Traffic Signals

There are five traffic signals in Dunellen. Table 2.2 provides an inventory of the five traffic signals and features related to safety or accessibility. The newest signal, located on South Washington Avenue (CR-529) at New Market Road (CR-665), was installed in 2022 in association with The Nell at Dunellen Station development (former Art Color site). Located adjacent to Dunellen Train Station and a major bus stop, this signal is notable for the clarity of its pedestrian pushbuttons, countdown signal heads, and audible instructions. These are features that have the potential to be replicated at the other traffic signals throughout the borough.



### PEDESTRIAN PUSHBUTTONS

Location: South Washington Avenue (CR-529) at New Market Road (CR-665).

**Table 2.2: Traffic Signal Inventory**

Signal Location	Pedestrian Pushbuttons	Pedestrian Signal Heads	Pedestrian Countdowns	Audible Instruction	Leading Pedestrian Interval	Backplates with Reflective Borders
North Avenue (NJ-28) and Madison Avenue	Crossing NJ-28 and the south crosswalk of Madison Avenue	Yes	Yes	No	No	No
North Avenue (NJ-28) and Washington Avenue (CR-529)	Crossing NJ-28	Yes	No	No	No	No
Washington Avenue (CR-529) and New Market Road (CR-665)	All crosswalks	Yes	Yes	Yes	No	No
Washington Avenue (CR-529) and Walnut Street (CR-678)	Crossing CR-529	Yes	No	No	No	No
Prospect Avenue and Grove Street	Not present	No	No	No	No	No

## Crashes

Crash data from the New Jersey Division of Highway Traffic Safety's Numeric Crash Tool for the five-year period of 2017-2021 was used in this assessment. (Note that this data only represents crashes that were reported and does not include data from hospital records or crashes unreported to authorities).

Map 2.6 indicates the location and severity of crashes in Dunellen. During the five-year period, there were 530 total crashes recorded, with zero fatalities. Of those, 21 crashes affected a pedestrian or bicyclist. These crashes are identified on Map 2.6 and keyed to Table 2.3 with additional information.

## Trends

Based on the crash data, the following trends were identified relevant to active transportation.

### ***Proximity to Busy Corridors***

- 74 percent of all crashes (390 total) were recorded along North Avenue/Bound Brook Road (NJ-28) or Washington Avenue (CR-529), or along an approach within 50 feet of the centerline of those corridors.
- 86 percent of crashes that affected a pedestrian or bicyclist (18 total) were recorded within 50 feet of North Avenue/Bound Brook Road (NJ-28) or Washington Avenue (CR-529).

### ***Proximity to Intersections***

- 57 percent of all crashes (302 total) were recorded within 50 feet of any intersection.
- 86 percent of crashes that affected a pedestrian or bicyclist (18 total) were recorded within 50 feet of any intersection. This includes 15 within 50 feet of intersections along North Avenue/Bound Brook Road (NJ-28) or Washington Avenue (CR-529).

### ***Proximity to Transit***

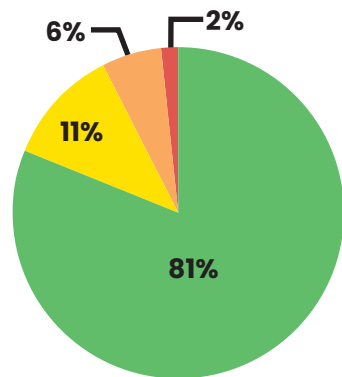
- 81 percent of crashes that affected a pedestrian or bicyclist (17 total) were recorded within 150 feet of a bus route.
- 57 percent of crashes that affected a pedestrian or bicyclist (12 total) were recorded within 500 feet of Dunellen Train Station.

### ***Distracted Driving***

- 67 percent of crashes that affected a pedestrian or bicyclist (14 total) were recorded with distracted driving as a contributing factor.

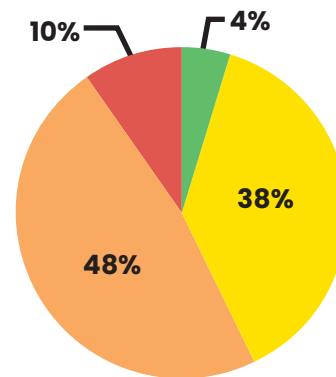
## Vulnerable Road Users

Pedestrians and bicyclists are vulnerable road users because when they are affected by motor vehicle crashes, they are more likely to experience a higher level of injury. Using Dunellen's crash data, the charts below illustrate how this trend affects pedestrians and bicyclists at the local level.



**MOTOR VEHICLE CRASHES  
BY SEVERITY**

2017-2021 in Dunellen  
(509 Crashes)



**PEDESTRIAN OR BICYCLIST  
CRASHES BY SEVERITY**

2017-2021 in Dunellen  
(21 Crashes)

**KEY:**

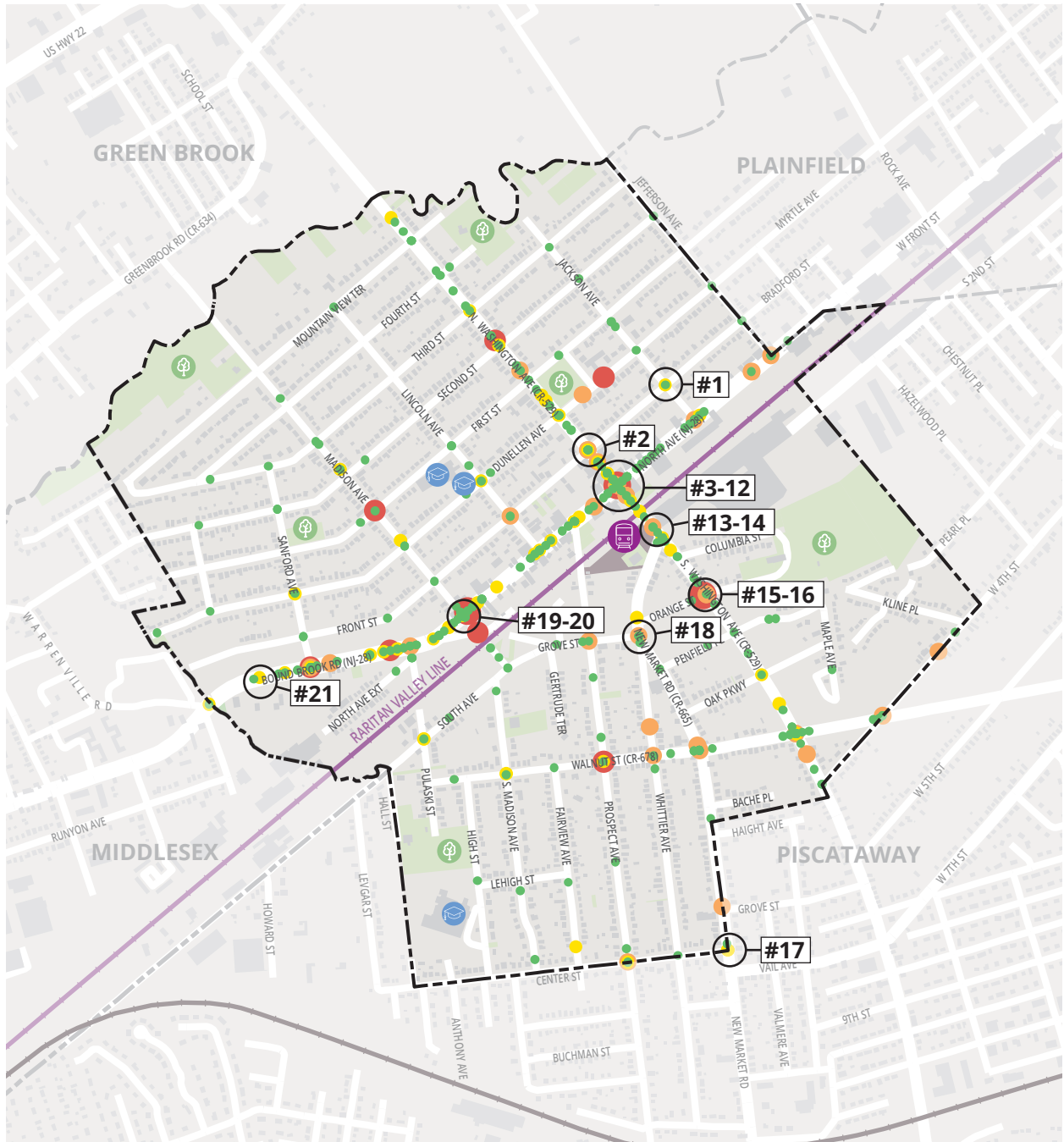
- Suspected Serious Injury
- Suspected Minor Injury
- Possible Injury
- No Apparent Injury

## Considerations

Based on observed trends, the following could be considered by the Borough of Dunellen for an active transportation network:

- Integrate [FHWA Proven Safety Countermeasures](#) in the street network to benefit all travel modes.
- Emphasize the safety and visibility of pedestrian and bicyclists at intersections.
- Take a proactive, comprehensive approach to bicycle and pedestrian safety and mobility along high-traffic, high-crash corridors such as North Avenue/Bound Brook Road (NJ-28) and Washington Avenue (CR-529).
- Consider traffic calming, enforcement ([such as high-visibility cell phone and text messaging enforcement](#)), or other [countermeasures](#) to help reduce distracted driving.

**Map 2.3: Crashes by Severity, 2017-2021**
























**CRASH SEVERITY**

- Suspected Serious Injury
- Suspected Minor Injury
- Possible Injury
- No Apparent Injury

# Pedestrian or bicycle crash location  
 Additional detail in Table 2.3



**Table 2.3: Crashes Affecting Pedestrians and Bicyclists, 2017-2021**

Location	Type	Severity	Date	Time	Light	Contributing Factors	
North Avenue (NJ-28) and Washington Avenue (CR-529)	1		Possible Injury	12/11/2019	7:51 AM	Daylight	Distracted Driving, Unsafe Speed
	2		Suspected Minor Injury	8/16/2017	8:10 PM	Dark, Street Lights On	Distracted Driving
	3		Possible Injury	1/11/2017	2:10 PM	Daylight	Distracted Driving
	4		Possible Injury	1/23/2017	8:06 PM	Dark, Street Lights On	
	5		Possible Injury	9/15/2017	6:51 PM	Daylight	
	6		Suspected Minor Injury	2/25/2017	6:21 PM	Dark, Street Lights On	
	7		Suspected Minor Injury	5/3/2017	7:48 AM	Daylight	Distracted Driving
	8		Suspected Minor Injury	5/10/2017	8:48 PM	Dark, Street Lights On	Distracted Driving
	9		Suspected Minor Injury	12/14/2018	6:32 AM	Dusk	Distracted Driving
	10		Suspected Minor Injury	8/7/2020	7:20 PM	Dusk	Alcohol Related
	11		Suspected Minor Injury	3/12/2021	4:54 PM	Daylight	
	12		Suspected Serious Injury	10/26/2019	9:48 AM	Daylight	Distracted Driving
	13		Possible Injury	5/3/2019	12:20 AM	Dark, Street Lights On	
	14		Suspected Minor Injury	11/14/2019	8:35 PM	Dark, Street Lights On	
	15		Suspected Minor Injury	10/8/2018	3:45 PM	Daylight	Distracted Driving
	16		Suspected Serious Injury	4/5/2017	10:48 PM	Dark, Street Lights On	Distracted Driving, Unsafe Speed, Drugged Driving, Alcohol Related
	17		Possible Injury	1/17/2021	7:26 PM	Dark, Street Lights On	Distracted Driving
	18		Suspected Minor Injury	3/20/2019	6:37 AM	Dawn	Distracted Driving
	19		No Apparent Injury	1/11/2021	7:00 AM	Dawn	Distracted Driving
	20		Possible Injury	10/7/2019	1:53 PM	Daylight	Distracted Driving
	21		Possible Injury	3/18/2018	11:46 PM	Dark, Street Lights On	Distracted Driving, Alcohol Related

# Active Transportation Conditions

The following notes and facilities indicated on Map 2.7 provide a high-level overview of pedestrian and bicycle facilities in Dunellen. The Borough of Dunellen has installed recent improvements that emphasize pedestrian and bicyclist mobility, comfort, and safety. The improvements, documented on Photo Panels 2.2 and 2.3 on the pages that follow, provide a basic framework that can be replicated over additional streets in the borough to provide a safe, accessible, convenient, and connected network.

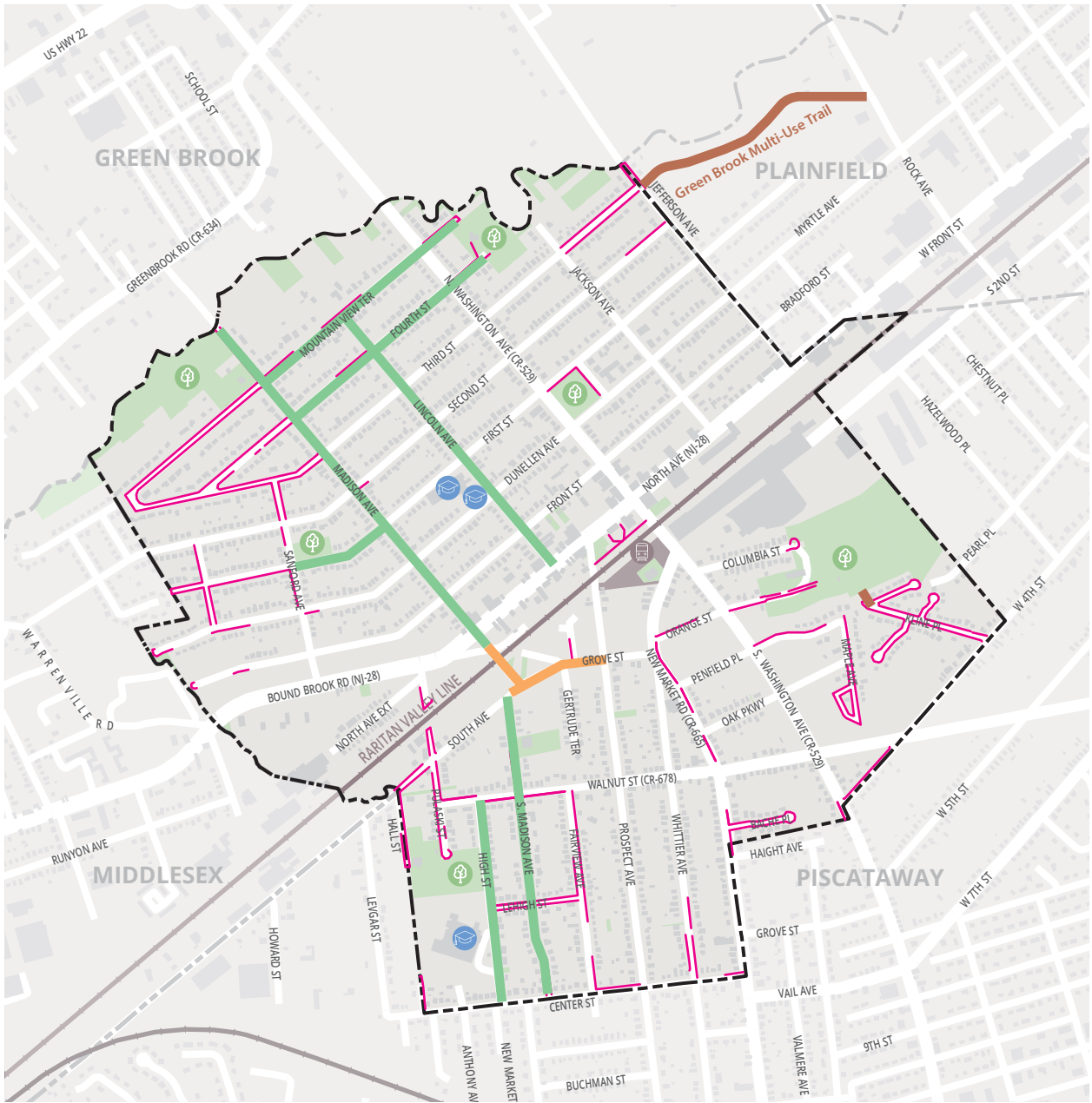
## Pedestrian

- Dunellen has a largely complete sidewalk network covering most streets in the core of the town and about 65 percent of street frontages overall.
- Sidewalk quality varies throughout the borough.
- Where present, most streets provide a 4-foot-wide sidewalk.
- Wider sidewalks are provided within the commercial/downtown area.
- Shade trees are prevalent on residential streets, but less so on commercial streets.
- Crosswalk conditions vary throughout the borough. Some intersections have high-visibility striping, while others have none at all.
- The provision, condition, and ADA compliance of curb ramps vary throughout the borough.
- Pedestrian improvements (including upgrades to the sidewalks, curb ramps, and high-visibility crosswalks) were constructed along Lincoln Avenue during the summer of 2022.

## Bicycle

- In recent years, the borough has been proactively working to improve active transportation safety and mobility.
- Bike lanes have been striped along portions of Madison Avenue and Grove Street.
- Bike boulevard treatments (shared lane markings and speed limit indications) have been striped along South Madison Avenue, Madison Avenue, Lincoln Avenue, and other streets as indicated in Map 2.7
- Bike parking is lacking at key destinations throughout the borough.

## Map 2.7: Existing Active Transportation Facilities



### LEGEND

- Missing Sidewalk
- Existing Bicycle Boulevard
- Existing Bike Lane
- Existing Trail



## Photo Panel 2.2: Positive Pedestrian Accommodation Examples



**CURB RAMP RECONSTRUCTION**



**CROSSWALK VISIBILITY ENHANCEMENTS**



**SIDEWALK, CURB, AND CURB RAMP RECONSTRUCTION**



**DAYLIGHTED CORNER**



**POP-UP PARK**



**FOOD TRUCKS**

Photo Panel 2.3: Positive Bicycle Accommodation Examples



**BIKE LANE ON GROVE STREET**



**BIKE LANE ON MADISON AVENUE**



**BIKE BOULEVARD ON SOUTH MADISON AVENUE**



**BIKE BOULEVARD LINCOLN AVENUE**



**BIKE PARKING AT FABER SCHOOL**



**TRAIL CONNECTION ON JEFFERSON AVENUE**

# Active Transportation Opportunities

Given its compact area and land use, grid layout, flat topography, and central downtown with transit access, Dunellen has the fundamental characteristics of a walkable and bikeable community. Building on these characteristics, the following opportunities may be considered by the Borough of Dunellen to support and expand a safe, accessible, continuous, and connected active transportation network into the future.

- **Dunellen is made for active transportation.** The grid layout of residential streets predates the automobile and was laid out at a time when walking was the way to get around. Take advantage of this inheritance to continually support pedestrian infrastructure and the development of a bicycle boulevard and bikeway network.
- **Redevelopment is happening in Dunellen.** Include active transportation accommodations in all redevelopment projects. Emphasize connectivity and look for new ways to create connections without relying solely on street rights-of-way.
- **Downtown Dunellen has a lot to offer.** Encourage walking and biking as healthy, economical, and fun ways to travel downtown, visit local businesses, and support local economic prosperity.
- **Bike Parking is scarce.** Provide bike parking to support economic activity downtown and access to key destinations around town, such as schools and parks.
- **Dunellen Train Station is an asset.** Encourage walking and biking as ideal ways to travel to and from Dunellen Train Station.
- **Safety is proactive.** Continue the proactive approach to active transportation safety initiated by the Mayor's Traffic and Pedestrian Task Force.
- **Progress is ongoing.** Continue street improvement projects that address sidewalk conditions, close gaps in sidewalks, upgrade curb ramps to ADA compliance, and employ low-cost measures such as pavement striping to bring attention to the presence of bicyclists and achieve a traffic calming effect.
- **Intersections are where most crashes affecting pedestrians or bicyclists occurred.** Employ measures to prioritize pedestrian and bicyclist safety and visibility at intersections.
- **Accommodate all travelers.** Streets with patterns of speeding, high traffic volume, and frequent trucks act as barriers to walking and biking. Coordinate with Middlesex County and the New Jersey Department of Transportation on a Complete Streets approach to balance the needs and accommodations for pedestrians and bicyclists with those of motorists on the streets in their jurisdictions.

## Photo Panel 2.4: Active Transportation Opportunities



**ENCOURAGE ACTIVE TRANSPORTATION**



**IMPROVE INTERSECTION CONDITIONS**



**CONTINUE TO DEVELOP THE BIKE BOULEVARD AND BIKEWAY NETWORK**



**CONTINUE SIDEWALK REPAIR AND REPLACEMENT**



**FORMALIZE DOWNTOWN BIKE PARKING**



**ACCOMMODATE ALL TRAVELERS**

## Shout-Out to Shade Trees

Dunellen's tree-lined streets are an asset for active transportation, enhancing the sidewalks with shade, beauty, and separation from traffic. Maintaining this appeal in the long term is an ongoing effort that benefits the community in a number of ways. The [Dunellen Shade Tree Commission](#) is in charge of the regulation, planting, and care of trees in the municipal right-of-way and parks.



**1909 POSTCARD DUNELLEN AVENUE LOOKING EAST**

*Credit: Dunellen History Project on Facebook.*



**2022 PHOTO OF DUNELLEN AVENUE LOOKING WEST**

# 3

## Community Engagement Summary

# Community Engagement Process

Community engagement is essential to empower residents to voice their experiences, preferences, and hopes for the future, while helping the NJ TRANSIT Study Team better understand the daily experience traveling around town. Key components of community engagement for this study were a public input survey, community events, and meetings with a Technical Advisory Committee and the Mayor’s Traffic and Pedestrian Task Force



**COMMUNITY ENGAGEMENT**  
Marking up maps and recording insights.

## Public Input Survey

The survey was coordinated with the Borough of Dunellen’s other planning initiatives and administered through the municipal website in English and Spanish. Eight questions focused on transportation preferences, walking, and bicycling. Responses provided insight into local active transportation obstacles and the improvements residents would like to see, such as traffic calming, safe bikeways, and secure bicycle parking, along with improved sidewalk conditions, crosswalks, and lighting.



## Meetings

The NJ TRANSIT Study Team met with a Technical Advisory Committee and the Mayor’s Traffic and Pedestrian Task Force to discuss the study findings and recommendations. These meetings collected insight from local stakeholders and representatives from other government organizations.

**Technical Advisory Committee**  
September 20, 2022  
April 11, 2023

**Mayor’s Traffic & Pedestrian Task Force**  
November 3, 2022

## Community Events

The NJ TRANSIT Study Team engaged residents at community events to discuss issues, identify locations with safety concerns, and discover ideas for improving active transportation. NJ TRANSIT provided tablets to participate in the online survey (along with paper copies), giveaways (sunglasses, pens, and hand sanitizer), Spanish translation, and a coloring station for children.



**TRAIN STATION OUTREACH**  
August 18, 2022.



**MUSIC IN THE PARK OUTREACH**  
August 18, 2022.



**COMMUNITY OPEN HOUSE**  
September 14, 2022.



**HARVEST FEST OUTREACH**  
October 9, 2022.

## Key Findings

*Where do you like to walk or bike in Dunellen? Where is it dangerous to walk or bike? What active transportation facilities or improvements will work for your town? What changes do you want to see?*

These are examples of the questions used to prompt discussion and ideas through community outreach. Key findings from the process are summarized in the maps and infographics in the remainder of this chapter.

# Community Outreach Graphics: Safety Issues

Map 3.1: Barriers to Walking or Biking in Dunellen



**Streets that feel unsafe, especially due to speeding**

**Streets that create barriers to walking or biking**

**★ Intersections or locations that feel unsafe**





**Cars don't stop**

**Faded crosswalks**

**Commercial trucks cut through residential streets**

**Difficult to walk to school**

**Dangerous bend in New Market Road**

**Washington Avenue is a barrier and feels like a highway**

**Nobody stops**

**Difficult to get to Columbia Park**

**Drag racing on Dunellen Avenue**

**Station area is all stairs**

**Drivers don't respect pedestrians**

**Lack of trees**

**Speeding**

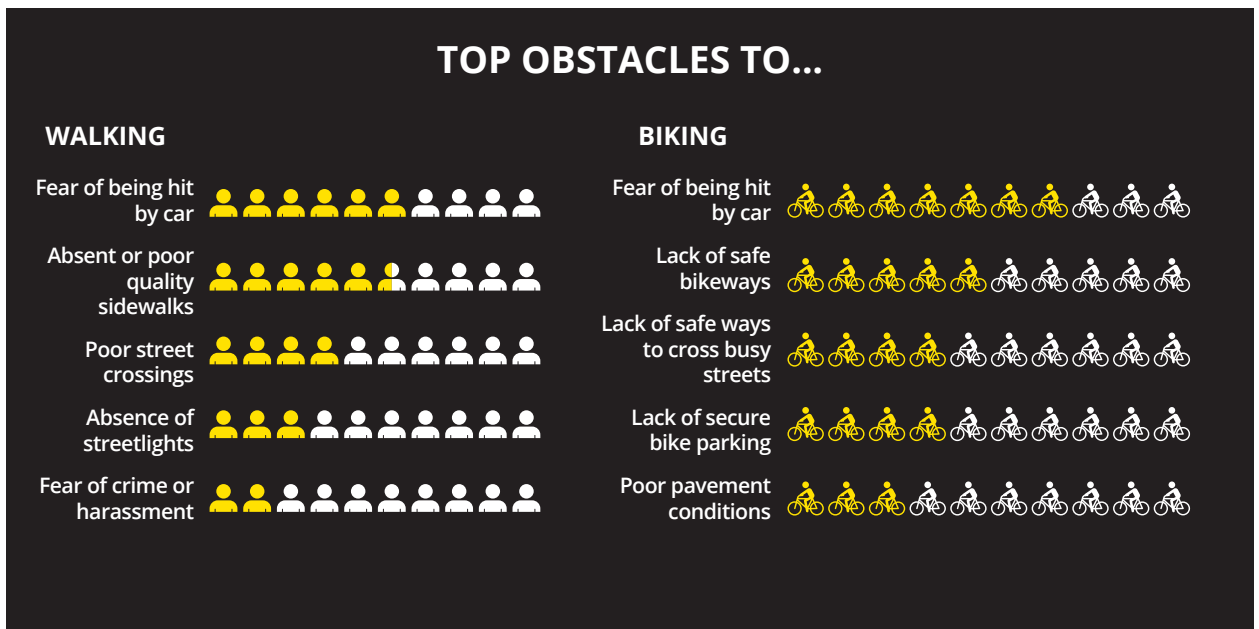
**Incomplete sidewalks**

**Dangerous to walk at twilight and at night**

**Bumpy uneven sidewalks**

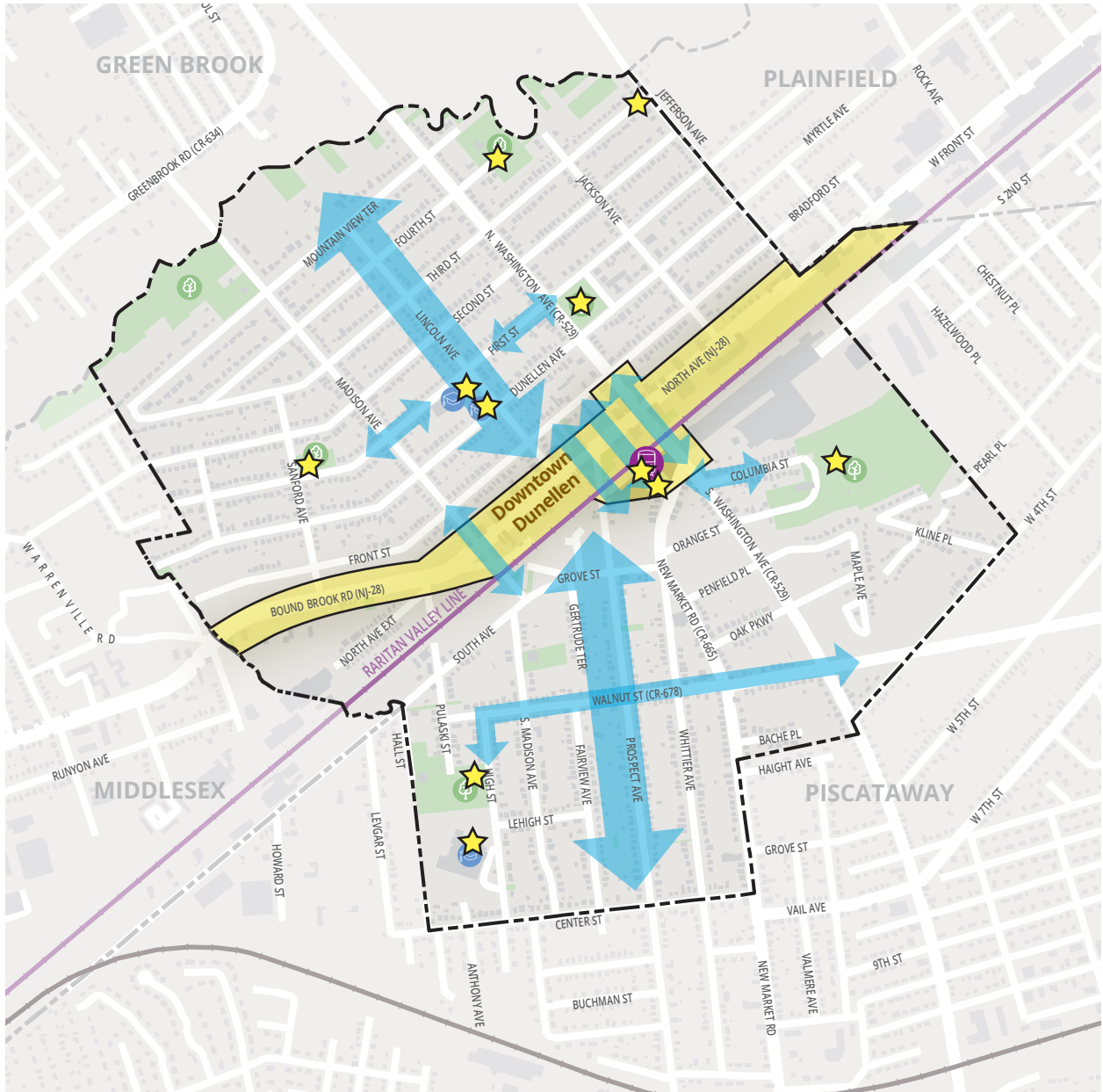
**People drive too fast**



**Enforce 4-ton limits**



# Community Outreach: Vision for Active Transportation

Map 3.2: Community Destinations and Connectivity



- 
**Key destinations for walking or bicycling**
- 
**Directional need for pedestrian or bicycle connectivity**

0 0.25 Miles



# Infographic: Encouraging Active Transportation in Dunellen



## Need traffic calming

Curb extensions

Speed humps

More street trees

Raised crosswalks

Complete sidewalks

Lighting Parklets

Radar feedback signs

Bike parking

Signs and pavement markings

Rain gardens and green infrastructure

# Dunellen is a walking town

Two-hour walks around town

Bike lanes

Speed cushions

Bicycle and pedestrian bridge at Jefferson Ave

Signals that work better for pedestrians

high-visibility crosswalks

Walk or bike to...

Trail along the Green Brook

- ...Columbia Park
- ...Train station
- ...School
- ...Downtown
- ...Library
- ...Visit neighbors
- ...Convenience store
- ...Washington Park
- ...Work
- ...Basketball courts
- ...Green Brook

Crossing beacons

Drop-off location north of the train station

## TOP IMPROVEMENTS TO ENCOURAGE...

### WALKING

- Improve sidewalk condition
- Safe crosswalks at intersections
- Lighting along sidewalks
- Expand the sidewalk network
- Benches, trees, and shade
- Safe crosswalks at mid-block

### BIKING

- Slow down cars traveling on roads
- Provide safe ways to cross busy streets
- Provide physically separated bike facilities
- Provide secure bike parking
- Provide more on-street bicycle lanes



# 4

## Recommendations

# Recommendations

## Introduction

This chapter presents recommendations to the Borough of Dunellen for improving the active transportation network. Map 4.1 and the accompanying Table 4.1 on the following page provide an overview of the active transportation recommendations.

All recommendations are provided for consideration by the Borough of Dunellen, independent of NJ TRANSIT. The recommendations are presented at a planning level and would require appropriate engineering design, permitting, or other necessary approvals prior to implementation by the Borough. The Borough should anticipate additional coordination with the state or county depending on the jurisdiction of the roadway. Additional community outreach is encouraged prior to implementation.

The recommendations are distinguished as either near-term or long-term considerations, depending on the estimated time needed to implement. The near-term considerations depend mostly on signing, striping<sup>1</sup>, and limited construction activities, such as installation of solar-powered Rectangular Rapid Flashing Beacons (RRFBs).

The long-term considerations require more extensive design and construction work, and thus would take longer to implement.

The remainder of this chapter is divided into three sections covering Design Guidance, Priority Routes, and a Preliminary Planning Concept, with each section providing an additional level of detail.

### Design Guidance

This section filters design guidance from national and state resources and relates it to the context of Dunellen.

### Key Routes

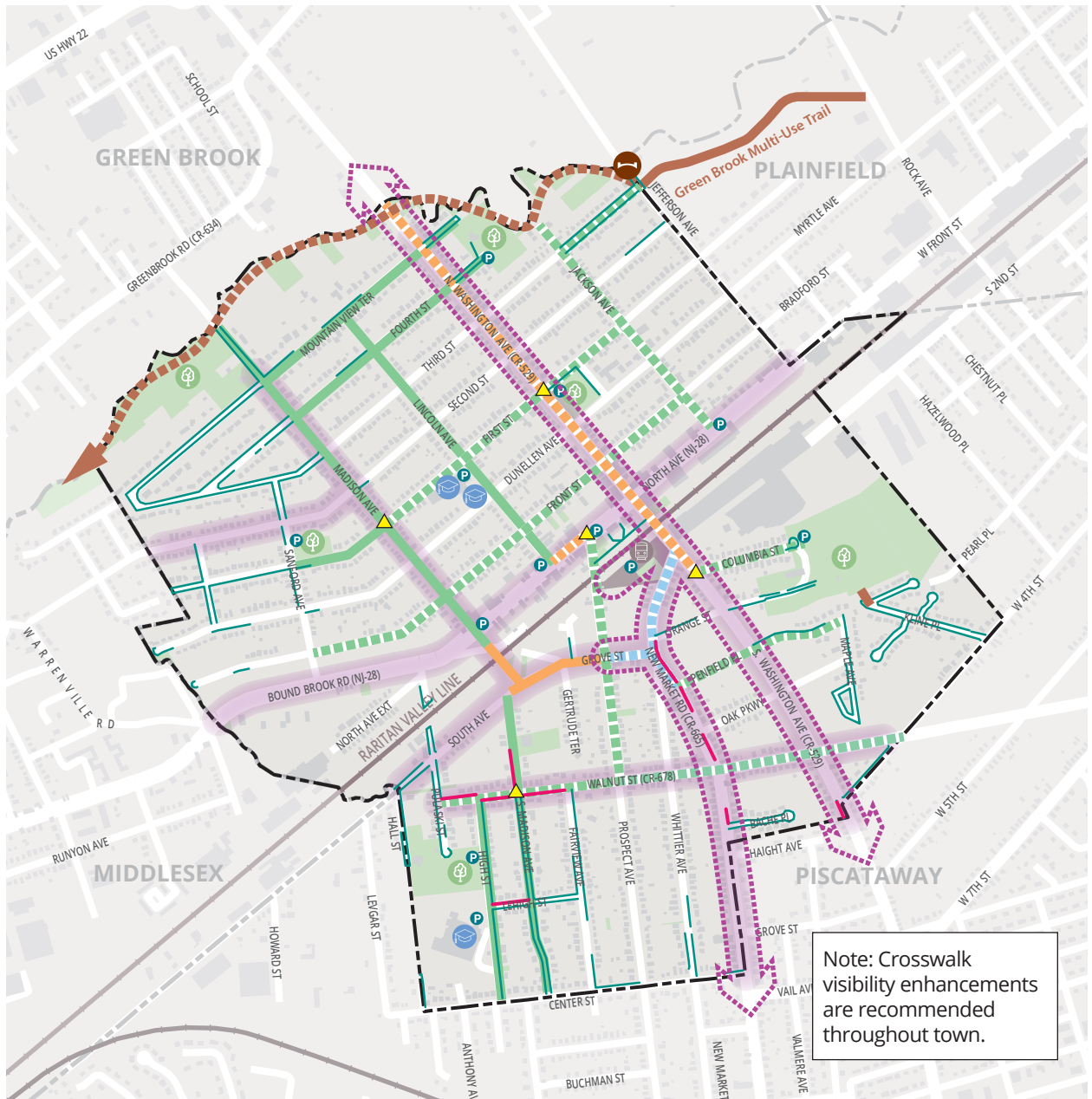
This section illustrates how the recommendations and design guidance may be applied to specific streets in the borough.

### Preliminary Planning Concept

This section details a set of improvements to be considered along Walnut Street and Prospect Avenue to support access to Dunellen Train Station and Faber Elementary School.

<sup>1</sup> Note that crosswalk visibility enhancements are recommended at all intersections throughout the borough, and are therefore not displayed on the map.

# Map 4.1: Pedestrian & Bicycle Network Improvements



- |  |  |
|--|--|
| <p><b>EXISTING</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">—</span> Bicycle Boulevard</li> <li><span style="color: orange;">—</span> Bike Lane</li> <li><span style="color: brown;">—</span> Trail</li> </ul> | <p><b>NEAR-TERM CONSIDERATIONS</b></p> <ul style="list-style-type: none"> <li><span style="color: pink;">—</span> Priority Sidewalk Completion</li> <li><span style="color: yellow;">▲</span> Rectangular Rapid Flashing Beacon</li> <li><span style="color: blue;">- - -</span> Shared Lane Markings</li> <li><span style="color: purple;">- - -</span> Bicycle Boulevard</li> <li><span style="color: brown;">- - -</span> Trail</li> </ul> <p><b>LONG-TERM CONSIDERATIONS</b></p> <ul style="list-style-type: none"> <li><span style="color: teal;">—</span> Phased Sidewalk Completion</li> <li><span style="background-color: lightpurple; border: 1px dashed purple; padding: 2px;"> </span> Traffic Calming</li> <li><span style="border: 2px dashed purple; padding: 2px;"> </span> Bike Accommodation</li> <li><span style="color: orange;">- - -</span> Bikeways</li> <li><span style="color: blue;">P</span> Bicycle Parking</li> <li><span style="color: brown;">●</span> Bicycle &amp; Pedestrian Bridge</li> </ul> |
|--|--|

Note: Descriptions of recommendations listed in the map key are provided in Table 4.1.



**Table 4.1: Active Transportation Recommendations**

Recommendation	Description
Near-Term Considerations	
Priority Sidewalk Completion	Fill in sidewalk gaps along key streets providing access to downtown, transit, schools, or parks.
Crosswalk Visibility Enhancements	Consider high-visibility crosswalks, warning signs, lighting, and “daylighted” corners at intersections throughout town.
Rectangular Rapid Flashing Beacons (RRFB)	Consider RRFBs to increase driver awareness and pedestrian conspicuity at priority crossing locations with access to downtown, transit, schools, or parks.
Shared Lane Markings	Consider shared lane markings on the street surface to emphasize the presence and legitimacy of bicyclists as users of the street.
Bicycle Boulevard	Continue to enhance the local, mainly residential street network with pavement markings and signage to support bicyclist mobility. Future consideration of traffic calming measures can further enhance safety along bicycle boulevard routes.
Bikeways	Consider bicycle facilities that dedicate a portion of the street to bicycles.
Bicycle Parking (Municipal)	Consider short-term bicycle parking downtown, and at transit, schools, and parks.
Bicycle Parking (Transit)	Consider long-term, weather-protected bicycle parking for transit riders.
Long-Term Considerations	
Phased Sidewalk Completion	Fill in remaining sidewalk gaps and identify priority locations for sidewalk completion throughout the borough.
Traffic Calming	Consider improving pedestrian safety and livability through measures to reduce vehicle speeds or volumes. Traffic calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing means to produce desired effects.
Bicycle Accommodations	As long-term capital projects emerge and develop over time, consider providing protected or separated bikeways to improve the bicycle mobility network and attract new bicyclists.
Trail	Consider continuing the Green Brook Multi-Use Trail (current terminus at Jefferson Avenue) west through Dunellen, linking with Plainfield, Green Brook, and Middlesex.
Bicycle & Pedestrian Bridge	Consider a bicycle and pedestrian bridge that will link the communities of Dunellen, Green Brook, and Plainfield.

Note: Table 4.1 continues horizontally to the next page.

**Table 4.1 (continued)**

Location(s)	Notes
Intermittent segments along Walnut Street (CR-678), South Madison Avenue, Lehigh Street, New Market Road (CR-665), and South Washington Avenue (CR-529). Refer to Map 4.2.	Coordinate with affected property owners
All marked crosswalks. Recent striping improvement projects in 2021 and 2022 serve as precedent.	
Walnut Street (CR-678) and South Madison Avenue <sup>(a)</sup> South Washington Avenue (CR-529) and Columbia Street North Avenue (NJ-28) and Prospect Avenue or Lincoln Avenue North Washington Avenue (CR-529) and First Street Madison Avenue and First Street	<sup>(a)</sup> May be possible to update existing blinker signs
Grove Street (east of Prospect Avenue) New Market Road (CR-665) (north of Penfield Place)	
Walnut Street (CR-678) <sup>(a)</sup> Prospect Avenue (north of Walnut Street) <sup>(b)</sup> Penfield Place Columbia Street Front Street First Street Jackson Avenue	<sup>(a), (b)</sup> See Preliminary Planning Concept
Bike lanes on North Washington Avenue (CR-529) to Columbia Street <sup>(a)</sup> Bike lanes North Avenue (NJ-28) linking Prospect Avenue and Lincoln Avenue <sup>(b)</sup>	<sup>(a), (b)</sup> See Key Routes
Faber Elementary School / Gavornik Park Dunellen High School / Lincoln Middle School Columbia Park, Morecraft Park, Washington Park, and McCoy Park Dunellen Public Library North Avenue (NJ-28) near Madison Avenue, Lincoln Avenue, Prospect Avenue, and Jackson Avenue <sup>(a)</sup>	<sup>(a)</sup> See Key Routes
Dunellen Train Station	Coordinate with NJ TRANSIT
Numerous streets, refer to Map 4.2	Coordinate with affected property owners
North Avenue / Bound Brook Road (NJ-28) Washington Avenue (CR-529) New Market Road (CR-665) Walnut Street (CR-678) South Avenue / Grove Street Madison Avenue Second Street (west of Madison Avenue)	Implementation of traffic calming measures should take an incremental approach, include public outreach, and use demonstration projects to test potential interventions.
Washington Avenue (CR-529) (protected bike lanes or two-way cycle tracks) New Market Road (CR-665) (traffic calming and shared lane markings) Grove Street, east of Prospect Avenue (bike lanes) Dunellen Train Station Property (10-14' wide path for pedestrians and bicyclists)	
Along the Green Brook watercourse (northern border of Dunellen) connecting to the Green Brook Multi-Use Trail in Plainfield	
Jefferson Avenue at the Green Brook crossing (formerly the site of a vehicular bridge removed for flood control purposes)	

## Programmatic Initiatives

This study focuses on physical improvements to the active transportation network. However, updated municipal policies and local activities can also support safety for pedestrians and bicyclists. As such, Transit Friendly Planning recommends the following list of programmatic initiatives for consideration by the Borough. These recommendations do not represent a comprehensive assessment of Dunellen's programmatic practices, but are documented here for further consideration.

- Adopt a Complete Streets policy (initiated in 2022).
- Formalize the Mayor's Traffic and Pedestrian Task Force as a municipal committee.
- Provide an online mechanism for public reporting of safety incidents and concerns.
- Develop a phased approach to implementation of traffic calming, pedestrian facilities, and bicycle facilities.
- As part of the phased approach, consider pilot projects to test potential measures, gauge efficacy, and collect public input.
- Use the municipal website and community events to provide educational resources on traffic safety and potential changes to the community streets. Initial materials may cover topics like safe pedestrian practices, bicycle boulevards and the meaning of shared lane markings, or the [New Jersey Safe Passing Law](#).
- Continue the walking school bus to encourage children to walk to school.
- Include safe pedestrian behaviors as a component of health curriculum.

## Near-Term / Long-Term Washington Avenue (CR-529)

Washington Avenue (CR-529) has considerations for both near-term and long-term improvements.

In the near-term, there is space for standard bike lanes, five feet wide, striped outside of the parking lanes. This could extend from the Green Brook border to Columbia Street and provide a basic level of bicycle infrastructure, mostly attractive to experienced and confident bicyclists.

In the long-term, the curbs along Washington Avenue are in poor condition and in need of reconstruction. This presents a rare opportunity to redesign the street and install a bicycle facility that is separated from vehicular traffic. Separated facilities are attractive to bicyclists of all abilities and would provide excellent connectivity

to downtown, Dunellen Train Station, and Washington and Columbia Parks.

For more information, see "Key Route: Washington Avenue (CR-529)."



**WASHINGTON AVENUE (CR-529)**

## Design Guidance

This section provides further detail on the recommendations in Map 4.1 with design guidance from national and state resources. Based on the core premise that an active transportation network should be safe, accessible, continuous, and convenient, this design guidance is intended to assist the Borough of Dunellen in considering ways to:

- Support network connectivity to key destinations including downtown, Dunellen Train Station, schools, and parks;
- Capitalize on Dunellen's compact land use patterns and grid of residential streets;
- Integrate findings from the community outreach process;
- Build on the recent investments made by the Borough of Dunellen administration in sidewalk reconstruction and bicycle boulevards; and
- Complement the community context, envisioning both near-term and long-term improvements that support a sense of place, public health, and economic vitality.



## Pedestrian Accommodations

Pedestrians depend on a network that is safe, accessible, continuous, and convenient. Dunellen's existing sidewalk network provides a good starting framework for pedestrian mobility.

### Safety

The Borough of Dunellen may contribute to pedestrian safety by completing the sidewalk network and making pedestrians more visible to motorists at crosswalk locations.

### Accessibility

Accessible places support mobility for people with disabilities. The term *pedestrian access route* is used in the U.S. Access Board ([Proposed](#)) [Public Rights-of-Way Accessibility Guidelines \(PROWAG\)](#) to encompass considerations for pedestrian accessibility within the public-right-of-way, connecting to accessible elements, spaces, and facilities (Section R204).

In a practical sense, pedestrian access routes can be thought of as the network of sidewalks, curb ramps, and crosswalks that enable pedestrians to move around the community, with access to elements such as pedestrian pushbuttons at traffic signals, transit boarding spaces, public gathering spaces, and accessible parking.

### Continuity & Convenience

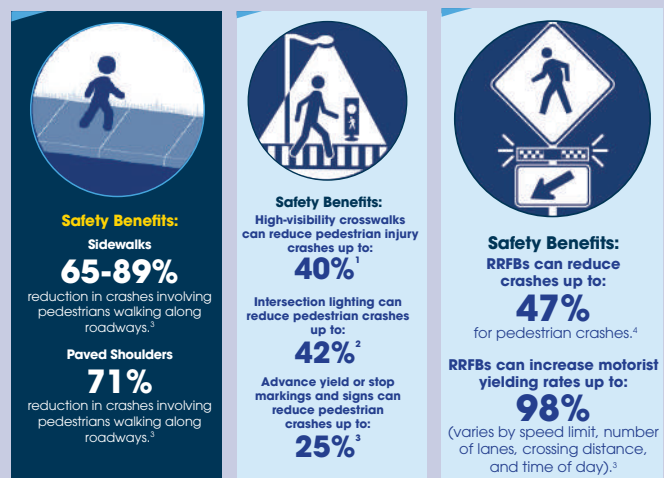
By connecting these safe and accessible routes in a continuous and convenient fashion, walking can grow in appeal and popularity as a way to travel around town.

In Dunellen, key pedestrian accommodations are shown in Map 4.2 and include sidewalks (that include curb ramps), crosswalk visibility enhancements, Rectangular Rapid Flashing Beacons (RRFBs), and traffic signals. Each are described in this section.

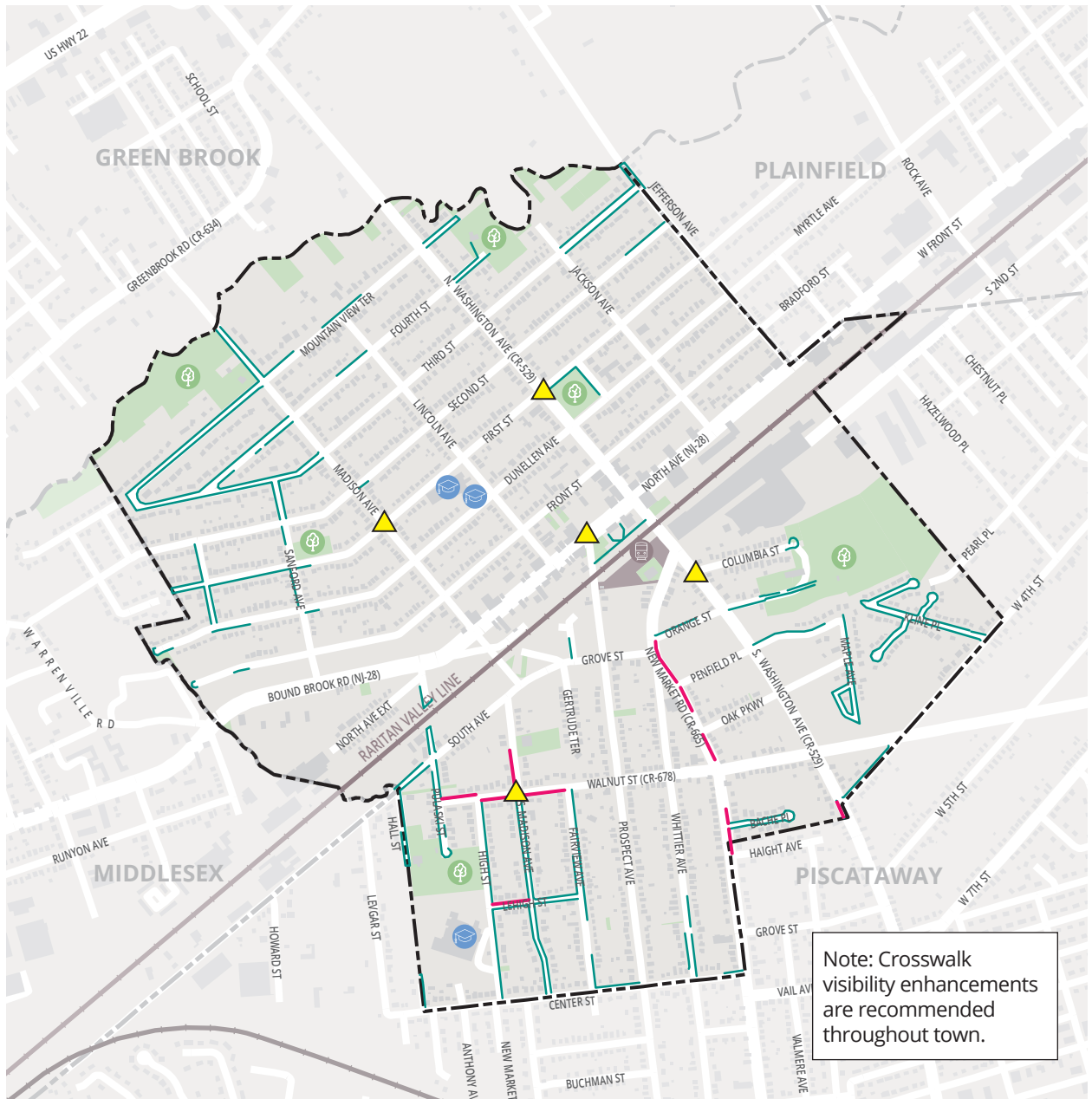
## Proven Safety Countermeasures

The Federal Highway Safety Administration's (FHWA) "Proven Safety Countermeasures (PSC) initiative is a collection of 28 countermeasures and strategies effective in reducing roadway fatalities and serious injuries on our Nation's highways. Transportation agencies are strongly encouraged to consider widespread implementation of PSCs to accelerate the achievement of local, State, and National safety goals."

Several PSCs are recommended for the Borough of Dunellen to consider. For more information, visit the [FHWA Proven Safety Countermeasures website](#).



Map 4.2: Pedestrian Accommodations



**NEAR-TERM RECOMMENDATIONS**

- Priority Sidewalk Completion
- ▲ Rectangular Rapid Flashing Beacon

**LONG-TERM RECOMMENDATIONS**

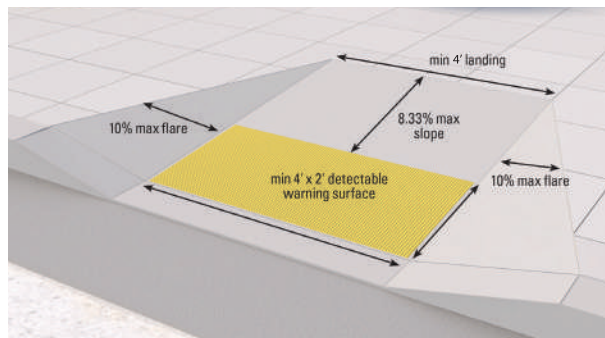
- Phased Sidewalk Completion



## Sidewalks and Curb Ramps

Sidewalks (also termed “walkways”) are recognized by FHWA as a Proven Safety Countermeasure ([FHWA-SA-21-047](#)) capable of reducing pedestrian crashes. Sidewalks and curb ramps, as components of the pedestrian access route, should meet the following technical requirements derived from PROWAG, Chapter R3:

- Sidewalks and curb ramps should provide a continuous clear width of at least 4 feet (R302.3).
- Sidewalks that are less than 5 feet wide should have a passing space at intervals of 200 feet maximum (R302.4).
- The grade (running slope) of a sidewalk within the street right-of-way should not exceed the grade of the street (R302.5.1).
- Curb ramps with detectable warning surface should be provided at each pedestrian street crossing (R207.1). Curb ramps have detailed technical requirements for width, orientation, turning spaces, and slope (R304).
- The cross slope of the sidewalk, curb ramp, or other components of the pedestrian access route should not exceed 1:50 (2%) (R302.6).
- Transit stops should include a level and stable surface for boarding vehicles (R308.1).



### CURB RAMP DETAILS

This drawing indicates the technical requirements curb ramps to be customized to the unique conditions of its location.

*Credit: NJDOT Complete Streets Design Guide, p.119.*



### DIRECTIONAL CURB RAMP

This configuration aligns with the pedestrian direction of travel into a crosswalk.



### APEX-ORIENTED CURB RAMP

This configuration is diagonal and does not line up with the pedestrian direction of travel into the crosswalk.



The utility zone creates opportunities for passing spaces and green infrastructure.

**DOWNTOWN SIDEWALK**  
Example and typical dimensions.

2+ Feet Utility Zone      5+ Feet Pedestrian Zone      2+ Feet Frontage Zone



The utility zone creates opportunities for passing spaces and green infrastructure.

**RESIDENTIAL SIDEWALK**  
Example and typical dimensions.

4+ Feet Pedestrian Zone      2+ Feet Utility Zone



**TRANSIT STOP**  
Example with a concrete boarding surface.

*Credit: Google Streetview.*

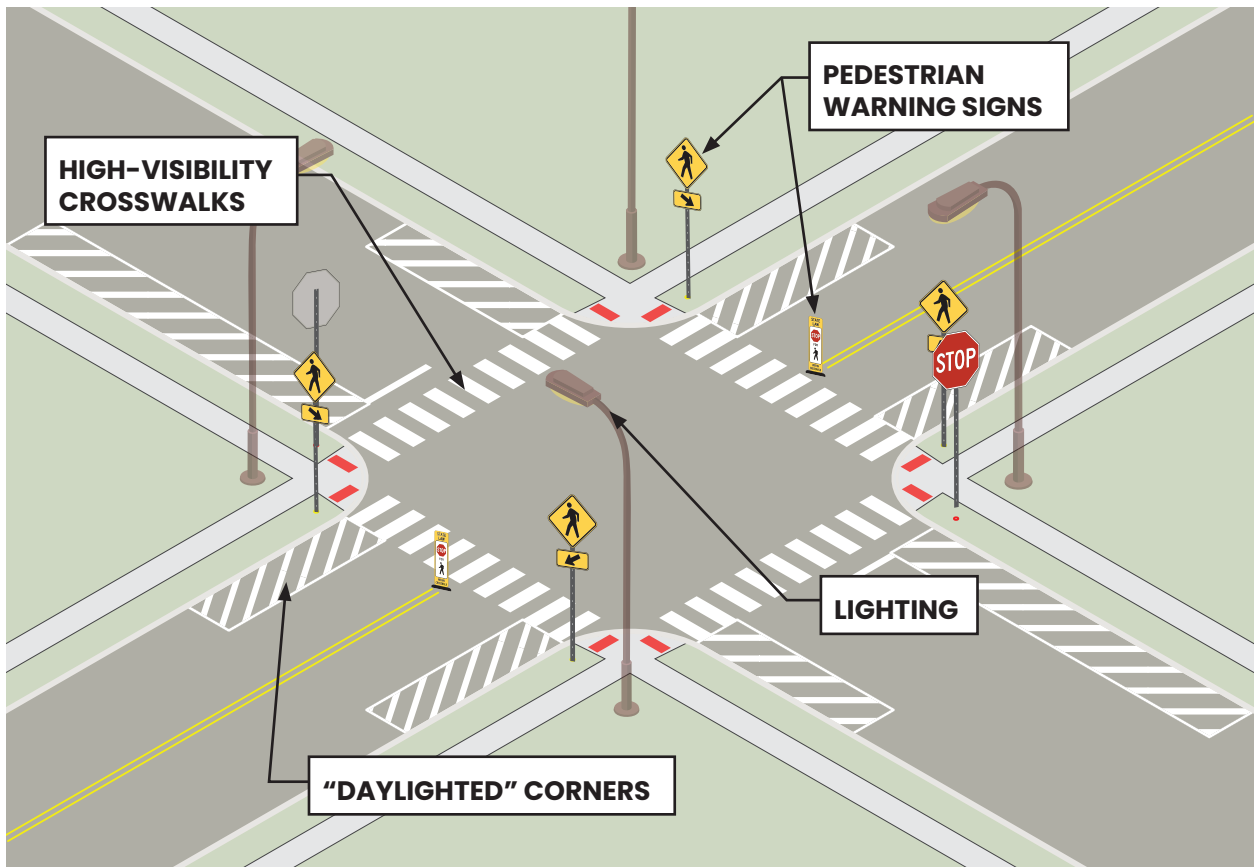
## Crosswalk Visibility Enhancements

Crosswalk visibility enhancements are recognized by the FHWA as a Proven Safety Countermeasure ([FHWA-SA-21-049](#)) capable of reducing pedestrian crashes.

High-visibility crosswalks, pedestrian warning signs, and daylighted corners are low-cost measures to increase pedestrian visibility at crosswalks. Lighting is also an important consideration, especially during winter hours when those who commute by foot are likely to do so in the dark.

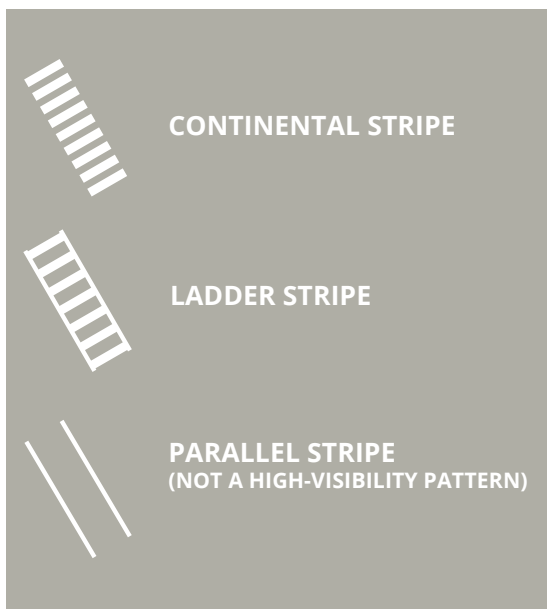


**CROSSWALK VISIBILITY ENHANCEMENTS**



### **CROSSWALK VISIBILITY ENHANCEMENTS**

Orthographic diagram highlighting principal features.



### CROSSWALK PATTERNS

### High-Visibility Crosswalks

Continental or ladder stripe crosswalks are more visible to motorists than parallel stripe crosswalks, improving awareness of potential pedestrian activity.

Not all crossings of an intersection need to be striped. Depending on pedestrian volumes, sidewalk availability, and engineering judgment, striping may be applied to 2, 3, or 4 crossings to best serve pedestrian safety and mobility.

The grade within crosswalks should not exceed 1:20 (5%) (PROWAG R302.5.3) and the cross slope should not exceed 1:50 (2%) (PROWAG R302.6).

### Daylighted Corners

Daylighted corners improve overall visibility at intersections and mid-block crossings by clearly marking the statutory no-parking areas (typically 25 feet from a crosswalk or 50 feet from a stop sign). This discourages illegal parking and maintains a clear sight triangle on the intersection approach.

In Dunellen, the practice of daylighting intersections has been included in recent street reconstruction and striping projects through application of gore striping. This is an economical approach that the Borough should consider implementing at crosswalks throughout the borough. In high-volume areas, the use of vertical delineators and/or a solid field of colored epoxy or polymer cement surface (instead of gore striping) may be considered.

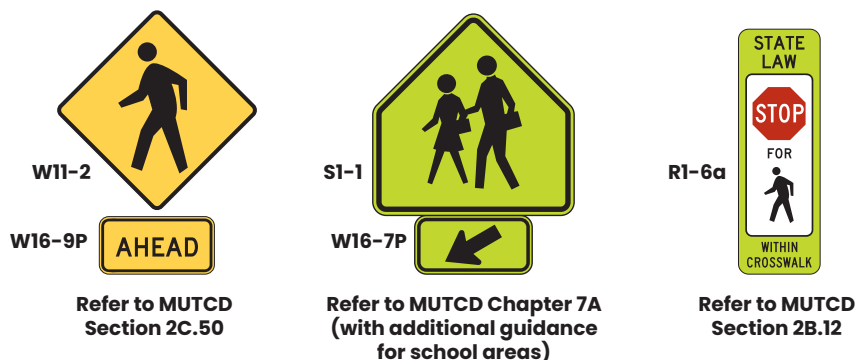


**DAYLIGHTED CORNER**

### Pedestrian Warning Signs

The primary guide for the application of pedestrian warning signs is the *FHWA's Manual on Uniform Traffic Control Devices* (MUTCD). Pedestrian warning signs can be used to indicate the location of crosswalks to motorists at unsignalized pedestrian crossings. The signs can be a standard yellow background color, or a fluorescent yellow-green; but these color options should not be mixed within a site area.

The standard pedestrian sign (W11-2) or school sign (S1-1) can be used in advance of pedestrian crossings, or directly at the crossing location with use of the appropriate supplementary plaques. The in-street pedestrian crossing sign (R1-6a, or variations) can be used at a marked crosswalk and placed on the road centerline, taking care not to impede the crosswalk.



### PEDESTRIAN WARNING SIGNS

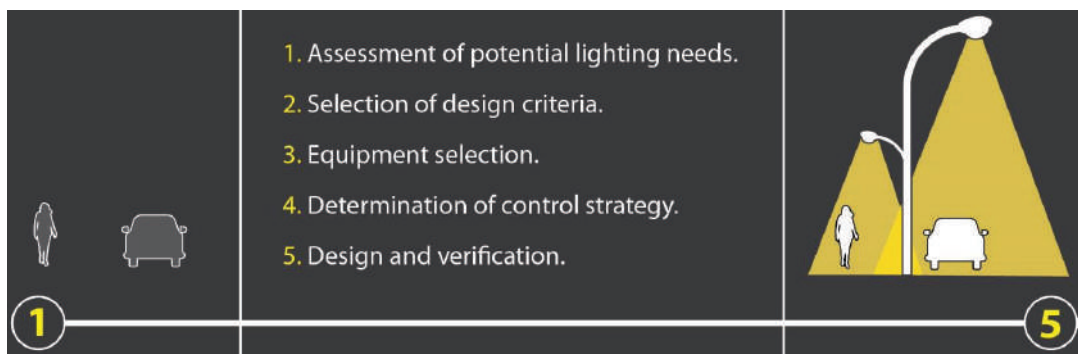
Examples from the MUTCD with reference to additional guidance.

### Lighting

Poor lighting conditions contribute to safety issues for pedestrians and can affect whether people are willing to take a trip by foot. A lighting assessment within Dunellen was beyond the scope of this study; however, community outreach indicated that poor lighting is an issue. It is recommended that the Borough consider lighting improvements as part of future

pedestrian improvement projects. This may include additional public outreach to identify key pedestrian lighting issues and locations, and development of a strategy to mitigate these issues.

Solar-powered lighting can be considered at locations where the costs of hard-wired lighting may be prohibitive.



### PROCESS DIAGRAM FOR LIGHTING UPGRADES

Credit: FHWA Pedestrian Lighting Primer, April 2022.

## Rectangular Rapid Flashing Beacons

Rectangular Rapid Flashing Beacons (RRFBs) are recognized by FHWA as a Proven Safety Countermeasure ([FHWA-SA-21-053](#)) capable of significantly increasing motorist yielding rates and reducing pedestrian crashes.

The device consists of two rectangular yellow indicator lights attached to a pedestrian crossing warning sign. The indicator lights are actuated by a pedestrian wishing to cross the street and flash in an alternating high-frequency pattern. The flashing pattern increases driver awareness and pedestrian conspicuity at uncontrolled crossing locations.

The FHWA has issued an Interim Approval pending formal inclusion in the Manual on Uniform Traffic Control Devices for use of RRFBs ([IA-21](#)).

RRFBs can be solar powered, eliminating the need for a hard-wired power source. The Borough may consider RRFBs at key crossing locations, taking care not to overuse the device throughout town, thus decreasing its effectiveness.



**RECTANGULAR RAPID FLASHING BEACON (RRFB)**

## Traffic Signals

There are five traffic signals in Dunellen, as indicated on Map 4.2. The following considerations have the potential to improve the overall safety and/or accessibility of traffic signals, which is a benefit to all travelers. (Note that these considerations are derived from brief observation of the signals and did not include as-built plan review or traffic analysis).

- Consider a road safety audit (FHWA Proven Safety Countermeasure [FHWA-SA-21-048](#)) along North Avenue (NJ-28) and Washington Avenue (CR-529). These routes display the highest instances of crashes throughout town and account for 4 of the 5 signals in town.
- As part of the road safety audit, evaluate the timing (in sequence), layout, and visibility of the traffic signals.
- Consider how pedestrians experience the use of signals. Do the actuators work? Is there sufficient time to cross? Do turning motorists yield to pedestrians? Can crossing pedestrians clearly see signal indications?
- Consider the approach lane configurations, turning movements, and phasing. Are motorists reasonably accommodated? Is there consistent speeding through the yellow interval?
- Consider pedestrian pushbuttons (or pedestrian detectors) at all signals to cover all crosswalks, with ADA-compliant pushbuttons within reach of curb ramps.
- Consider pedestrian signal heads with countdowns at all signals.
- Consider audible instruction at all signals to assist pedestrians with visual disabilities. This is helpful as cars grow increasingly quiet.
- Consider a leading pedestrian interval (FHWA Proven Safety Countermeasure [FHWA-SA-21-032](#)) at North Avenue (NJ-28) and Washington Avenue (CR-529), enabling pedestrians to enter the crosswalk before vehicles are given a green light.
- Consider adding backplates with retroreflective borders to traffic signal heads (FHWA Proven Safety Countermeasure [FHWA-SA-21-039](#)) to improve the visibility of traffic signals.

**Table 4.2: Traffic Signal Considerations**

Signal Location	Pedestrian Pushbuttons	Pedestrian Signal Heads	Pedestrian Countdowns	Audible Instruction	Leading Pedestrian Interval	Backplates with Reflective Borders
North Avenue (NJ-28) and Madison Avenue	●	●	●	○		○
North Avenue (NJ-28) and Washington Avenue (CR-529)	●	●	○	○	○	○
Washington Avenue (CR-529) and New Market Road (CR-665)	●	●	●	●		○
Washington Avenue (CR-529) and Walnut Street (CR-678)	●	●	○	○		○
Prospect Avenue and Grove Street	○	○	○	○		○

**Key:**

- Existing (keep and maintain)
- Partially Existing (upgrade and maintain)
- Not existing (consider installing)

## Traffic Calming

Map 4.3 identifies a series of streets described through community outreach as problem areas with vehicles consistently speeding at the expense of pedestrian and bicyclist safety and mobility. As such, these streets form a potential priority network to consider traffic calming, defined by the [FHWA Traffic Calming ePrimer](#) as follows:

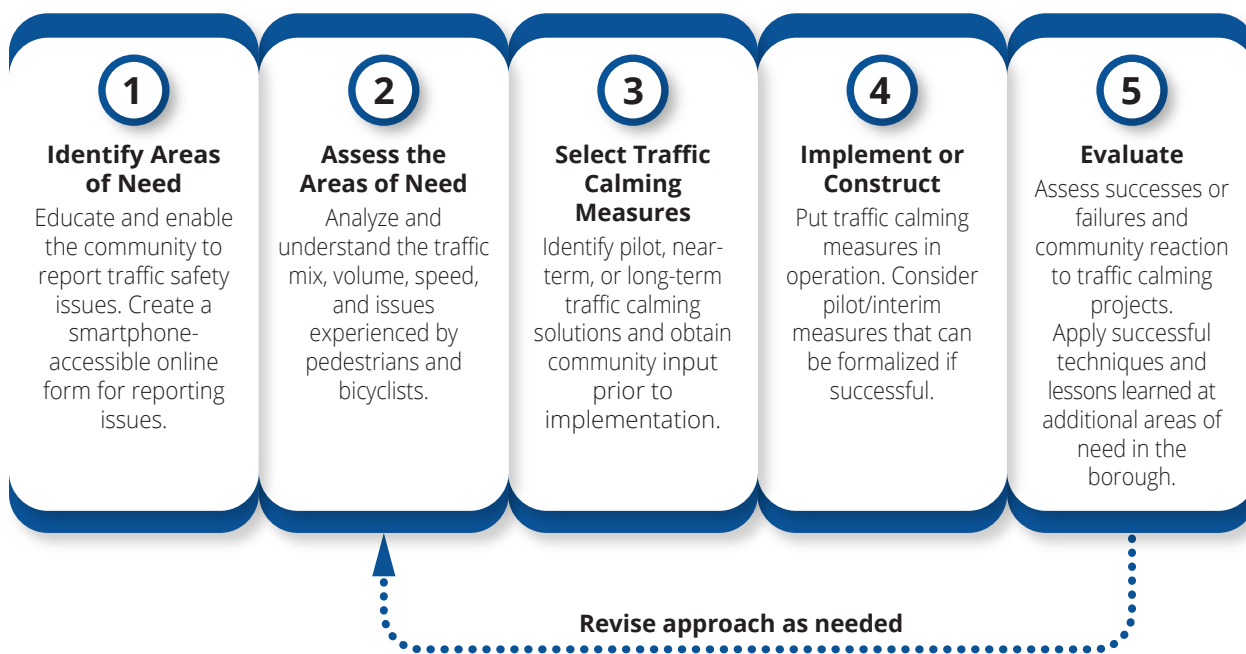
“The primary purpose of traffic calming is to support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Traffic calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing physical or psycho-perception means to produce desired effects.”

Traffic calming requires a context-sensitive and cyclical design approach to balance efficient transportation and a livable, safe environment. A sample process diagram

is provided below. Key to success is analysis of candidate streets to understand traffic patterns and the experiences of pedestrians and bicyclists. The design approach also integrates community outreach at multiple stages to determine preferred solutions that are effective, meet community expectations, and fit within available budgets.

A preliminary list of traffic calming measures for consideration in Dunellen include the following, with additional information provided in this section:

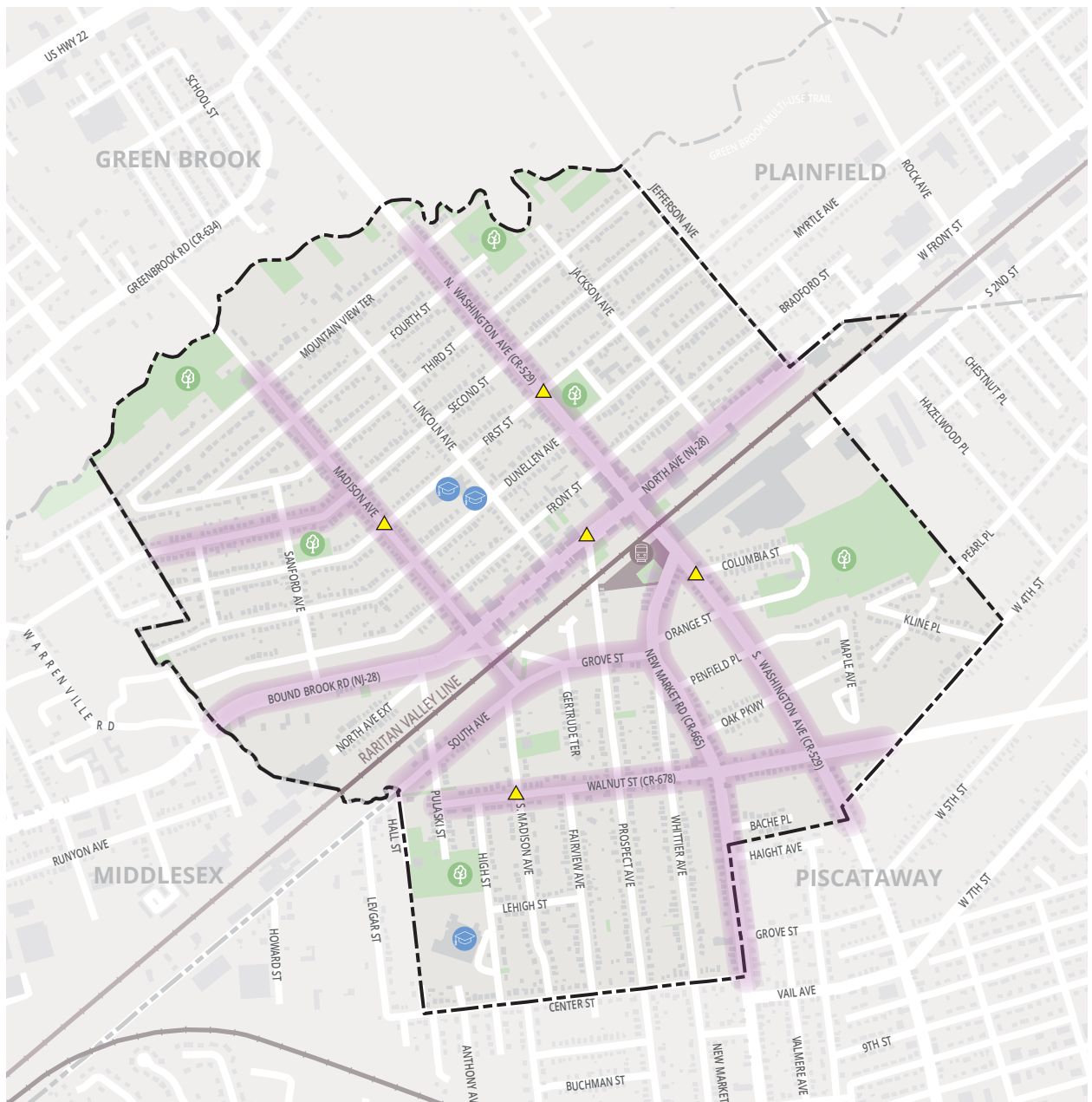
- Speed Humps, Speed Cushions, Speed Tables, Raised Crosswalks, and Raised Intersections
- Curb Extensions
- Median Islands
- Dynamic Speed Feedback Signs



### TRAFFIC CALMING PROCESS DIAGRAM

Illustrating a cyclical approach to traffic calming.

Map 4.3: Traffic Calming



- Candidate Street for Traffic Calming
- Potential RRFB



**Speed Humps, Speed Cushions, Speed Tables, Raised Crosswalks, and Raised Intersections**

These vertical speed control devices are effective at eliminating excessive speeding. They can be designed for an intended travel speed **between 25 and 35 MPH**, and are most effective when **used in a series of at least three elements** along a corridor.

Consideration of vertical speed control devices should account for community input as well as input from specialized vehicle operators, such as emergency services, fire, and transit. Overuse of these measures can result in negative reactions.

Temporary versions can be used for testing at pilot locations before permanent construction.



**EXAMPLE OF A RAISED INTERSECTION IN A RESIDENTIAL SETTING**

*Credit: FHWA Traffic Calming ePrimer.*

**Curb Extensions**

Curb extensions are a horizontal expansion of the sidewalk into the street, reallocating the no-parking area ahead of a crosswalk as pedestrian space. They are also known as neck downs, bulb-outs, or corner extensions.

Curb extensions narrow the travel lanes at intersections, contributing to reduced vehicle speeds, and also reduce the corner radius, slowing vehicle turning speeds. They also make pedestrians intending to cross

more visible to motorists. For pedestrians, curb extensions improve visibility of vehicles and shorten the crossing distance. Additionally, curb extensions define space in the public right-of-way for non-vehicular purposes, supporting a vibrant public realm with space for plantings, stormwater management, street furnishings, or bicycle parking. They can be considered as a permanent construction or on an interim/low-cost basis (epoxy surface and plastic bollards).



**TEMPORARY CURB EXTENSIONS**

Example with epoxy surface and plastic bollards.

*Credit: City of Hoboken.*



**CONSTRUCTED CURB EXTENSION**

### **Median Islands**

A median island is an area in the middle of the street designated for non-automobile use. They are also known as center islands, midblock medians, median slow points, median chokers, or pedestrian refuge islands (when part of a marked crosswalk).

Median islands narrow the travel lanes both physically and visually, contributing to reduced vehicle speeds, and can be implemented at intersection approaches or mid-block locations. Median islands can provide a crossing refuge that enables pedestrians to cross one lane of travel at a time, rather than waiting for a gap in two-way traffic. Median islands define additional space in the public right-of-way for non-vehicular purposes, supporting a vibrant public realm with space for plantings,



**MEDIAN ISLAND WITH INTEGRATED RRFB**

*Credit: FHWA Traffic Calming ePrimer, Scott Batson.*

stormwater management, traffic signs, or placemaking elements such as wayfinding or gateway signs.

### **Dynamic Speed Feedback Signs**

A dynamic speed feedback sign is a traffic control device that detects the speed of an approaching vehicle and displays feedback in real time to drivers who are exceeding the posted speed limit. According to the FHWA Publication # [FHWA-HRT-16-003](#), these devices are effective in reducing vehicle speeds and crashes.

Dynamic speed feedback signs can be installed in fixed locations or are available as portable units.

Fixed location dynamic feedback signs can be considered for locations where there is a transition in the street. A transition may include a reduction in speed limit, crossing of town borders, school zone approach, or a change in context or functional classification (e.g. collector to local street). Fixed location dynamic feedback signs can be hard-wired or solar-powered.



**DYNAMIC SPEED FEEDBACK SIGN**

Portable dynamic feedback signs can be moved to different locations around town. However, it has been observed that once the device is removed, speeds will return to their previous levels.

# Bicycle Accommodations

## Introduction

Planning a bicycle network is a process that balances the dimensions and conditions of the streets; traffic speed, volume, and mix; and the bicyclist design user profile (see graphic below).

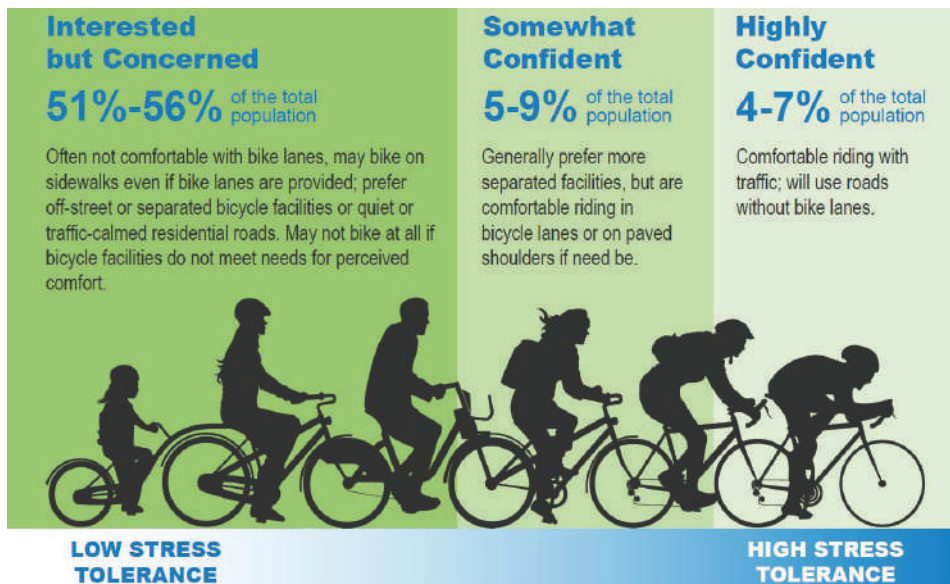
Streets are often defined by the curb-to-curb distance, number and width of lanes, drainage appurtenances, and utilities. Avoiding the relocation of fixed elements reduces the costs of bicycle accommodations.

Traffic conditions impact the safety and comfort of bicyclists using the street. In general, the higher the speed, volume, and percentage of truck and bus traffic, the more stressful a street will be for biking.

There are also different types of people using bicycles, based on experience and confidence. Bicycle accommodations are most equitable and empowering for communities when they support the greatest number of users, recognizing that there are people and households that rely on bicycles for basic transportation.

Key planning and design references for bicycle networks include:

- [NJDOT Complete Streets Design Guide, Chapter 3](#)
- [FHWA Bikeway Selection Guide](#)
- [NACTO Urban Bikeway Design Guide](#)
- [AASHTO Guide for the Development of Bicycle Facilities](#)



### BICYCLIST DESIGN USER PROFILES INFOGRAPHIC

Credit: FHWA Bikeway Selection Guide, p. 13.

ADT	85TH PERCENTILE SPEED <sup>1</sup>						
	≤ 20	25	30	35	40	45	≥ 50
≤ 2,500	ABCDEF	A <sup>2</sup> BCDEF	CDEF	CDEF	CDEF	DEF	F
2,500–5,000	BCDEF	BCDEF	CDEF	CDEF	DEF	DEF	F
5,000–10,000	B <sup>3</sup> CDEF	B <sup>3</sup> CDEF	CDEF	DEF	DEF	EF	F
10,000–15,000	DEF	DEF	DEF	DEF	EF	EF	F
≥ 15,000	DEF	DEF	DEF	EF	EF	F	F

**A:** Shared Street/Bicycle Boulevard    **B:** Shared-lane Markings    **C:** Bicycle Lane    **D:** Buffered Bicycle Lane  
**E:** Separated Bicycle Lane    **F:** Shared-use Path

<sup>1</sup>If data not available, use posted speed

<sup>2</sup>Bicycle boulevards are preferred at speeds ≤ 25 mph

<sup>3</sup>Shared-lane markings are not a preferred treatment with truck percentages greater than 10%

### BICYCLE FACILITY SELECTION TABLE

Credit: NJDOT Complete Streets Design Guide, p.106.

## Dunellen Bicycle Network

Map 4.4 provides a bicycle network for consideration by the Borough of Dunellen. The network is composed of the shared streets and bikeways.

Additional detail on bike boulevards, shared lane markings, bikeways, and bike parking are provided after Map 4.4.

**Shared streets** are streets where bicyclists and vehicles operate in the same travel lane. Shared streets in the potential Dunellen network include bicycle boulevards and streets with shared lane markings.

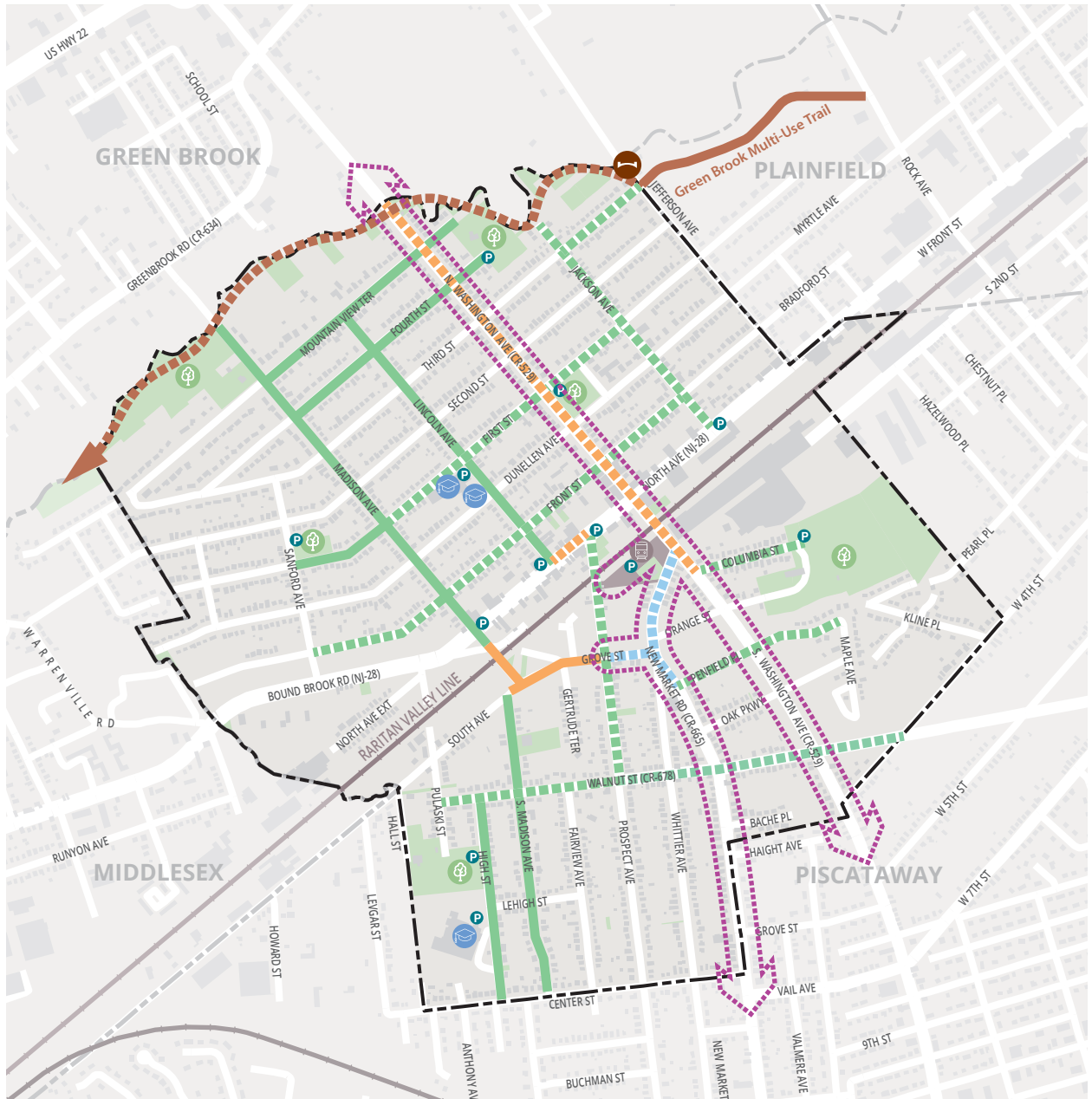
**Bikeways** are streets where bicyclists operate in a dedicated space allocated specifically for bicycle travel. Bikeways come in various forms, such as bike lanes, separated bike lanes, or cycle tracks.



### **BICYCLE BOULEVARD**

Bicycle boulevards, like this example on South Madison Avenue, enhance selected residential streets with striping, signing, and potential traffic calming measures, creating a bicycle network that avoids busy collector and arterial streets.

Map 4.4: Bicycle Accommodations



**EXISTING**

- Bicycle Boulevard
- Bike Lane
- Trail

**NEAR-TERM CONSIDERATIONS**

- - - Shared Lane Markings
- - - Bicycle Boulevard
- - - Bikeways
- P Bicycle Parking

**LONG-TERM CONSIDERATIONS**

- - - Bike Accommodation
- - - Trail
- ⊙ Bicycle & Pedestrian Bridge



## Bicycle Boulevards

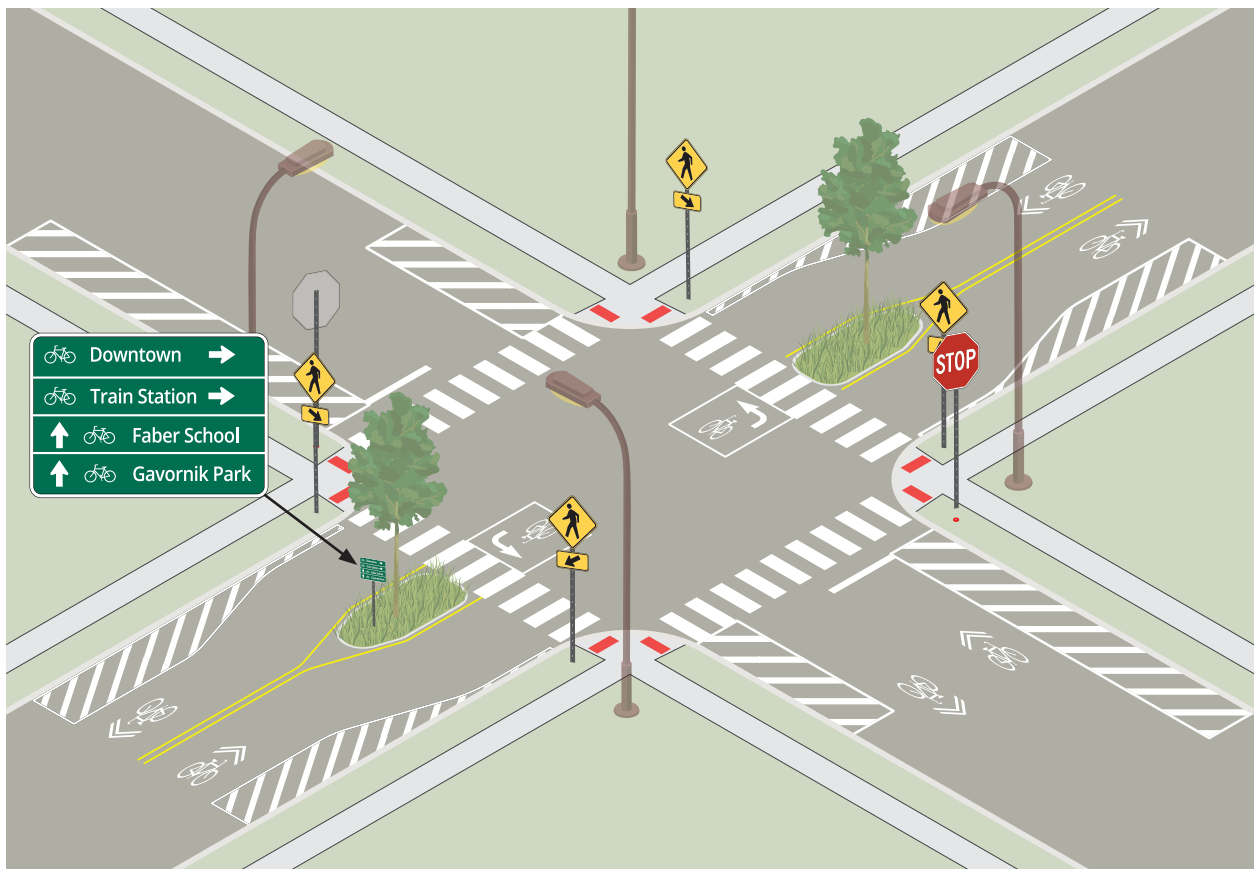
Bicycle boulevards build on the local, mainly residential street network to provide bicyclists with planned, comfortable, interconnected, and convenient routes to key community destinations. Bicycle boulevards enable the bicycle network to avoid collector and arterial streets, which generally require a greater level of intervention to support bicycling.

In Dunellen, the existing network of bicycle boulevards consists mainly of shared lane markings and speed limit markings striped on Madison Avenue, South Madison Avenue, High Street, Lincoln Avenue, and portions of First Street, Fourth Street, and Mountain View Terrace. This can be considered for expansion in the near-term, as shown on Map 4.4.

In the long-term, the bicycle boulevard network has the potential to include elements that further enhance bicyclist safety and experience. Signage, as a method to brand the bicycle boulevard network, reminds motorists of the presence of bicyclists, provides wayfinding and distance information, and can be considered for network-wide implementation.

Traffic calming measures can also be considered in the long-term, as a method to reduce vehicle speeds and volumes on streets designated as bicycle boulevards.

The diagram below shows how signage and median islands can complement crosswalk visibility enhancements to support the safety and comfort of both bicyclists and pedestrians.



### **BICYCLE BOULEVARD DIAGRAM**

This configuration integrates traffic calming and crosswalk visibility enhancements.

## Shared Lane Markings

Shared lane markings (also called sharrows) are marked on the street to emphasize the presence and legitimacy of bicyclists. Shared lane markings help bicyclists position themselves in the street and connect between other bicycle facilities or routes, such as bike boulevards or bikeways.

Shared lane markings are generally applicable along streets that are not appropriate as bicycle boulevards, but lack sufficient space for dedicated bikeways. Streets with shared lane markings should have a speed limit of 25 MPH or less and average daily traffic volume of less than 10,000. Where applied, shared lane markings should be provided immediately after an intersection and at intervals of less than 250 feet thereafter (MUTCD 9C.07).



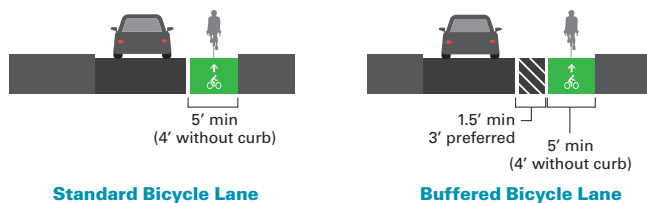
**SHARED LANE MARKING**

In Dunellen, shared lane markings can be considered along portions of Grove Street and New Market Road.

## Bikeways

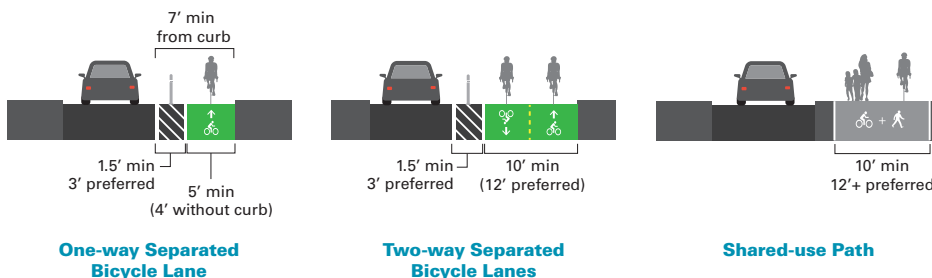
Bikeways designate a portion of the street for bicycle travel through application of signing and striping or physical means of separation, such as raised buffers, vegetated swales, or delineators (bollards). Bikeway configurations are variable and should be designed in response to the context, opportunities, and constraints of the street, as well as the anticipated bicyclist user profile.

In Dunellen, there are standard bicycle lanes along portions of Madison Avenue, South Avenue, and Grove Street. There is potential to consider bikeways along North Washington Avenue (CR-529) and a small portion of North Avenue (NJ-28). Refer to the Key Routes guidance for additional information on these streets.



### BIKEWAY CONFIGURATIONS

*Credit: NJDOT Complete Streets Design Guide, p.107.*



## Bike Parking

The Association of Pedestrian and Bicycle Professionals (APBP) [Bicycle Parking Guidelines](#) summarize the importance of bicycle parking as follows:

“One of the most common obstacles for bicyclists is the lack of bicycle parking at their destination. At the most basic level, bicycle parking encourages people to ride, but it also has some specific benefits, even for non-cyclists:

- *Bicycle parking is good for business.*
- *Designated, well-designed parking promotes a more orderly streetscape and preserves the pedestrian right of way.*
- *Bicycle parking helps legitimize cycling as a transportation mode by providing parking opportunities equal to motorized modes.”*

— p. 1-1

Map 4.4 provides recommended locations for bicycle parking at key locations around Dunellen.

In downtown Dunellen, bicycle parking is scarce and people turn to tree and sign posts to secure their bicycle. The Borough may consider integrating bicycle parking into the downtown streetscape by installing individual bicycle racks or multi-rack facilities known as bike corrals.

At sites like schools and parks, there may already exist some level of bicycle parking. Where additional parking is needed, those sites are likely to have space available.



### BIKES ALONG NORTH AVENUE (NJ-28)

With no bike parking provided in downtown Dunellen, bicyclists look for alternative ways to secure their bikes, using railings, sign posts, trees, or other furnishings that are not intended for bikes.

To better serve downtown Dunellen, bike corrals can be considered at intersections in the no-parking zone ahead of a crosswalk. Potential locations include North Avenue (NJ-28) intersections with Madison Avenue, Lincoln Avenue, Prospect Avenue, and Jackson Avenue. This would enable people from either side of town to bike to downtown, secure their bicycle, and patronize local businesses.

The Borough of Dunellen may also consider allocating a parking space from the municipal lot at North Avenue and Prospect Avenue for installation of a bike corral.

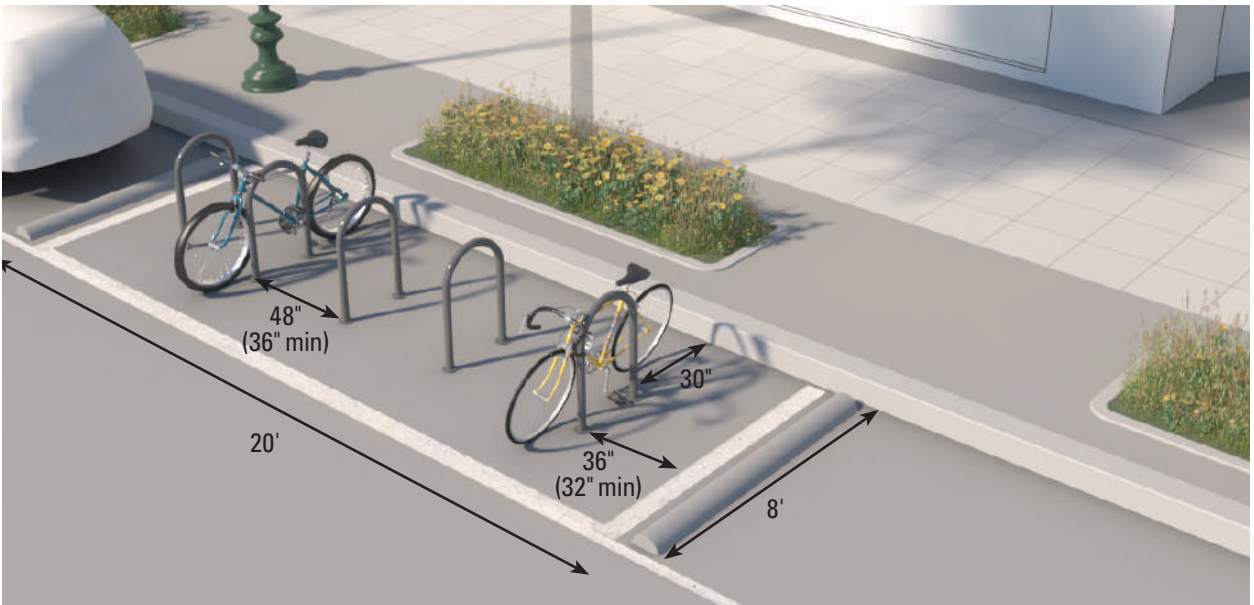


**ON-STREET BIKE CORRAL**



**MUNICIPAL PARKING LOT**

Possible location to install a bike corral. Location: Prospect Avenue and North Avenue (NJ-28).



**BIKE CORRAL DIMENSIONS**

*Credit: NJDOT Complete Streets Design Guide, p.45.*

## Key Routes

This section illustrates how the recommendations and design guidance may be applied to specific streets in the borough, including:

- Washington Avenue (CR-529)
- North Avenue/Bound Brook Road (NJ-28)
- Madison Avenue
- New Market Road (CR-665)



## Washington Avenue (CR-529)

### Existing Conditions

- Dunellen's main north-south street, connecting residential areas to downtown, Dunellen Train Station, the public library, and Columbia, Washington, and McCoy Parks.
- Described in community outreach as a "highway" and a "barrier" that is dangerous to cross.
- Stressful conditions for bicycling due to traffic speed, volume, and mix.
- Wide lanes that make vehicle movements unpredictable.
- Highest incidence of crashes in the borough (along with North Avenue (NJ-28)).
- Posted 25 MPH speed limit and  $\pm 14,000$  daily traffic.
- Includes on-street parking, except between North Avenue (NJ-28) and New Market Road (CR-665).
- Complete sidewalks vary in condition.
- Pavement in moderate to poor condition.
- Degraded curbs throughout.
- Few drainage appurtenances.
- Utility poles are aligned to the northbound side.

### Considerations

- Can become a safe, accessible, continuous, and convenient multi-modal street to improve active transportation mobility for Dunellen residents.
- It is likely that the curbs will require reconstruction in the near future—this is an opportunity to relocate the curbs and reconfigure the street to accommodate a dedicated bicycle facility.
- Curb reconstruction can focus on the southbound side of the street, preserving (and thus avoiding the expense to disturb) the utility poles on the northbound side.
- From the Green Brook border to Columbia Street, many bikeway facilities are possible. Crosswalk visibility enhancements, traffic calming, and green infrastructure can be considered in concert with these bikeways.
- The block from Front Street to North Avenue (NJ-28) is constrained and may necessitate shared lane markings, rather than a separated bikeway.
- From Columbia Street to the Piscataway border, the street is more narrow, with fewer bikeway options than the northern segment.



#### DEGRADED CURB

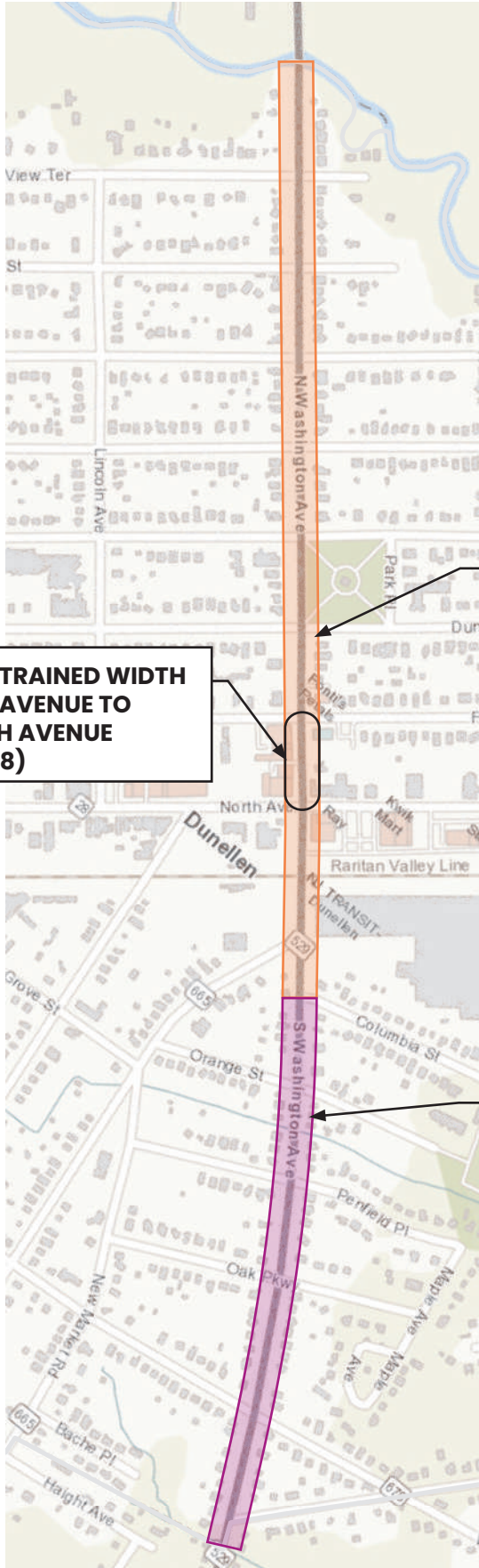
This curb is broken and nearly flush with the paved surface of the street.



#### NO CURB

This lack of curb in this area enables vehicle parking to erode the grass buffer strip.

# Map 4.5: Washington Avenue (CR-529)

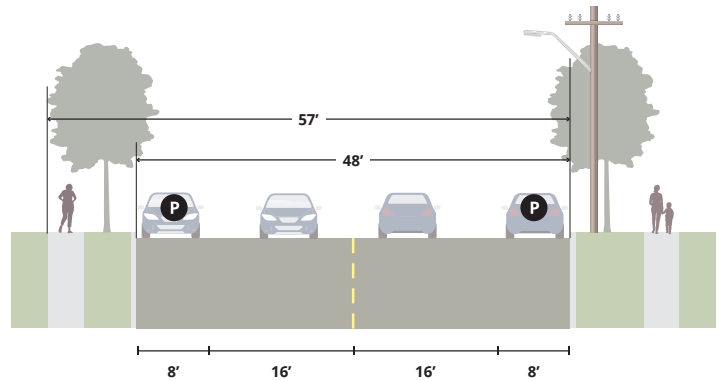


**CONSTRAINED WIDTH  
FIRST AVENUE TO  
NORTH AVENUE  
(NJ-28)**



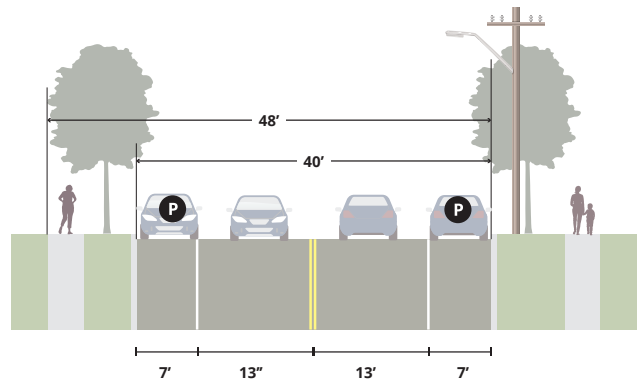
**WASHINGTON AVENUE**  
View north.

**Northern Segment Existing Cross Section**



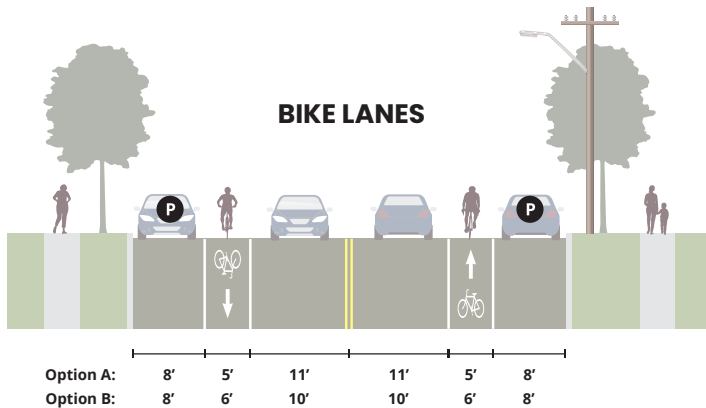
**VIEW NORTH**

**Southern Segment Existing Cross Section**

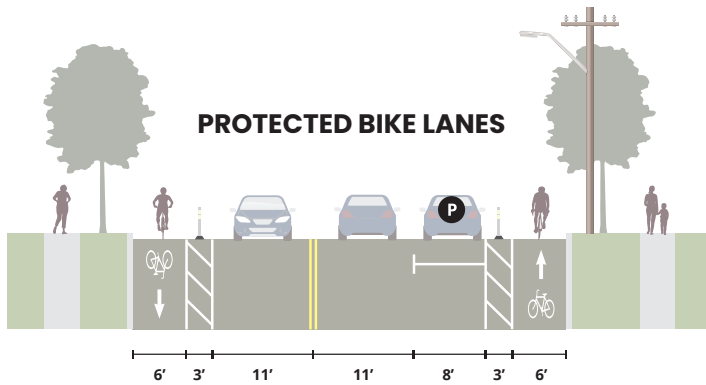
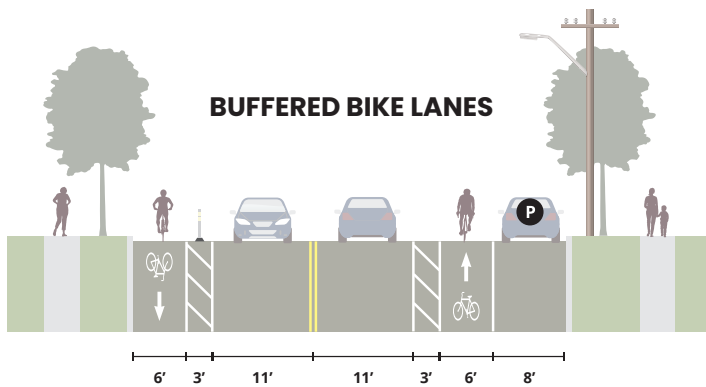


**VIEW NORTH**

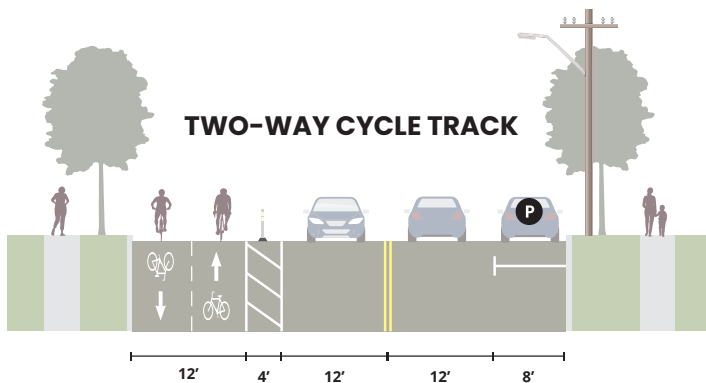
## Northern Segment Potential Bikeways



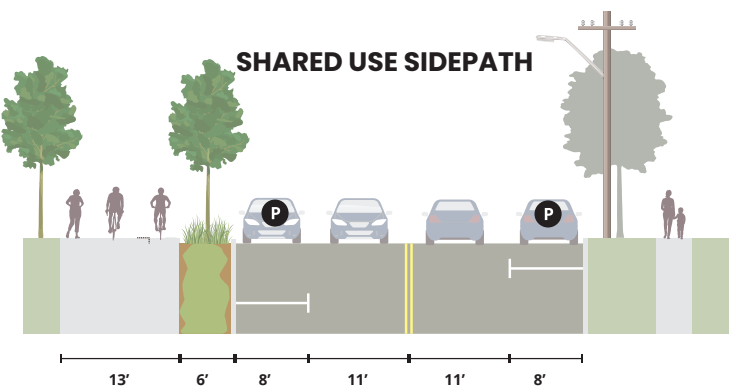
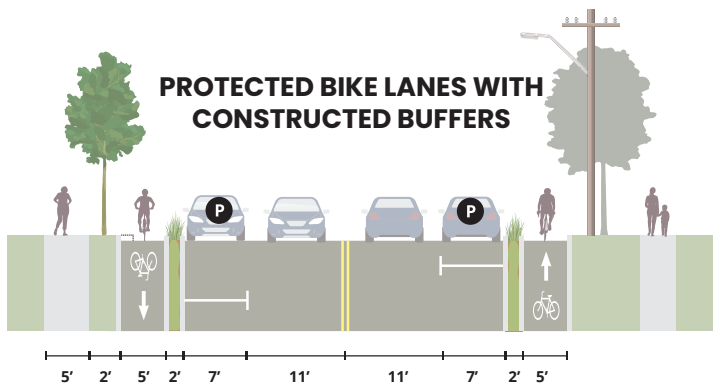
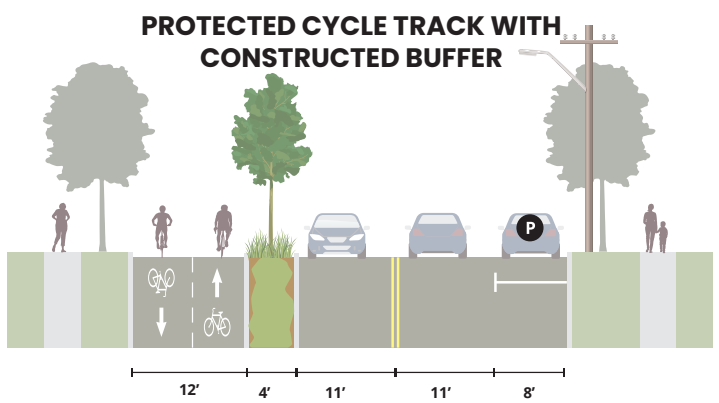
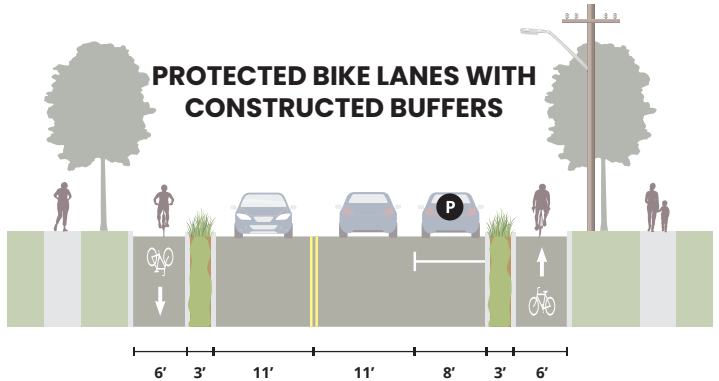
- Stripe within existing street dimensions.
- Useful to confident bicyclists, but not beginners.
- Near-term solution.
- With AADT over 10,000, buffered or protected bike lanes are preferred (see NJDOT Complete Streets Design Guide, p.106).



- Stripe within existing street dimensions.
- Useful to bicyclists of all abilities.
- Near-term solutions.
- Remove parking from one side.



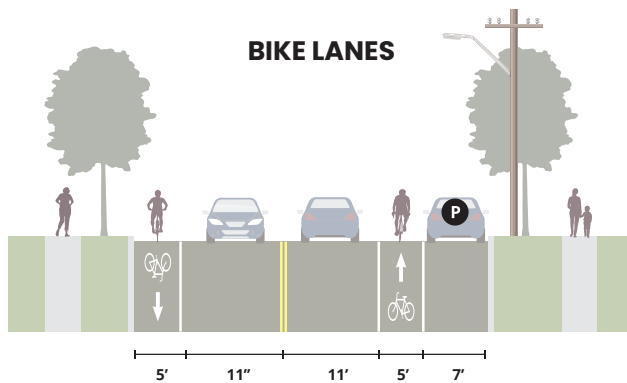
## Northern Segment Potential Bikeway Facilities (continued)



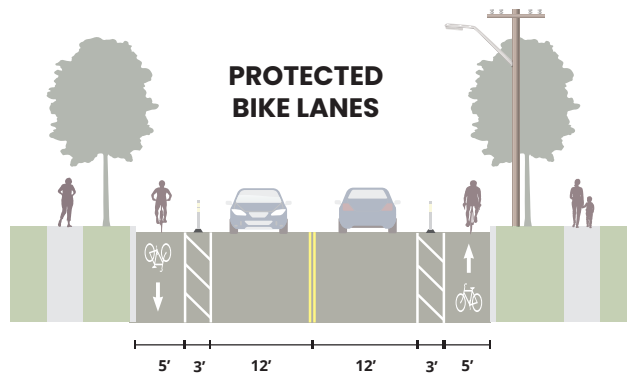
- Construct within existing street dimensions.
- Useful to bicyclists of all abilities.
- Long-term solution.
- Remove parking from one side.
- Construct buffers with bioswales for stormwater management.

- Construct through relocation of curb on southbound side.
- Useful to bicyclists of all abilities.
- Long-term solution.
- Preserve parking on both sides.
- Construct buffers with bioswales for stormwater management.

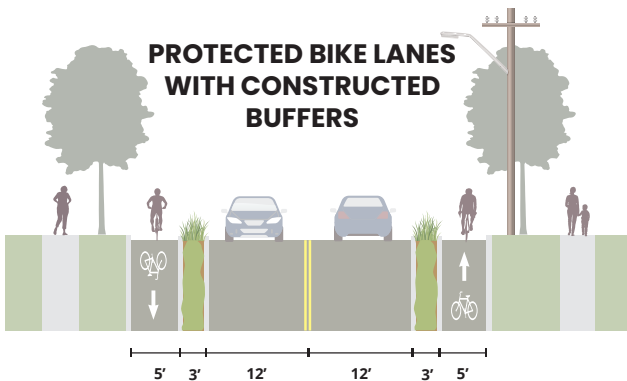
## Southern Segment Potential Bikeways



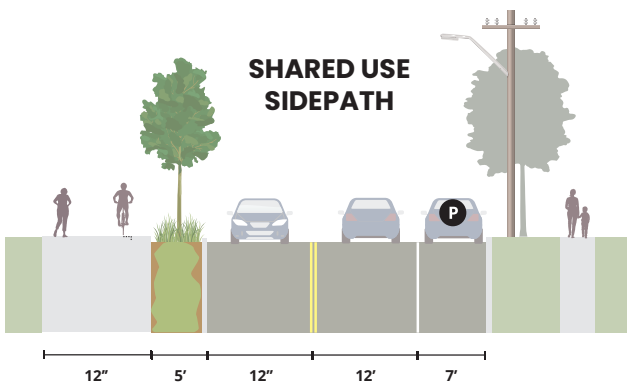
- Stripe within existing street dimensions.
- Useful to confident bicyclists, but not beginners.
- Remove parking from one side.
- Near-term solution.



- Stripe within existing street dimensions.
- Useful to bicyclists of all abilities.
- Remove parking from both sides.
- Near-term solution.



- Construct within existing street dimensions.
- Useful to bicyclists of all abilities.
- Long-term solution.
- Remove parking from both sides.
- Construct buffers with bioswales for stormwater management.



- Construct through relocation of curb on southbound side.
- Useful to bicyclists of all abilities.
- Long-term solution.
- Remove parking from both sides.
- Construct buffers with bioswales for stormwater management.

## North Avenue/Bound Brook Road (NJ-28)

### Existing Conditions


- Dunellen's main downtown commercial street, with access to diverse businesses, the municipal building, Dunellen Train Station, and the public library.
- As a state highway, accommodates a high traffic volume, trucks, and buses.
- Metered on-street parking throughout.
- Includes bus stops.
- Posted 30 MPH speed limit and  $\pm 10,000$  daily traffic.
- Wide sidewalks with streetscape elements (street trees, benches, receptacles, pedestrian-scale lighting, decorative paving along utility strip).
- Curb ramps vary in condition.
- Long distances between signalized crossings (Madison Avenue to Warrentville Road is  $\pm 0.40$  miles).
- Highest concentration of crashes in town, especially at intersection with Washington Avenue (CR-529).

### Considerations

- Considerations are summarized in the text below with symbols keyed to the graphic at the bottom of the page.
  - Throughout this corridor, audit existing conditions and provide ADA-compliant curb ramps, high-visibility crosswalks, lighting, and daylighted corners or curb extensions at all intersections.
- ↔
- At the unmarked crosswalks (Sanford Avenue, Pulaski Street, and Jefferson Avenue) provide ADA-compliant curb ramps, marked crosswalks, and crosswalk visibility enhancements.
- P
- Use daylighted corners, curb extensions, or other non-vehicular spaces for bike corrals near Madison Avenue, Lincoln Avenue, Prospect Avenue, and Jackson Avenue.

Map 4.6: North Avenue/Bound Brook Road (NJ-28)



- 
 Provide a Rectangular Rapid Flashing Beacon (RRFB) at either Prospect Avenue or Lincoln Avenue.



- Provide short bicycle lanes (or a cycle track) between Prospect Avenue and Lincoln Avenue. (This will require removal of seven parking spaces from one side).



- In redevelopment, consider access easements or setbacks that enable bicyclists to cross North Avenue directly, rather than navigating the offset intersection between Lincoln Avenue and Prospect Avenue.



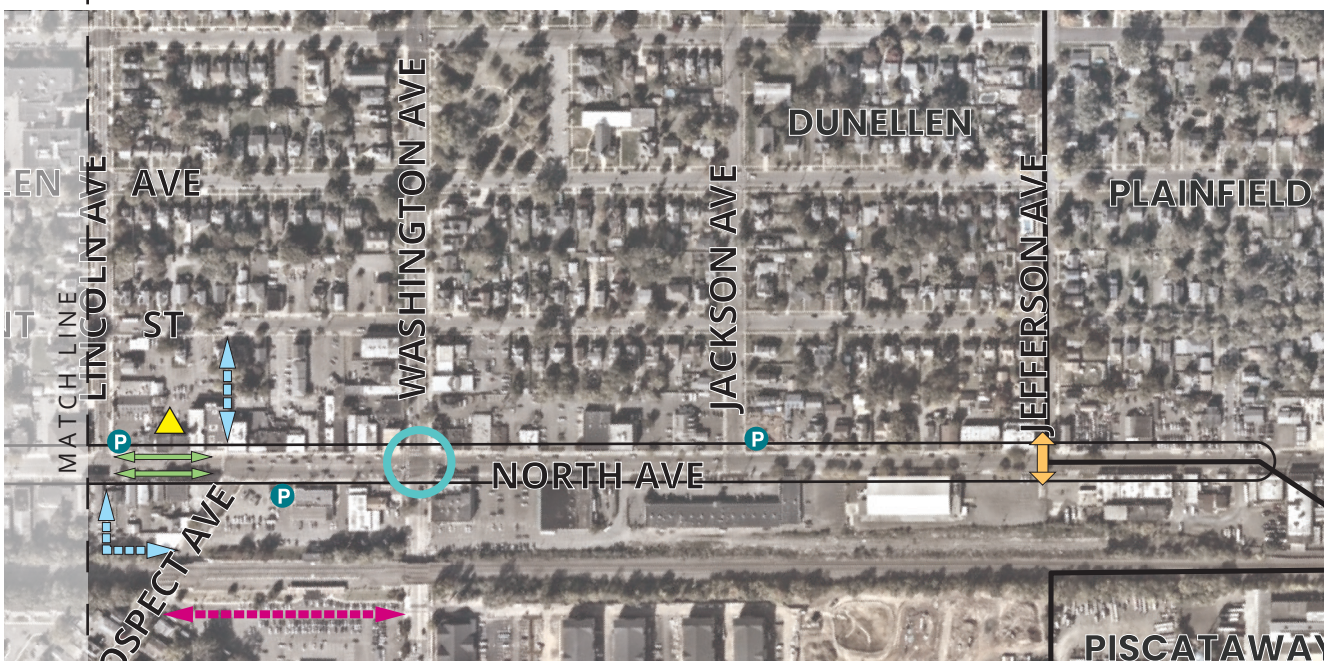
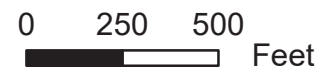
- Consider a 10-foot wide path for pedestrians and bicyclists between Prospect Avenue and Washington Avenue (CR-529). This would link the neighborhoods on Dunellen's south side with the train station, public library, Columbia Park, and potential bikeway on Washington Avenue.



- Upgrade the Madison Avenue signal to include audible instructions and backplates with retroreflective borders. Consider pedestrian pushbuttons to serve all crosswalks.



- Upgrade Washington Avenue (CR-529) signal to include audible instructions and backplates with retroreflective borders. Consider pedestrian pushbuttons to serve all crosswalks. Consider a Leading Pedestrian Interval as a signal timing modification to give pedestrians an opportunity to enter the crosswalk before vehicles are given a green light. Consider the lane arrangement of each approach. At the eastbound approach, consider whether it is necessary to maintain dedicated left-turn, through, and right-turn lanes. By eliminating one of these lanes, it may be possible to increase pedestrian space at this key downtown location.



## Madison Avenue

### Existing Conditions

- Important north-south route in the northwest portion of town, needed for connecting to downtown, the schools, and Morecraft Park.
- Community outreach yielded reports of vehicles constantly speeding and that it feels dangerous to cross or bike along the street.
- 25 MPH speed limit and  $\pm 4,000$  daily traffic.
- Includes shared lane markings and 25 MPH pavement markings.
- Includes on-street parking with striped shoulders.
- Includes complete sidewalks.
- All crosswalks are marked:
  - Parallel stripe crosswalks at 7 locations (Mountain View Terrace to Front Street).
  - High-visibility crosswalks at 3 locations (North Avenue (NJ-28) to South Avenue).

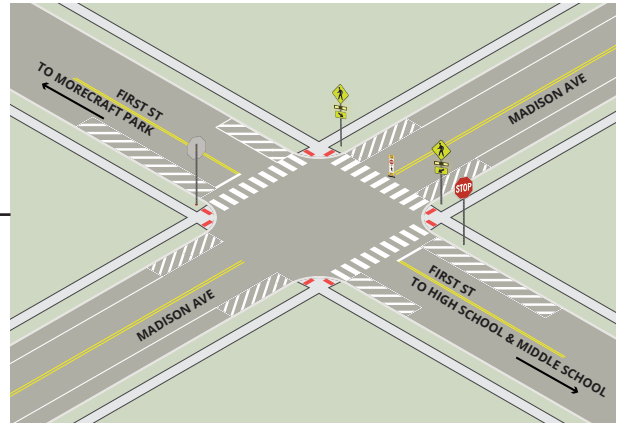
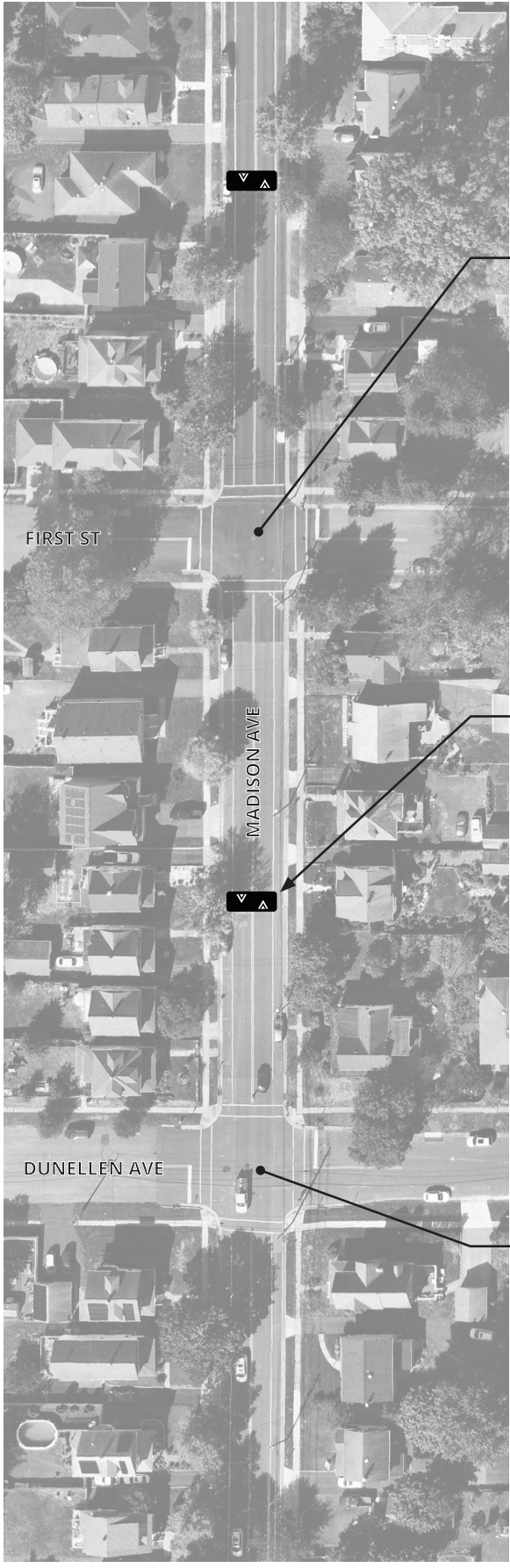


#### MADISON AVENUE

Madison Avenue has a rural character entering Dunellen from Green Brook, which may contribute to vehicle speeds in excess of 25 MPH.

### Considerations

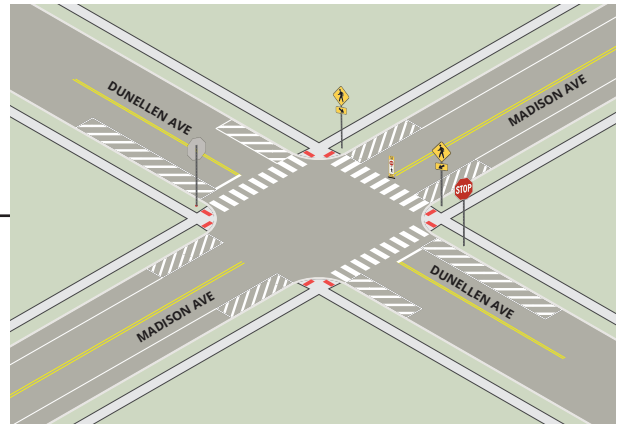
- Consider crosswalk visibility enhancements and shared lane markings along Madison Avenue.
- Consider traffic calming to reduce speeding and support pedestrian safety and comfort. Traffic calming should take a phased approach:
  - Assess traffic speed, volume, and mix.
  - Assess pedestrian and bicyclist issues to cross or travel along the street.
  - Assess lighting with a focus on crosswalk locations.
  - Identify locations along Madison Avenue to test low-cost, temporary traffic calming measures.
  - Present low-cost, temporary measures to the public for consideration.
  - Low-cost, temporary measures may include a mobile dynamic speed feedback sign, installation of painted curb extensions, or installation of portable speed cushions/speed tables.
  - Obtain input from the community and assess the effectiveness of the low-cost temporary measures.
  - If effective, formalize measures as permanent installations.
  - If ineffective, test alternative traffic calming measures, such as median islands, raised intersections, or neighborhood traffic circles.
- Consider installing an RRFB at First Street to facilitate safe crossing and access between the high school/middle school campus at Morecraft Park.
- Note that community outreach yielded requests to add a stop sign along Madison Avenue for the purpose of calming traffic. However, the MUTCD states that yield or stop signs should not be used for speed control (Section 2B.04.05).



**FIRST STREET**  
Potential RRFB configuration at First Street.



**SPEED CUSHION**  
Example of a portable speed cushion that can be anchored temporarily to test its effectiveness.



**CROSSWALK VISIBILITY ENHANCEMENTS**  
Typical configuration that can be considered at intersections along Madison Avenue.

## New Market Road (CR-665)

### Existing Conditions

- North-south route with access to downtown, Dunellen Train Station, the public library, and Columbia Park.
- Alternative to South Washington Avenue (CR-529).
- Narrow cross-section with no shoulders nor on-street parking.
- Community outreach yielded reports of vehicles frequent speeding resulting in property-damage-only crashes that may go unreported.
- Posted 30 MPH speed limit and unknown daily traffic.
- Sidewalk gaps:
  - Between Orange Street and Walnut Street on the east side ( $\pm 580$  feet).
  - North from Bache Place on the east side ( $\pm 175$  feet).
- North of Penfield Place, there is a skewed intersection at Grove Street and Whittier Avenue, followed by a horizontal curve with limited sight distance.

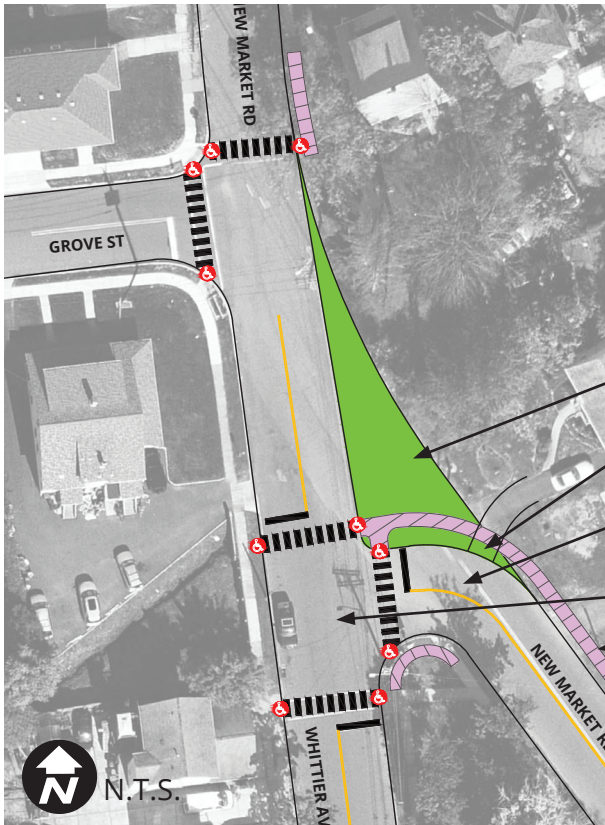
### Considerations

- Complete the sidewalks.
- Provide crosswalk visibility enhancements throughout.
- Consider traffic calming measures in a phased approach.
- Consider modifications to the skewed intersection at Grove Street and Whittier Avenue (see Options A and B on next page).
- In the long-term, consider options to reconstruct the roadway and provide a bikeway or shared use sidepath on one side of the street.

### Existing Aerial

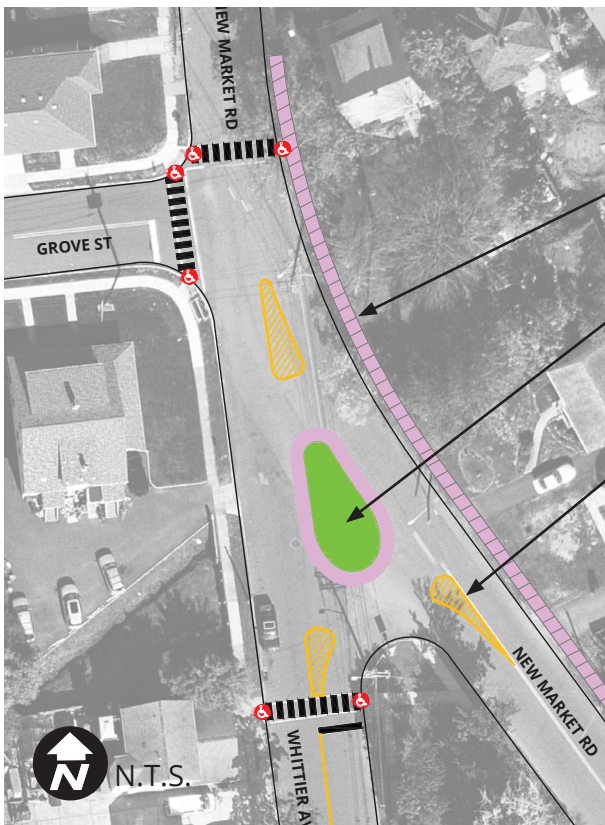


## Potential Modifications to the Intersection at Grove Street and Whittier Avenue



### **Option A:** **3-way Stop and Realignment of Skewed Intersection**

- Pavement removal; add landscape.
- Coordinate driveway access with owner.
- Realign the skewed approach of the southern leg of New Market Road.
- Convert intersection to 3-way stop.
- Connect sidewalk south to Penfield Place and beyond.



### **Option B:** **Neighborhood Traffic Circle**

- Connect sidewalk south to Penfield Place and beyond.
- Install landscaped island with mountable curb to function as neighborhood traffic circle.
- Striped areas on approach.

# Preliminary Planning Concept

This section details a set of improvements to be considered by the Borough of Dunellen along Prospect Avenue and Walnut Street to support active transportation.

Prospect Avenue runs north-south and is an important route for connecting to downtown and Dunellen Train Station. Walnut Street runs east-west and is an important route for connecting to Faber Elementary School and Gavornik Park. Together, these routes are important for pedestrian and bicycle mobility on the south side of the borough.

This preliminary planning concept identifies existing conditions, potential improvements, order-of-magnitude costs, and potential funding sources that may be considered by the Borough of Dunellen for implementation.



## Existing Conditions

### Walnut Street (CR-678)

- Urban local street west of New Market Road (CR-665).
- Urban major collector east of New Market Road (CR-665).
- 25 MPH speed limit.
- 3,500 - 5,000 AADT.
- On-street parking west of New Market Road (CR-665).
- Sidewalk gaps:
  - North side of Walnut Street from Pulaski Street to High Street (±275 feet).
  - South side of Walnut Street, from High Street to South Madison Avenue (±280 feet).
  - South side of Walnut Street, from South Madison Avenue to Fairview Avenue (±355 feet).
  - West side of South Madison Avenue, from Bonygutt Brook to Walnut Street (±255 feet).
- Traffic signal at South Washington Avenue (CR-529).
- Described through community outreach as a barrier to walking or biking to school due to vehicles speeding and ignoring pedestrians.



**WALNUT STREET**

View west toward Prospect Avenue.

### Prospect Avenue (Walnut Street (CR-678) to North Avenue (NJ-28))

- Urban local street.
- 25 MPH speed limit.
- Unknown daily traffic volume.
- On-street parking.
- Complete sidewalks.
- Traffic signal at Grove Street.
- Desirable north-south route for connecting to downtown and Dunellen Train Station, especially as an alternative to walking or biking along New Market Road (CR-665) or South Washington Avenue (CR-529).



**PROSPECT AVENUE**

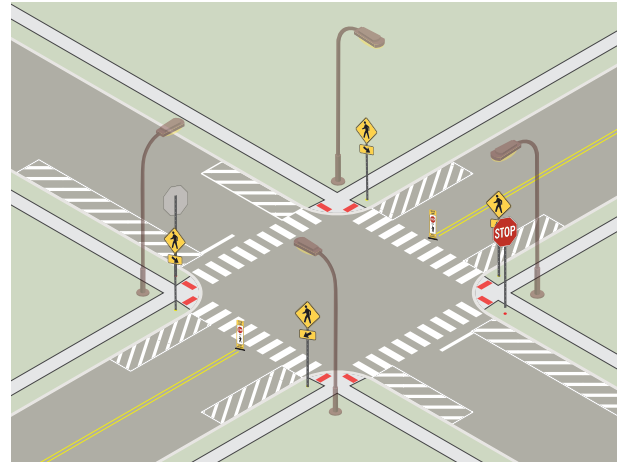
View North from Walnut Street.

## Potential Improvements

Map 4.5 and Enlargements A through J on the following pages identify active transportation improvements along Walnut Street and Prospect Avenue (north of Walnut Street).

In general, potential improvements by the Borough of Dunellen may include crosswalk visibility enhancements, sidewalk completion, and application of shared lane markings and 25 MPH pavement markings. Enlargement I describes potential improvements to the traffic signal at Prospect Avenue and Grove Street. Enlargement G identifies the need for small concrete-paved areas that provide ADA-accessible boarding and alighting for the bus stops at the corners of Walnut Street (CR-678) and New Market Road (CR-665).

These recommendations are intended as low-cost, near-term improvements. In the long-term, both of these streets are candidates for additional traffic calming and bicycle boulevard treatments, as described earlier in this document.



**CROSSWALK VISIBILITY ENHANCEMENTS**



**SIDEWALK GAP**

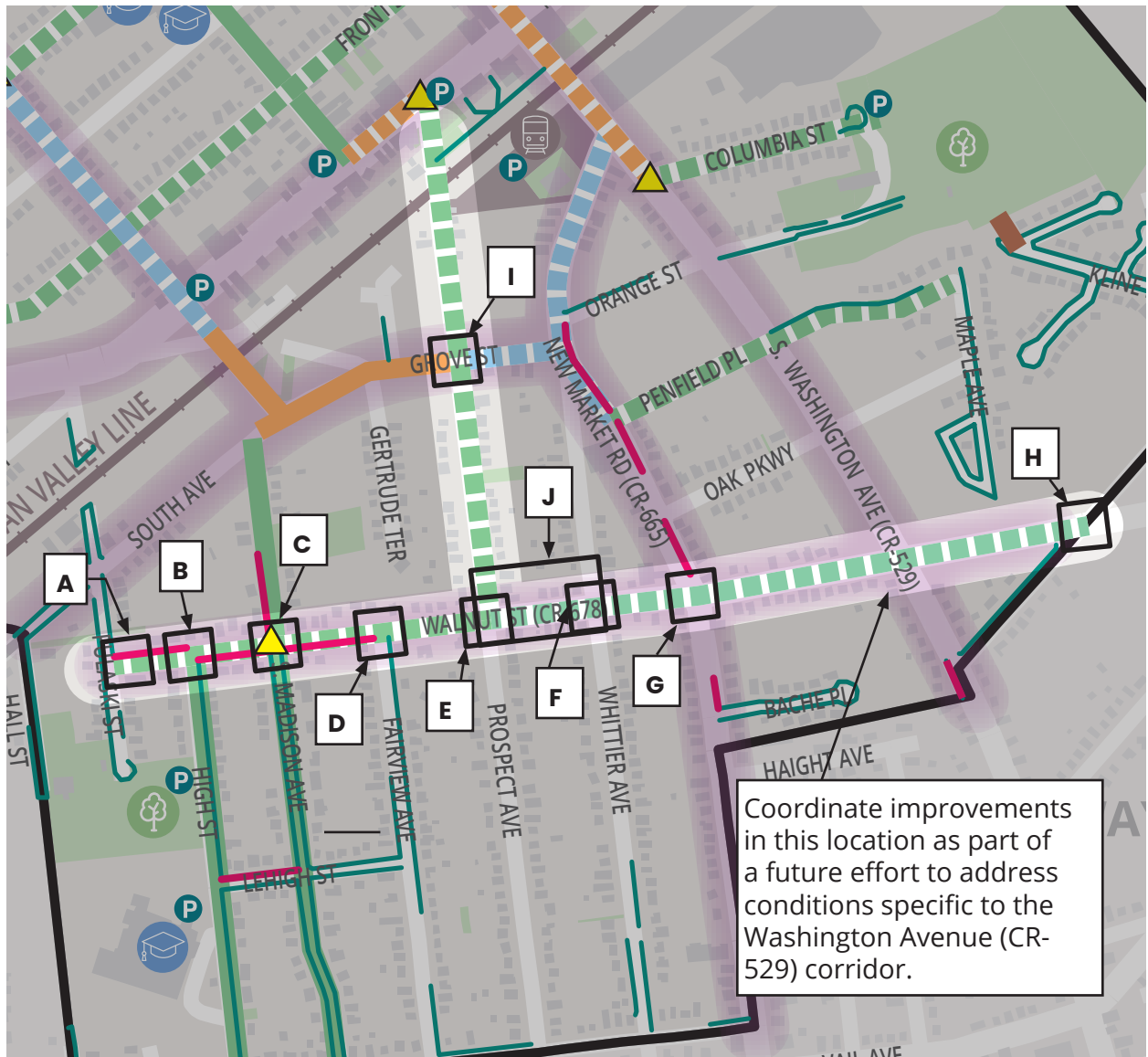
South side of Walnut Street near South Madison Avenue.



**PAVEMENT MARKINGS**

Example from Madison Avenue.

Map 4.5: Preliminary Planning Concept

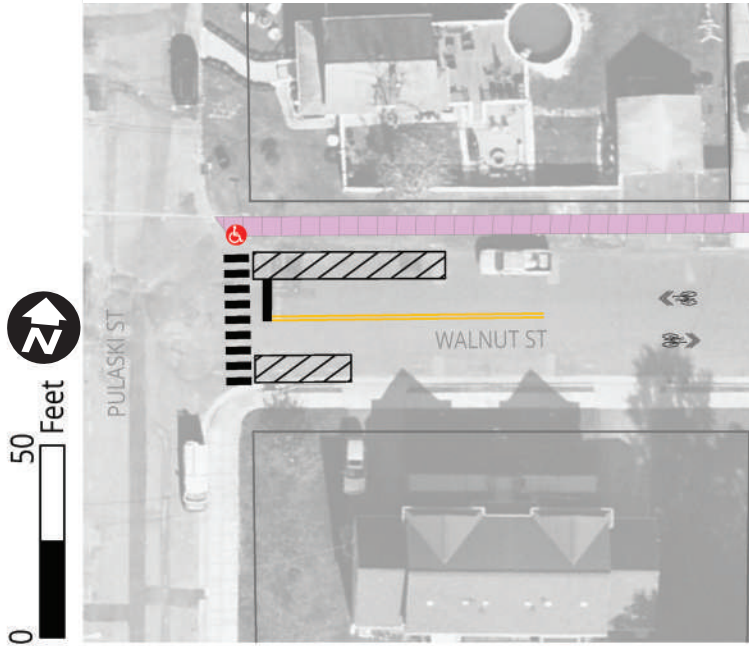


See Enlargements **A** through **J** on subsequent pages.

<b>EXISTING</b>		<b>NEAR-TERM RECOMMENDATIONS</b>		Shared Lane Markings	Bikeways
Bicycle Boulevard	Priority Sidewalk Completion	Rectangular Rapid Flashing Beacon	Bicycle Boulevard	Bicycle Parking	
Bike Lane					
Trail					
	<b>LONG-TERM RECOMMENDATIONS</b>		Trail	Bicycle & Pedestrian Bridge	
	Phased Sidewalk Completion	Traffic Calming			
	Bike Accommodation				

0      0.25  
 Miles

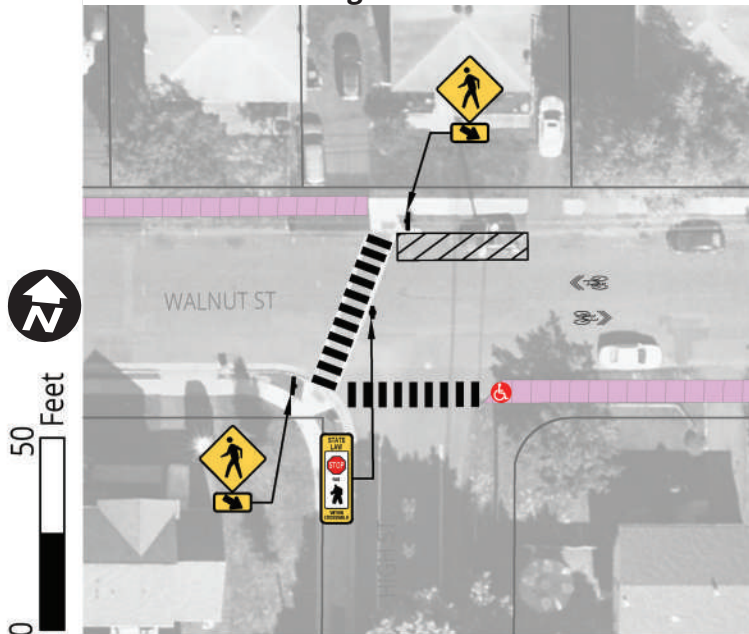
**Enlargement A:  
Walnut Street at Pulaski Street**



**Notes**




- Extend sidewalk on the north side of Walnut Street from Pulaski Street to High Street (±275 feet).
- Curb improvements and impacts to right-of-way, utilities, drainage, or trees should be further evaluated.
- Additional sidewalk on west side of Pulaski Street may be considered.

**Enlargement B:  
Walnut Street at High Street**



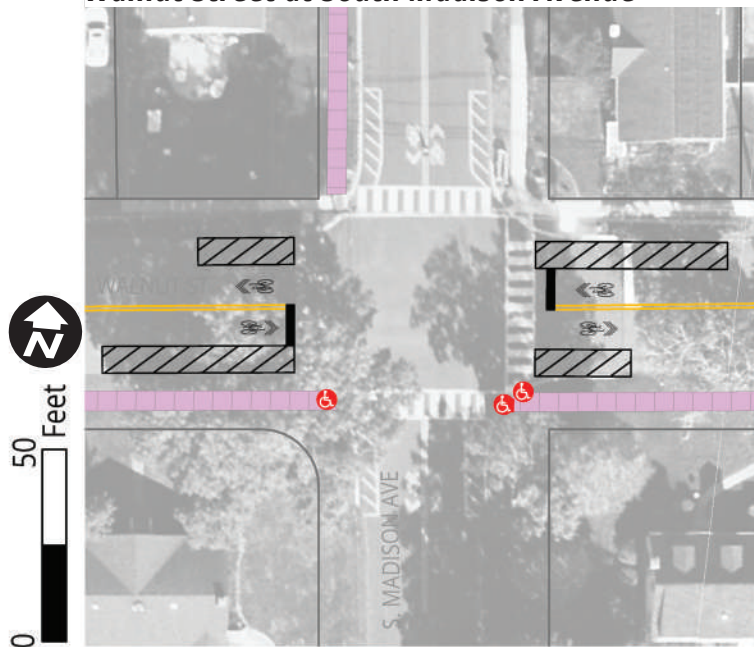
**LEGEND**

 HIGH-VISIBILITY CROSSWALK	 SHARED LANE MARKING
 STRIPED NO-PARKING AREA	 25 MPH PAVEMENT MARKING
 STOP BAR & CENTERLINE	 NEW SIDEWALK

 NEW ADA CURB RAMP
 W11-2 + W16-7P SIGN ASSEMBLY
 R1-6a IN-STREET PEDESTRIAN SIGN

*Note: Not for construction. Drawings are for concept development purposes only.*

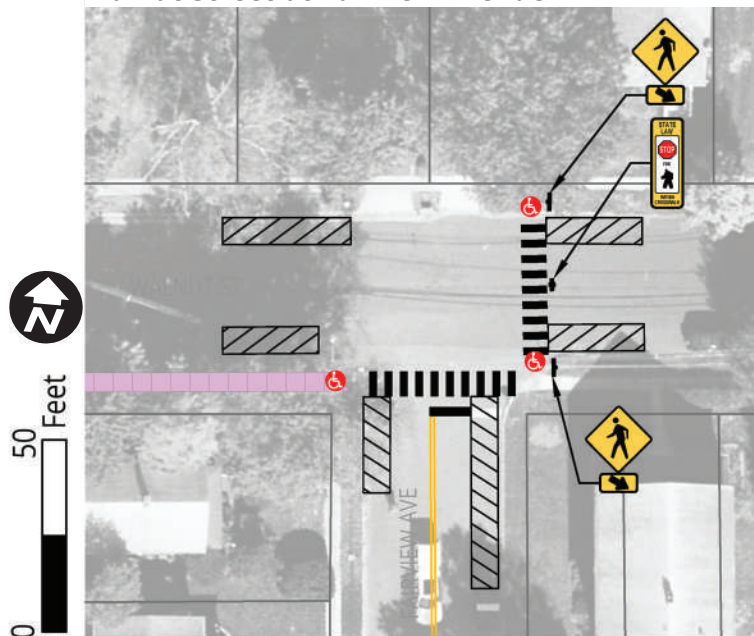
**Enlargement C:  
Walnut Street at South Madison Avenue**



**Notes**

- Four existing S1-1 blinking signs at this intersection to remain. Add supplementary downward arrow plaque W16-7P.
- Consider installation of RRFB as future improvement, possibly making use of existing solar posts and foundations.
- Extend sidewalk:
  - South side of Walnut Street, from High Street to South Madison Avenue (±280 feet).
  - South side of Walnut Street, from South Madison Avenue to Fairview Avenue (±355 feet).
  - West side of South Madison Avenue, from Bonygutt Brook to Walnut Street (±255 feet).
- Curb improvements and impacts to right-of-way, utilities, drainage, or trees to be further evaluated.

**Enlargement D:  
Walnut Street at Fairview Avenue**

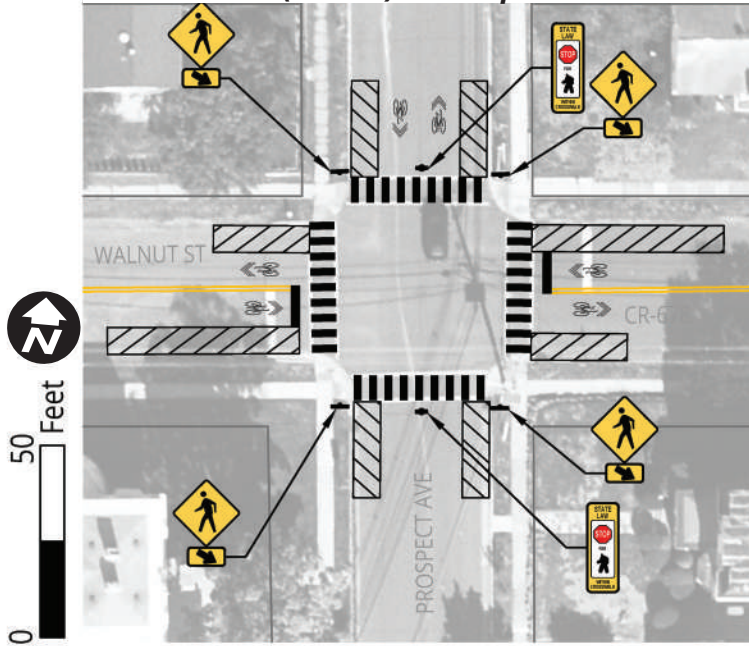


**LEGEND**

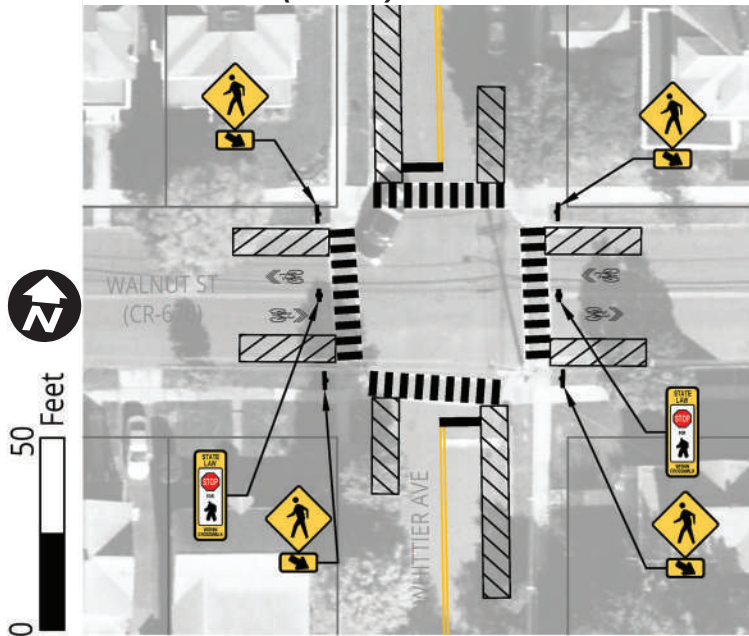
HIGH-VISIBILITY CROSSWALK	SHARED LANE MARKING	NEW ADA CURB RAMP
STRIPED NO-PARKING AREA	25 MPH PAVEMENT MARKING	W11-2 + W16-7P SIGN ASSEMBLY
STOP BAR & CENTERLINE	NEW SIDEWALK	R1-6a IN-STREET PEDESTRIAN SIGN

*Note: Not for construction. Drawings are for concept development purposes only.*

**Enlargement E:  
Walnut Street (CR-678) at Prospect Avenue**



**Enlargement F:  
Walnut Street (CR-678) at Whittier Avenue**



LEGEND

- HIGH-VISIBILITY CROSSWALK
- STRIPED NO-PARKING AREA
- STOP BAR & CENTERLINE
- SHARED LANE MARKING
- MPH 25 25 MPH PAVEMENT MARKING
- NEW SIDEWALK

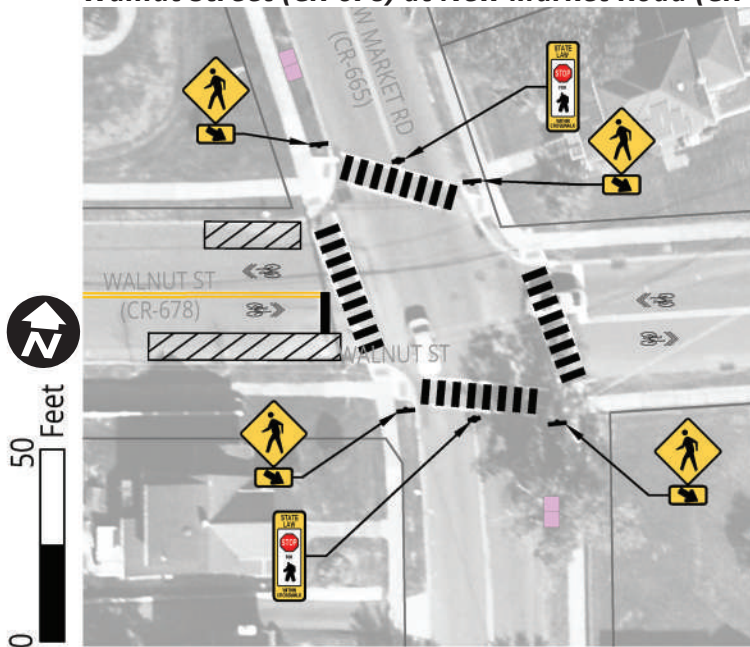
*Note: Not for construction. Drawings are for concept development purposes only.*

**Notes**

- As per NJDOT Straight Line Diagram, Middlesex County jurisdiction of Walnut Street (CR-678) begins at Prospect Street and continues east. All improvements at Prospect Avenue and east will require coordination with Middlesex County.
- Recent traffic counts indicate an AADT of ±4,000 on Walnut Street (CR-678), counted from a point east of South Washington Avenue (CR-509). Additional traffic counts should be considered along Walnut Street (CR-678) to determine the proportion of vehicles that continue west on Walnut Street (CR-678) or turn onto South Washington Avenue (CR-509) or New Market Road (CR-665). This determination can better inform design considerations along Walnut Street (CR-678), such as bicycle boulevard treatments or removal of the centerline where it is not needed (in compliance with MUTCD 3B.01.09).

- NEW ADA CURB RAMP
- W11-2 + W16-7P SIGN ASSEMBLY
- R1-6a IN-STREET PEDESTRIAN SIGN

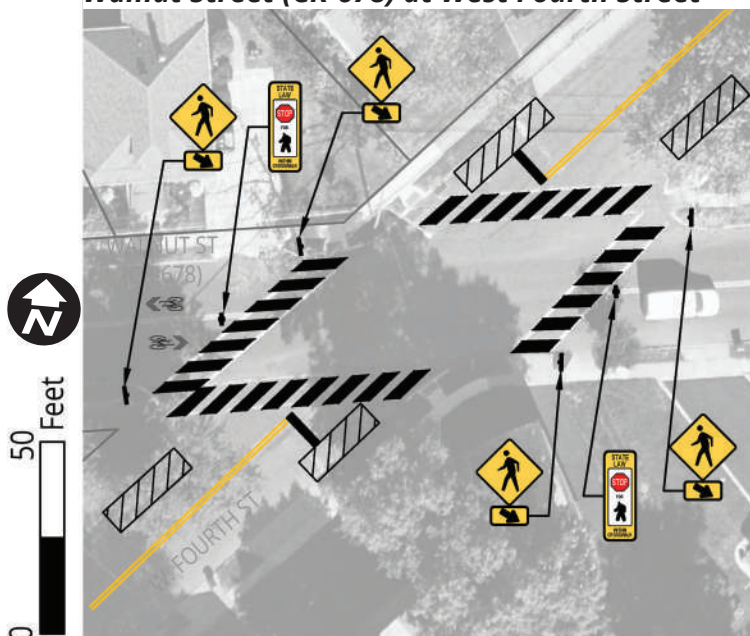
**Enlargement G:  
Walnut Street (CR-678) at New Market Road (CR-665)**



**Notes**










- Concrete pads for ADA accessible bus boarding and alighting to be constructed at existing bus stop locations.

**Enlargement H:  
Walnut Street (CR-678) at West Fourth Street**



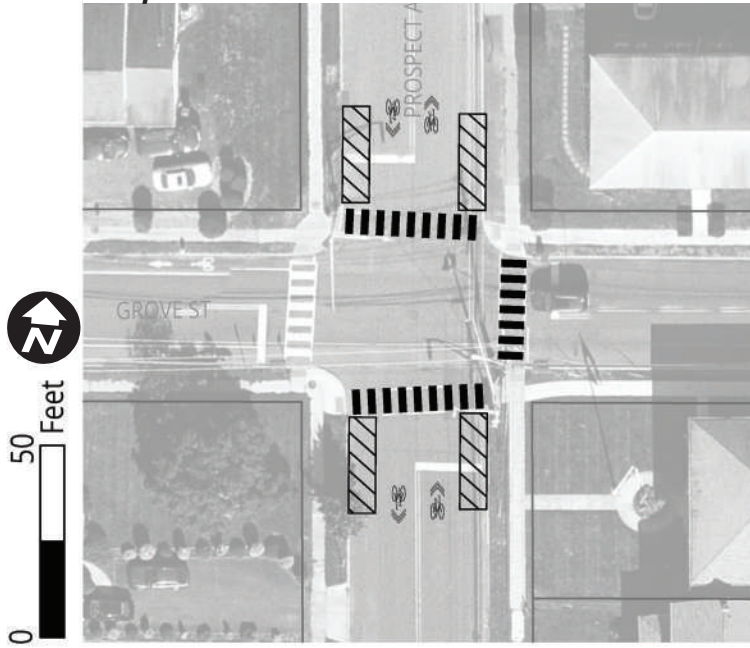
- All improvements at Walnut Street and West Fourth Street must be coordinated with Middlesex County and Piscataway Township. Striping improvements are near-term. For long-term improvements consider curb extensions, pedestrian refuge medians, or relocation of curb ramps to square up the crosswalks and reduce the pedestrian crossing distance.

**LEGEND**

 HIGH-VISIBILITY CROSSWALK	 SHARED LANE MARKING	 NEW ADA CURB RAMP
 STRIPED NO-PARKING AREA	 25 MPH PAVEMENT MARKING	 W11-2 + W16-7P SIGN ASSEMBLY
 STOP BAR & CENTERLINE	 NEW SIDEWALK	 R1-6a IN-STREET PEDESTRIAN SIGN

*Note: Not for construction. Drawings are for concept development purposes only.*

**Enlargement I:  
Prospect Avenue at Grove Street**












**Notes**

- Upgrade the traffic signal at this location to include:
  - Pedestrian pushbuttons or passive detection.
  - Pedestrian countdown signal heads.
  - Audible instruction.
  - Backplates with reflective borders on signal heads.

**Enlargement J:  
Typical pavement markings between intersections**



**LEGEND**

 HIGH-VISIBILITY CROSSWALK	 SHARED LANE MARKING	 NEW ADA CURB RAMP
 STRIPED NO-PARKING AREA	 25 MPH PAVEMENT MARKING	 W11-2 + W16-7P SIGN ASSEMBLY
 STOP BAR & CENTERLINE	 NEW SIDEWALK	 R1-6a IN-STREET PEDESTRIAN SIGN

*Note: Not for construction. Drawings are for concept development purposes only.*

## Order-of-Magnitude Cost Estimate

This order-of-magnitude cost estimate includes general material and installation costs, primarily sourced from the [NJDOT Transportation Alternatives Program 2022 Cost Estimate Guidelines and Recommendations for Pedestrian, Bicycle, and Traffic Calming Projects](#). A contingency of 20% has been added to account for price increases over time and price premiums that may apply to small projects. This order-of-magnitude cost estimate has been developed without field survey or detailed design. The purpose of this estimate is to identify rough costs related to potential improvements at a concept level.

	Quantity	Unit Cost	Cost
<b>Sidewalk Improvements</b>			
New Concrete Sidewalks (4" thick, 5' wide)	1165 LF	\$75/LF	\$87,375
Concrete Curb Ramps	8	\$2,000/EA	\$16,000
<b>Pavement Markings (long-life thermoplastic)</b>			
"25 MPH" Pavement Markings	18	\$250/EA	\$4,500
Shared Lane Markings	60	\$140/EA	\$8,400
Stop Bars	11	\$150/EA	\$1,650
High-Visibility Crosswalks	25	\$1,500/EA	\$37,500
Double Yellow Centerline Striping	770 LF	\$2.50/LF	\$1,925
Gore striping at daylighted intersections			
25' x 7' area	29	\$250/EA	\$7,250
50' x 7' area	10	\$500/EA	\$5,000
<b>Regulatory Signs</b>			
W11-2 + W16-7P Sign Assembly (11 square foot assembly)	20	\$550/EA	\$11,000
R1-6a In-Street Pedestrian Sign	10	\$350/EA	\$3,500
Add W16-7P plaques to existing S1-1 blinking signs	4	\$100/EA	\$400
<b>Signal Upgrades</b>			
Addition of Pedestrian Pushbuttons & Countdown Signal Heads with Audible Instruction <sup>(1)</sup>			\$30,000
Addition of Backplates with Reflective Borders	8	\$150/EA	\$1,200
		Sub-Total	\$215,700
		Design Costs (30%)	\$64,710
		Contingency (20%)	\$43,140
		<b>Total Estimate</b>	<b>\$323,550</b>

Notes:

LF = "Linear Foot"

EA = "Each"

<sup>(1)</sup> Assumes compatible controller and sufficient space available in existing cabinet and conduits.

## Additional Considerations

As provided, this preliminary planning concept is a starting point for consideration of municipal bicycle and pedestrian improvements along Walnut Street and Prospect Avenue. Taking a near-term approach, the concept could potentially be advanced as a signing and re-striping effort. On the other hand, it may be advanced as a larger scope construction project, similar to the new curbs, sidewalk, and resurfacing that was completed on Lincoln Avenue in 2022.

The following are additional considerations that the Borough of Dunellen may wish to explore in advancing this potential concept.

- The preliminary planning concept was developed using GIS and aerial imagery (not a survey) along with limited field observation. Construction of new sidewalk segments can potentially impact existing utilities, stormwater, trees/environmental, and uses of public right-of-way by adjacent land owners (driveway access, gardens, fence, etc.). Consider the total impacts and potential mitigations.
- The preliminary planning concept takes an incremental approach to traffic calming and bicycle boulevards, replicating the use of pavement markings that have been installed through striping projects in Dunellen in recent years. To what extent might the community be open to more progressive solutions, such as curb extensions or median islands at key locations?
- What are the conditions of existing sidewalks in the project area? Where is it necessary to repair or reconstruct?
- What are the conditions of existing curbs along the project area? To what extent can curbs be repaired or constructed as a component of a future project?
- What is the condition of the asphalt surface in the project area? When is the next resurfacing project anticipated? Are there underground utilities that should be repaired or upgraded prior to resurfacing?
- What are the lighting conditions? Are there opportunities to upgrade lighting, especially at intersections, for pedestrian and bicyclist safety?

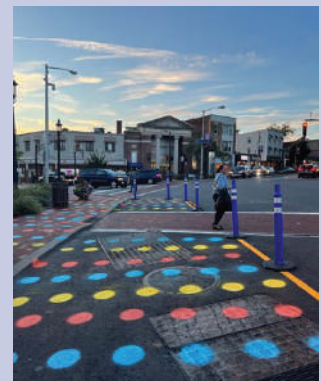
## Temporary Demonstration Projects

The Borough of Dunellen may consider applying to the North Jersey Transportation Planning Authority (NJTPA) for use of materials from the Complete Streets Demonstration Library. According to NJTPA, "The purpose of the program is to support and encourage greater use of the temporary demonstration project approach. The temporary nature of the projects enables communities to evaluate the impact on street performance and safety, to educate residents about safer street designs, and to collect feedback.

Municipalities and counties in the NJTPA region are eligible to participate.

For more information, visit:

[www.njtpa.org/Planning/Regional-Programs/Complete-Streets-Demonstration-Library.aspx](http://www.njtpa.org/Planning/Regional-Programs/Complete-Streets-Demonstration-Library.aspx)



Credit: NJTPA.

## Potential Funding

This preliminary planning concept describes potential infrastructure improvements by the municipality or other entities with jurisdiction to support the safety of bicyclists and pedestrians on the south side of Dunellen, promoting multi-modal connectivity to Dunellen Train Station, Faber Elementary School, downtown, and the public library. As such, funding sources to consider include Safe Streets to Transit (SSTT), Safe Routes to School (SRTS) Infrastructure, and the Transit Village Grant Program.<sup>1</sup>

### ***Safe Streets to Transit***

The Safe Streets to Transit (SSTT) Program is administered by NJDOT Local Aid and Economic Development. The program provides municipalities with funding for construction of safety improvements that eliminate pedestrian barriers.

Bicycle projects are not covered by the SSTT Program; however, other than the shared lane markings included in the preliminary planning concept, all components provide a safety benefit to pedestrians. The SSTT Program can provide funding for construction of new sidewalk, but not the repair of existing sidewalk.

Design and engineering costs are not covered by the SSTT Program (except for Urban Aid communities, among which Dunellen is not listed in 2023).

Additional information is available through the program website: [www.state.nj.us/transportation/about/safety/srtt.shtm](http://www.state.nj.us/transportation/about/safety/srtt.shtm).

<sup>1</sup> Another program known as the Bikeways Grant provides funding for bicycle facilities, but only those that are separated from vehicular traffic.

### ***Safe Routes to School Infrastructure***

The Safe Routes to School (SRTS) Program is administered by NJDOT in association with the three Metropolitan Planning Organizations in New Jersey (the North Jersey Transportation Planning Authority for Dunellen). The program provides municipalities with funding for infrastructure projects that make walking and bicycling to school a safe and routine activity.

Typical projects include new or upgraded sidewalks and ADA curb ramps, bike routes, and pedestrian signal upgrades, all of which are components of the preliminary planning concept.

Additional information is available through the program website: [www.saferoutesnj.org/safe-routes-to-school-grants/](http://www.saferoutesnj.org/safe-routes-to-school-grants/).

### ***Transit Village***

As a designated Transit Village, Dunellen is positioned to apply for funding through the Transit Village Grant Program. Typical projects include bicycle and pedestrian facilities, traffic calming, wayfinding, and other enhancements within a half-mile of a transit facility.

Additional information is available through the program website: [www.njdotlocalaidrc.com/state-funded-programs/transit-village](http://www.njdotlocalaidrc.com/state-funded-programs/transit-village).





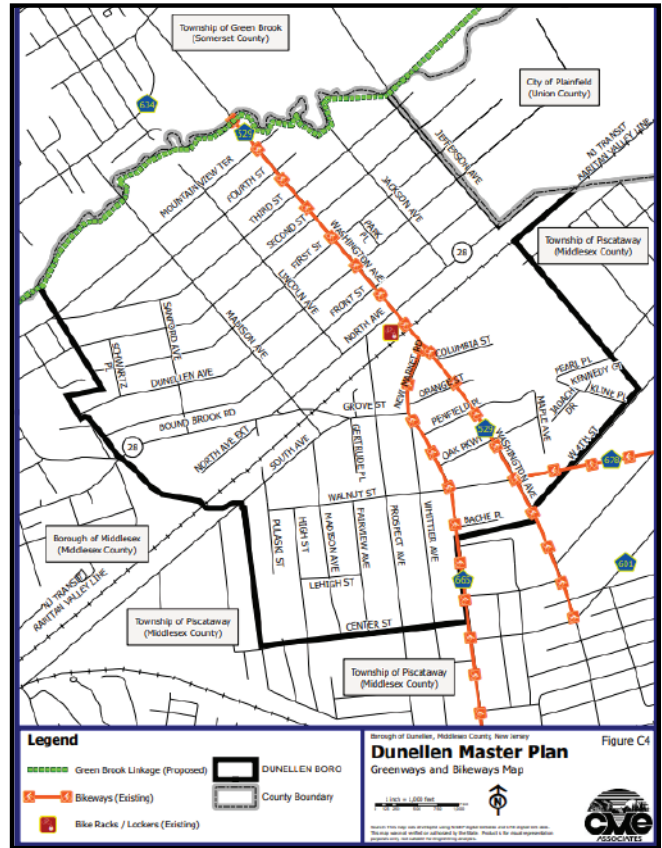
# Appendix A: Review of Existing Plans

# Review of Existing Plans

The following plans were reviewed as background for this active transportation study in support of the Borough of Dunellen’s redevelopment goals.

## ***Borough of Dunellen Master Plan (2011)***

- Circulation Element objectives: “highly definable pedestrian crosswalks at all necessary intersections,” “bikeways and bike routes,” and “traffic calming devices in the downtown and near schools” (p. 4).
- Designated “bikeways” along Washington Avenue, New Market Road and Walnut Street.
- Support for a county-proposed greenway spanning the borough’s northern border (p. 26).
- Predates many advancements in active transportation planning and policy, including: NACTO Urban Bikeway Design Guide (2011), Middlesex County Complete Streets Policy (2012), AASHTO Guide for the Development of Bicycle Facilities, 4th Edition (2012), NJDOT Complete Streets Design Guide (2017), FHWA Bikeway Selection Guide (2019), and NJDOT Complete and Green Streets Model Policy and Guide (2019).



## ***Dunellen Downtown Redevelopment Plan, Phase 1 (2016, amended 2022)***

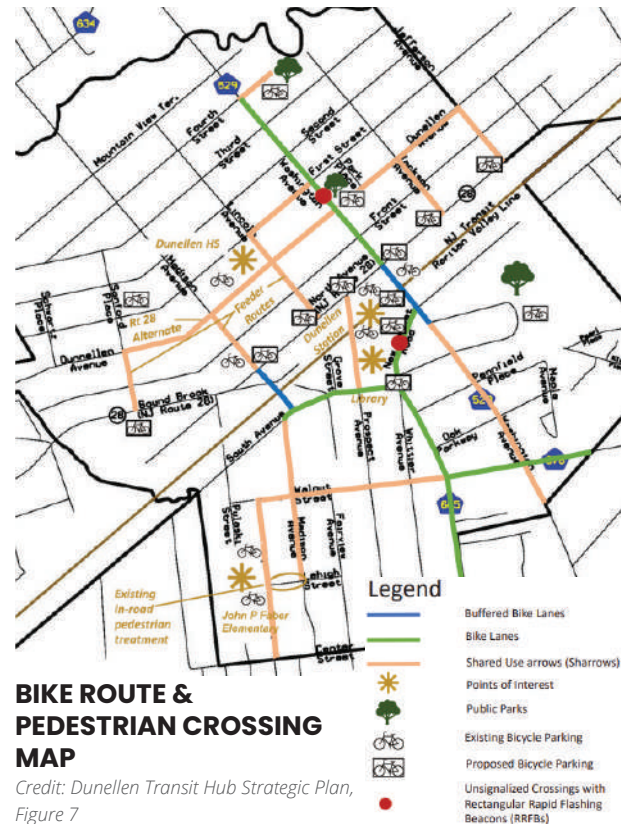
- Sets transportation objectives to “bring decorative lights from the train station down into the business district” and “create pedestrian oriented and Transit Village oriented development as the town’s central focus” (p. 8).
- “Focusing redevelopment in and around the train station is critical to encouraging greater use of public transit and alternative means of transportation to reduce automobile dependency and reduce air pollution” (p. 36).
- Capitalize on “high density settlement patterns by encouraging the use of public transit systems, walking, and alternative modes of transportation to reduce automobile dependency, link Centers and Nodes, and create opportunities for transit oriented redevelopment” (p. 36).

## **2011 MASTER PLAN MAP** Greenways and bikeways.

**Dunellen Transit Hub Strategic Plan (2019)**

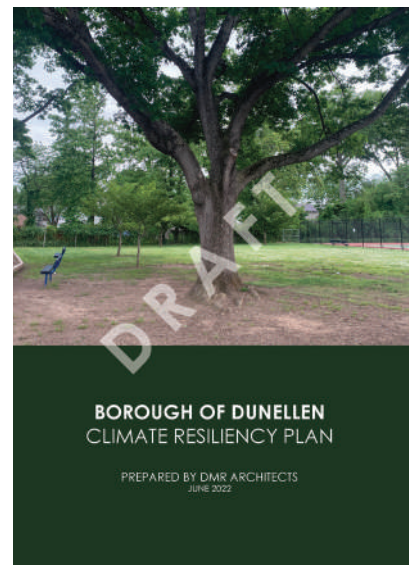
Together North Jersey, North Jersey Transportation Planning Association, APA-NJ Volunteer Planning Team

- Describes concerns about pedestrian infrastructure and “an active bike culture with limited infrastructure to support the growth of this type of transportation” (p. 15).
- Identifies the following actions (pp. 49-50):
  1. Design a circulation network and build the necessary infrastructure to cultivate a safe and welcoming environment for pedestrians and bicyclists.
  2. Create a Complete Streets Plan and Implementation Plan in Dunellen.
  3. Advance several location-specific improvements for pedestrian and bicycle infrastructure.
- While a borough-wide pedestrian and bicycle mobility plan was not part of this effort, some consideration was given to “pedestrian and bicycle enhancements nearby and outside the study area” (p. 21). The plan proposes a bicycle route map (shown below) and highlights pedestrian crossing locations (p. 22).



**Borough of Dunellen Climate Resiliency Plan (Draft, 2022)**

- The Climate Resiliency Plan is an element of the Master Plan Re-examination to help guide decisions related to severe weather events and changing landscapes (p.4).
- Identifies North Avenue / Bound Brook Road (NJ-28) and Washington Avenue (CR-529) as critical roadways, noting that though these roads provide evacuation routes, they also both pass through flood hazard areas (p. 15).
- Describes designing roads for effective stormwater removal, using street trees and paving materials that reduce the heat island effect, employing green infrastructure to aid in flood control, groundwater recharge, and pollutant reduction in compliance with New Jersey Department of Environmental Protection regulations (p. 18).

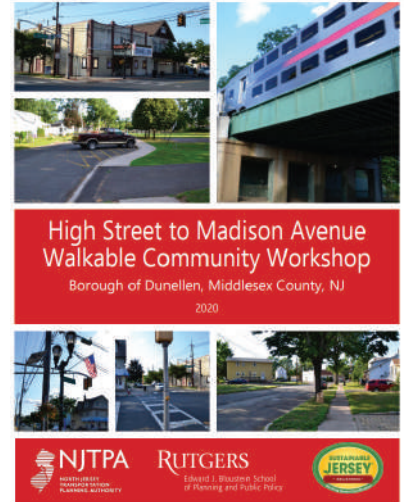


**CLIMATE RESILIENCY PLAN COVER**

## High Street to Madison Avenue Walkable Community Workshop (2020)

North Jersey Transportation Planning Association, Alan M. Voorhees Transportation Center, Sustainable Jersey

- Recommendations:
  1. Adopt a Complete Streets Policy
  2. Improve Crosswalks and Sidewalks
  3. Investigate Road Diet Options
  4. Encourage Active Transportation
  5. Incorporate Art and Culture
- Focused on pedestrian connections between North Avenue (NJ-28) and Faber Elementary School, highlighting the following needs:
  - Five-foot standard width for sidewalks
  - Sidewalk conditions, maintenance, and continuity
  - ADA compliance
  - Comfort and appeal (quality of life concerns) for sidewalks that can discourage walking (such as graffiti, litter, poor lighting)
  - Standard vs. high-visibility (preferred) crosswalks
  - Pedestrian conspicuity and clear sight lines at intersections



### WALKABLE COMMUNITY WORKSHOP COVER

## Analysis of Murals as an Arts and Economic Revitalization Strategy (2021-2022)

Rutgers University Bloustein School of Planning and Public Policy and the Mason Gross School of the Arts

- Study of the design potential, benefits, and steps needed to implement murals at key locations.
- Recommends murals based on themes of history; diversity, inclusion, and community unity; and railroad transportation.
- Locations include facade of Dunellen Train Station building, the railroad embankment and underpass walls, and crosswalks.



### GRAPHICS DEPICTING POTENTIAL MURALS

Credit: Rutgers University Bloustein School of Planning and Public Policy and the Mason Gross School of the Arts

# B

## **Appendix B: Community Outreach Event Summaries**

# NJ TRANSIT Transit Friendly Planning Technical Planning Services Borough of Dunellen, Middlesex County, NJ

## Community Outreach: Music in the Park Summary Memo

TO:	Celeste Alsina, Facilities Planner, Transit Friendly Planning, NJ TRANSIT Megan Massey, Assistant Director, Transit Friendly Planning, NJ TRANSIT Michael Swan, Facilities Planner, Transit Friendly Planning, NJ TRANSIT
FROM:	Kevin Perry, NV5 Corey Hannigan, NV5
CC:	Bettina Zimny, NV5
DATE:	August 22, 2022, revised December 2, 2022

### Summary

As described in the Scope of Work, it is important to engage a variety of community members and organizations to ensure inclusive representation and equitable outcomes. A successful strategy for soliciting public input is to attend a pre-scheduled community event that attracts people for other reasons. This memo summarizes the public outreach effort conducted by NV5 and NJ TRANSIT on August 18, 2022. With the objective to obtain meaningful input on active transportation conditions and needs in Dunellen, the following activities were conducted:

- NV5 and NJ TRANSIT reviewed the borough calendar to identify events appropriate for community outreach. We noted the Music in the Park event as an excellent opportunity and discussed with borough officials, ultimately deciding to conduct outreach at the Music in the Park event on August 18.
- In preparation, NV5 prepared a series of large format display boards in coordination with NJ TRANSIT. NV5 also developed a flyer with information about the coordinated planning initiatives underway in Dunellen (see Record of Materials). The flyer included a QR code to Dunellen’s online survey (launched on August 17, 2022, to be open for a month).
- NV5 and NJ TRANSIT conducted outreach activities at two locations:
  - Dunellen Station (4:00 to 6:00 PM)
  - Dunellen Music in the Park event at Washington Park (6:30 to 8:30 PM)

At the Music in the Park event, project staff set up an exhibit with input boards, access to the community survey (via tablet and print copies), giveaways from NJ TRANSIT (pens and sunglasses), and a kids table with coloring pages related to active transportation. The exhibit was joined by elected officials, Mayor Jason Cilento and Council Member Hal VanDermark. Both officials were engaged in the effort and heard many of the questions and comments offered by participants.



## Key Findings

The following notes present key findings from the outreach effort of August 18, 2022. Additional notes and mark-ups are documented on the public input boards included in this memo and will be used for reference in advancing the recommendations of this study.

- Pedestrians, bicyclists, and scooter operators were observed to use the station underpass as a connecting route for north-south movement, without necessarily using the transit facilities.
- Prevalent languages observed at the station area were English and Spanish.
- People encountered at the station area were from Dunellen or other nearby communities. People from Piscataway, Middlesex, Stirling, North Plainfield, Roselle Park, and Bloomfield were encountered. This indicates that wayfinding signage between the station area and the borough can be important to orient visitors from other communities.
- Columbia Park is a very popular destination, and generates many cycling and walking trips.
- Other destinations that were mentioned often included Mis Amigos restaurant, Washington Park, the public library, and convenience stores.
- Washington Avenue acts as a barrier for local residents, who avoid crossing or walking on it.
- Prospect and Lincoln Avenues are desirable to walk and cycle on, and provide direct access to downtown.
- Many high-crash intersections are also places where people need to walk or bike.
- Motorists were described by several participants as exhibiting general disregard for pedestrians, failing to yield at crosswalks, stop signs, or near schools.
- Pedestrian lighting is insufficient in many areas.
- Few people were aware of the Green Brook Multi-Use Trail.
- The removal of the Jefferson Avenue bridge significantly reduced pedestrian connectivity between Dunellen and Green Brook, in the northern portion of the borough.
- The design of many streets is inconsistent with their intended function: Washington Avenue has multiple wide lanes, but a 25mph speed limit. Wide east-west residential streets encourage speeding.
- Conditions of sidewalks and crosswalks have wide variation throughout the borough.
- Snowplows were described to pile snow in crosswalks, impeding pedestrian mobility.
- Motorists often use Second Street to access US-22.
- A desire for traffic calming mitigations was expressed; however, speed humps/bumps were not a preferred design treatment.

## Outreach Photos



Public Input Boards

**Place a green dot**

*Place a green dot in an area where you would like to walk or bike.*

**Write a comment**

*Write a comment about the area where you placed the green dot.*

- Columbia Park, multi-use trail
- Anywhere from 2nd Street - 3.5 mi
- A pedestrian path to Columbia Park
- To basketball court (ride on sidewalk)
- 4th to Columbia Park via Washington Av
- Columbia Park & stores on North Ave
- 2 hour walks around town
- walk from 16 to North Ave for better state convenience store
- walk dog to park
- Mostly Evergreen where
- Spending on Mall on "Beachfront"
- Spending on Mall on "Beachfront"
- to the library
- to work
- to visit neighbors
- to Green Brook

*Columbia Park*

*"Dunellen is a walking town."*

**Where do you like to walk or bike in Dunellen?**

Board 1: Where do you like to walk or bike in Dunellen?



# Record of Materials

Borough of Dunellen  
Active Transportation Planning Study

# PUBLIC INPUT

**What is Active Transportation?**  
Any self-propelled, human-powered mode of transportation, such as walking or bicycling. Active transportation with safe access to transit can provide healthy and economical mobility.

**What is the goal of this study?**  
The study, provided by NJ TRANSIT's Transit-Friendly Planning Program, will propose an active transportation network with pedestrian improvements, bike routes, and bike facilities to serve Dunellen's residents and visitors.

**Borough of Dunellen**  
**Planning Initiatives / Iniciativas de Planificación**

**Community Open House / Evento Comunitario**  
**Date / Fecha:** Wednesday, September 14 / Miércoles 14 de septiembre  
**Time / Hora:** 10:00 - 12:00 PM  
**Place / Lugar:** Lincoln Middle School Cafeteria / La Cafetería  
 400 Lincoln Avenue, Dunellen, NJ 08829  
 Open House Format so you can attend as your schedule permits / Formato de casa abierta para que pueda asistir según su horario.

**Survey / Encuesta**  
  
 English Español  
[www.dunellen-nj.gov](http://www.dunellen-nj.gov)

What is Transit-Friendly Planning?

The concept of transit-friendly planning supports the creation of an environment around transit facilities, such as bus stops, bus terminals, and rail or light rail stations, that supports and encourages transit use. This environment is achieved by communities proactively planning with local and state partners for development and circulation patterns that support safe, clean, and active places that are accessible to people of all ages, abilities, and backgrounds.

Transit-friendly planning encourages a pattern of development, density, and circulation that supports pedestrian activity, a sense of place, and local economic growth.

Making a community transit-friendly provides making development and redevelopment decisions that encourage residents to use transit for everyday trips to access work, shopping, school, and other community destinations.

Transit-friendly planning ultimately can enable people to enjoy being on-foot or on-bike with a high degree of confidence in their ability to move about their community and region via transit as a part of daily life.

**MIX OF USES**  
Encourage people to transit areas and transit centers during both peak and off-peak commuting times.

**TRANSIT AREA DEVELOPMENT**  
Encourage the better walk, pedestrian experience, and neighborhood context while promoting active street fronts and local economic growth.

**WAYFINDING**  
Provides clear directional and useful community information to guide residents and visitors.

**COMMUNITY PROGRAMMING**  
Allocate use of public outdoor green space in the transit areas to host a variety of community events and are open to all.

**MULTI-USE TRAILS**  
Support daily mobility by connecting transit to open space, recreation, and other community destinations.

**RIGHT-SIZE PARKING FACILITIES**  
Provides context-sensitive parking solutions at and around transit facilities.

**CURBSIDE MANAGEMENT**  
Efficiently and safely balances the needs of all transportation modes and users.

**COMPLETE STREETS**  
Balances the needs of all users and enables people of all ages and abilities to access transit facilities safely, comfortably, and efficiently on-foot, mobility device, bicycle, or scooter.

**HIGH QUALITY PUBLIC SPACE**  
Designs transit elements in the transit area and provides a place for community programming.

**RESIDENTIAL DENSITY AND A MIX OF HOUSING TYPES**  
Supports transit use while generating a regular customer base to support local commerce and community experience.

Transit-Friendly Planning  
Encourages Pedestrian Mobility

Walk to Transit

Downtown Sidewalks

Residential/Ribbon Sidewalks

High-Visibility Crosswalks with ADA-Compliant Curb Ramps

Traffic Calming Speed Hump

Pedestrian Priority Signals/Beacons

Pedestrian Scale Lighting

Traffic Calming Mini Roundabout

Pedestrian Actuation & Countdown Signals

### Transit-Friendly Planning Encourages Bicycle Mobility

- Low-Stress Bicycle Networks
- On-Road Bicycle Infrastructure
- Off-Road Bicycle Infrastructure
- Multimodal Trips
- Station Area Bicycle Parking
- Downtown Bicycle Parking
- Bikeshare/Micromobility
- Bicycle Compatible Crossings
- Transit-to-Trails & Tourism

### Transit-Friendly Planning Encourages Placemaking

- Pedestrian Plazas
- Parklets
- Events
- Wayfinding
- Public Art
- Green Infrastructure
- Transit-Oriented Development
- Food Trucks
- Tactical Urbanism Parks

### Where do you like to walk or bike in Dunellen?

**Place a green dot** **Write a comment**

### Where is it difficult or dangerous to walk or bike in Dunellen?

**Place a red dot** **Write a comment**

#### Borough of Dunellen Planning Initiatives

[Master Plan Re-Examination](#)   
 [Climate Vulnerability Assessment](#)   
 [Active Transportation Planning Study](#)   
 [Complete & Green Streets for All Policy](#)

**Attend the Community Open House!**

**Date:** Tuesday, September 14, 2022  
**Time:** 6:00 - 8:00 PM  
**Location:** Lincoln Middle School Cafeteria  
 202 Dunellen Avenue, Dunellen, NJ 08832  
*(Permito de casa abierta para que pueda asistir según su horario)*

**Take the Community Survey!**

[www.dunellen.nj.gov](http://www.dunellen.nj.gov)

#### Municipio de Dunellen Iniciativas de Planificación

[Reexamen del Plan Maestro](#)   
 [Evaluación de Vulnerabilidad Climática](#)   
 [Estudio de Transporte Activo](#)   
 [Política de Calles Complejas y Verdes Para Todos](#)

**¡Asiste al evento comunitario!**

**Fecha:** el jueves 14 de septiembre de 2022  
**Horario:** 6:00 - 8:00 PM  
**Lugar:** La Cafetería de Lincoln Middle School  
 202 Dunellen Avenue, Dunellen, NJ 08832  
*(Permito de casa abierta para que pueda asistir según su horario)*

**¡Llene la encuesta comunitaria!**

[www.dunellen.nj.gov](http://www.dunellen.nj.gov)

# NJ TRANSIT Transit Friendly Planning Technical Planning Services Borough of Dunellen, Middlesex County, NJ

## Community Outreach: Community Open House Summary Memo

TO:	Celeste Alsina, Facilities Planner, Transit Friendly Planning, NJ TRANSIT Megan Massey, Assistant Director, Transit Friendly Planning, NJ TRANSIT Michael Swan, Facilities Planner, Transit Friendly Planning, NJ TRANSIT
FROM:	Kevin Perry, NV5 Corey Hannigan, NV5
CC:	Bettina Zimny, NV5
DATE:	September 27, 2022, revised December 2, 2022

### Summary

This memo summarizes the effort to prepare and administer public outreach activities and provides a summary of findings obtained at the Dunellen Community Open House event. The event was conducted on Wednesday, September 14, 2022, from 6:30 to 8:30 PM, in the Lincoln Middle School Cafeteria in Dunellen.



### Preparation

In addition to the Active Transportation Planning Study provided by NJ TRANSIT Transit Friendly Planning with the support of NV5, the Borough of Dunellen is also engaged in the following planning initiatives:

- Master Plan Re-Examination (DMR Architects)
- Climate Vulnerability Assessment (DMR Architects)
- Complete and Green Streets for All Policy (NJTPA, Voorhees Transportation Center, Sustainable Jersey)

The borough administration determined that an open house public meeting, combining the four planning initiatives within a single event, would be the preferred format to obtain public input. This approach enabled the borough to streamline its public notifications and encourage participation, while being respectful of the time commitments of local constituents. For the same reasons, the borough also determined that the online survey should combine the four planning initiatives.

The following tasks were accomplished by NJ TRANSIT staff and NV5 in support of this effort:

- Beginning in late June, NJ TRANSIT and NV5 participated in bi-weekly calls with the borough administration and other project teams to coordinate outreach efforts. Key outcomes included:
  - Public outreach survey and schedule
  - Coordination of the date and time for the Community Open House
  - Updates from each project team and the borough
  - Identification of an ADA- and transit-accessible location for the Community Open House
  - Discussion of the needs, resources, and solutions to provide a successful outreach event
- Celeste Alsina took a leadership role in ensuring the success of the coordination effort by developing meeting agendas, leading calls, summarizing next steps/ action items, and setting dates for follow-up collaboration and coordinated deliverables.
- NJ TRANSIT staff developed and refined questions for the online survey with support from NV5.
- NV5 developed a flyer in English and Spanish (translation provided by NJ TRANSIT) to coordinate notification of the four planning initiatives, the open house event, and provide access (QR code) to the online survey.
- The borough posted a notification of the event on its website, along with a video by Mayor Cilento announcing the Open House and inviting community participation.
- NJ TRANSIT and NV5 coordinated to develop presentation slides.
- NJ TRANSIT and NV5 coordinated with project staff of the Complete & Green Streets for All Policy to co-curate an interactive exhibit that would provide meaningful input for both efforts. NV5

developed, revised, and plotted additional display boards to coordinate with materials previously developed by Voorhees Transportation Center.

## Event Summary

- The Community Open House was conducted on Wednesday, September 14, 2022, from 6:30 to 8:30 PM, in the Lincoln Middle School Cafeteria in Dunellen.
- NJ TRANSIT and NV5 staff arrived at 5:30 to set up the community input exhibits. The event was attended by:
  - Celeste Alsina, NJ TRANSIT
  - Michael Swan, NJ TRANSIT
  - Kevin Perry, NV5
  - Corey Hannigan, NV5
- Celeste Alsina and Kevin Perry participated in the opening presentation, providing a brief overview of Transit Friendly Planning and the Active Transportation Study.
- NJ TRANSIT provided “passports” to attendees to encourage participation. The passports were stamped by a project team member from each planning initiative once the individual had participated or provided input. At the end of the event, completed passports were placed in a raffle, from which NJ TRANSIT then selected four winners at random and provided a gift bag prize to each.
- NJ TRANSIT and NV5 co-curated the Active Transportation/Complete Streets exhibit with staff from NJTPA, Voorhees Transportation Center, and Sustainable Jersey.
- NJ TRANSIT provided tablets for participation in the online survey.
- A kids table was provided with coloring/ activity sheets and crayons (materials provided by Keep Middlesex Moving).
- The event was attended by 30 to 40 individuals.

## Key Findings

The following notes present key findings from the Dunellen Community Open House. Additional notes and mark-ups are documented on the public input boards included in this memo and will be used for reference in advancing the recommendations of study.








- The three streets that provide the best connectivity to the downtown/station area from the north (Washington Avenue, Lincoln Avenue, and Madison Avenue) were reported as difficult/dangerous to walk or bike.
- Washington Avenue had previously been understood as difficult for walking or biking (high traffic volume, speeds), but Madison Avenue was emphasized as dangerous in interactions at this meeting.
- Students at the Middle and High Schools walk along First Street during physical education and cross either Madison Avenue (to access Morecraft Park) or Washington Avenue (to access Washington Park).
- In the station area downtown, the station parking lot was reported as a vehicular cut-through, and dangerous to pedestrians.
- Access to Columbia Park was again identified as difficult/dangerous.
- Speeding vehicles were noted as the primary concern for bicycle safety/mobility. Attendees also expressed concern for driver behaviors that create additional risk for pedestrian and bicyclists, including not stopping at crosswalks, and distracted driving.
- Crosswalk conditions, incomplete sidewalks, and lighting were noted as primary concerns for pedestrian safety/mobility.
- The downtown area, Columbia Park, and the residential streets on the north side of town were reported as places people like to walk or bike. (Note that this may also be true for the residential streets on the south side of town, but input may be skewed by the geographic origins of meeting attendees).
- The Green Brook Flood Control Project (northern border of the borough) was indicated as an opportunity for a trail facility (previously identified in the Middlesex County Bicycle Pedestrian Plan, 2002).
- Meeting attendees expressed support for a wide range of pedestrian facilities and amenities. This may indicate that a high-quality pedestrian environment (safety, lighting, maintenance, shade, seating, social spaces, etc., as appropriate) will encourage more walking around town.
- General support was expressed for bicycle facilities (lanes, bike parking, etc.) around town.
- Support was expressed for traffic calming measures that rely on vertical deflection (raised crosswalk/intersection, speed hump, speed cushion) over horizontal deflection (mini roundabout, chicane, median island).
- Other traffic calming measures that received support include curb extensions, signs and pavement markings, and radar feedback signs.

## Outreach Photos





## Pedestrian Safety & Mobility: What are your biggest concerns?

<b>Not Enough Sidewalks</b>  	<b>Obstructed Sidewalks</b>  
<b>Not Enough Crosswalks</b>  	<b>Incomplete Sidewalks</b>  
<b>Crosswalk Too Long</b> 	<b>No Pedestrian Lighting</b>  
<b>Inadequate Crossing Time</b>  	<b>No Crossing Guards</b>  
<b>Faded Crosswalk Paint</b>  	<b>Other Concerns for Walking?</b> <p>uneven sidewalks ●  re-lighting possibly to light sidewalks, not necessarily street?  Side walks not maintained</p>
<b>No Curb Ramps</b> 	








Dunellen Complete & Green Streets Policy

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Dunellen Active Transportation Planning Study

NV5

## Driver Behavior: What are your biggest concerns?

<b>Speeding</b>  	<b>Other Concerns for Driver Behavior?</b> <p>confusing turn lanes - no paint/sign</p>
<b>Distracted Driving</b>  	
<b>Drivers not stopping for pedestrians</b>  	
<b>Idling Vehicles</b>  	
<b>Tailgating</b> 	
<b>Ignoring Traffic Signs/Signals</b>  	

Dunellen Complete & Green Streets Policy

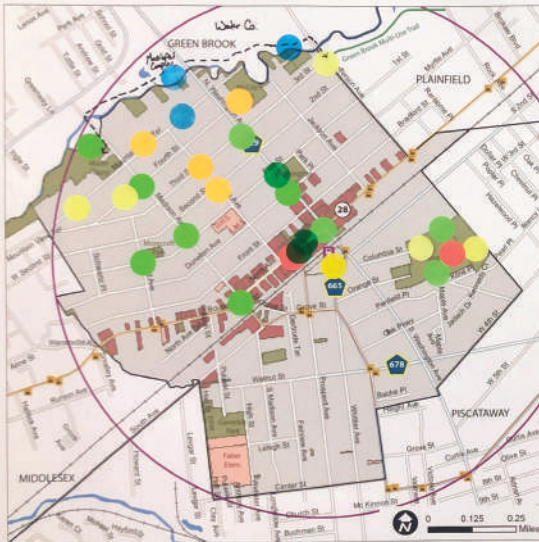
NJTPA RUTGERS

Dunellen Active Transportation Planning Study

NV5

# Where do you like to walk or bike in Dunellen?

Place a dot





Write a comment

*walking trail along <sup>the green</sup> brook as part of the Green Brook Flood control Project*



## Pedestrian Facilities: What would you like to see more in Dunellen?

**Residential Sidewalks**  


**Parklets**  

**Downtown Sidewalks & Amenities**  



**Lighting**  

**Crossing Guards**  



**Trails**  

**High-Visibility Crosswalks with ADA-Compliant Curb Ramps**  



















**Rain Gardens / Green Infrastructure**  

**Raised Crosswalks**  

**Other Ideas for Pedestrian Facilities?**  
*More street trees and appreciation of them.*








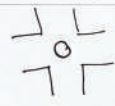















**Pedestrian Crossing Beacons**  

## Bike Facilities: What would you like to see more in Dunellen?

<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Low-Stress Bike Networks</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Bike Compatible Crossings</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #388E3C; color: white; padding: 5px; margin-bottom: 5px;"><b>Bike Lanes</b></div>  <div style="display: flex; align-items: center;">  <div style="margin-left: 10px; font-size: small;"> <p>Check Main Ave check Main Main Park</p> </div> </div>	<div style="background-color: #00838F; color: white; padding: 5px; margin-bottom: 5px;"><b>Shared Use Paths</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Buffered Bike Lanes</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Bikeshare/Micromobility</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #00838F; color: white; padding: 5px; margin-bottom: 5px;"><b>Bike Corrals</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Other Ideas for Bike Facilities?</b></div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;"> <p style="font-family: cursive;">Better Connected Routes to Metuchen, New Brunswick + signage</p> </div>	
<div style="background-color: #FF8C00; color: white; padding: 5px; margin-bottom: 5px;"><b>Sidewalk Bike Racks</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #388E3C; color: white; padding: 5px; margin-bottom: 5px;"><b>Station Area Bike Parking</b></div>  <div style="display: flex; align-items: center;">  </div>	

Dunellen Complete & Green Streets Policy
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Dunellen Active Transportation Planning Study

## Traffic Calming: What would you like to see more in Dunellen?

<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Curb Extension</b></div>  <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">  </div> </div>	<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Raised Crosswalk or Raised Intersection</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #388E3C; color: white; padding: 5px; margin-bottom: 5px;"><b>Neighborhood Traffic Circle or Mini Roundabout</b></div>  <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">  </div> </div>	<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Speed Hump</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Mini Roundabout</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Speed Cushion</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Chicane / Lateral Shift</b></div>  <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">  </div> </div>	<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Median Island</b></div>  <div style="display: flex; align-items: center;">  </div>	
<div style="background-color: #00838F; color: white; padding: 5px; margin-bottom: 5px;"><b>Signs &amp; Pavement Markings</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Other Ideas for Traffic Calming?</b></div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;"> <p style="font-family: cursive;">something to slow down... cut out parking as long as it does not remove parking</p> </div>	
<div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"><b>Radar Feedback Signs</b></div>  <div style="display: flex; align-items: center;">  </div>	<div style="background-color: #00728F; color: white; padding: 5px; margin-bottom: 5px;"><b>Other Ideas for Traffic Calming?</b></div> <div style="border: 1px solid #ccc; padding: 10px; min-height: 100px;"> <p style="font-family: cursive;">something to slow down... cut out parking as long as it does not remove parking</p> </div>	

Dunellen Complete & Green Streets Policy
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Dunellen Active Transportation Planning Study

# Attendee Passport

## PLANNING PASSPORT

<b>Master Plan Re-Examination</b>	<b>Complete Streets Policy</b>	<b>Active Transportation Planning Study</b>

**Name:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

Visit each table for a stamp.  
Once completed, return your  
passport to the sign-in table for a  
chance at a prize!

# Community Open House / Survey Flyer

## Borough of Dunellen Planning Initiatives

**Master Plan  
Re-Examination**

**Climate  
Vulnerability  
Assessment**

**Active  
Transportation  
Planning Study**

**Complete & Green  
Streets for All  
Policy**

**Attend the  
Community Open House!**

**Date:** Wednesday, September 14, 2022  
**Time:** 6:30 - 8:30 PM  
**Location:** Lincoln Middle School Cafeteria  
 400 Dunellen Avenue, Dunellen, NJ 08812  
 Open house format so you can attend as your schedule permits!

**Take the Community Survey!**

English

Or visit:  
[www.dunellen-nj.gov](http://www.dunellen-nj.gov)

Español

## Municipio de Dunellen Iniciativas de Planificación

**Reexamen del  
Plan Maestro**

**Evaluación de  
Vulnerabilidad  
Climática**

**Estudio de  
Transporte  
Activo**

**Política de Calles  
Completas y Verdes  
Para Todos**

**¡Asiste al evento comunitario!**

**Fecha:** el miércoles 14 de septiembre de 2022  
**Hora:** 6:30 - 8:30 PM  
**Lugar:** La cafetería de Lincoln Middle School  
 400 Dunellen Avenue, Dunellen, NJ 08812  
 ¡Formato de casa abierta para que pueda asistir según su horario!

**¡Llene la encuesta comunitaria!**

English

O visite:  
[www.dunellen-nj.gov](http://www.dunellen-nj.gov)

Español

# NJ TRANSIT Transit Friendly Planning Technical Planning Services Borough of Dunellen, Middlesex County, NJ

## Community Outreach: Harvest Fest Summary Memo

TO:	Celeste Alsina, Facilities Planner, Transit Friendly Planning, NJ TRANSIT Megan Massey, Assistant Director, Transit Friendly Planning, NJ TRANSIT Michael Swan, Facilities Planner, Transit Friendly Planning, NJ TRANSIT
FROM:	Kevin Perry, NV5 Corey Hannigan, NV5
CC:	Bettina Zimny, NV5
DATE:	October 11, 2022, revised December 2, 2022

### Summary

This memo summarizes the public outreach effort conducted by NV5 and NJ TRANSIT on October 9, 2022. The planning team curated a public input exhibit at Dunellen’s annual Harvest Fest, a community festival attended by over 100 vendors or community groups attracting large numbers of visitors from Dunellen and surrounding communities. The event was recommended by the Mayor and Borough Administrator during coordination meetings. With the objective to obtain meaningful input to help plan for active transportation in Dunellen, the following activities were conducted:



- NV5 prepared a series of large format display boards to solicit public input, in coordination with NJ TRANSIT (see Public Input Boards).
- Building on the existing conditions analysis and prior input collected through public engagement, these materials present a first iteration of an active transportation network for Dunellen, with potential routes and facilities for discussion and consideration. The planning team helped to explain the content of boards and participants were invited to identify elements that they like with a green dot, and elements that they do not like with a red dot. The exhibit also included an informal poll asking participants to indicate the mode of transportation used to arrive to the festival.
- NV5 and NJ TRANSIT conducted outreach activities from 11:00 AM to 4:00 PM. The active transportation exhibit was located next to the Dunellen Borough exhibit, enabling the mayor and other local officials to encourage public participation.

## Key Findings

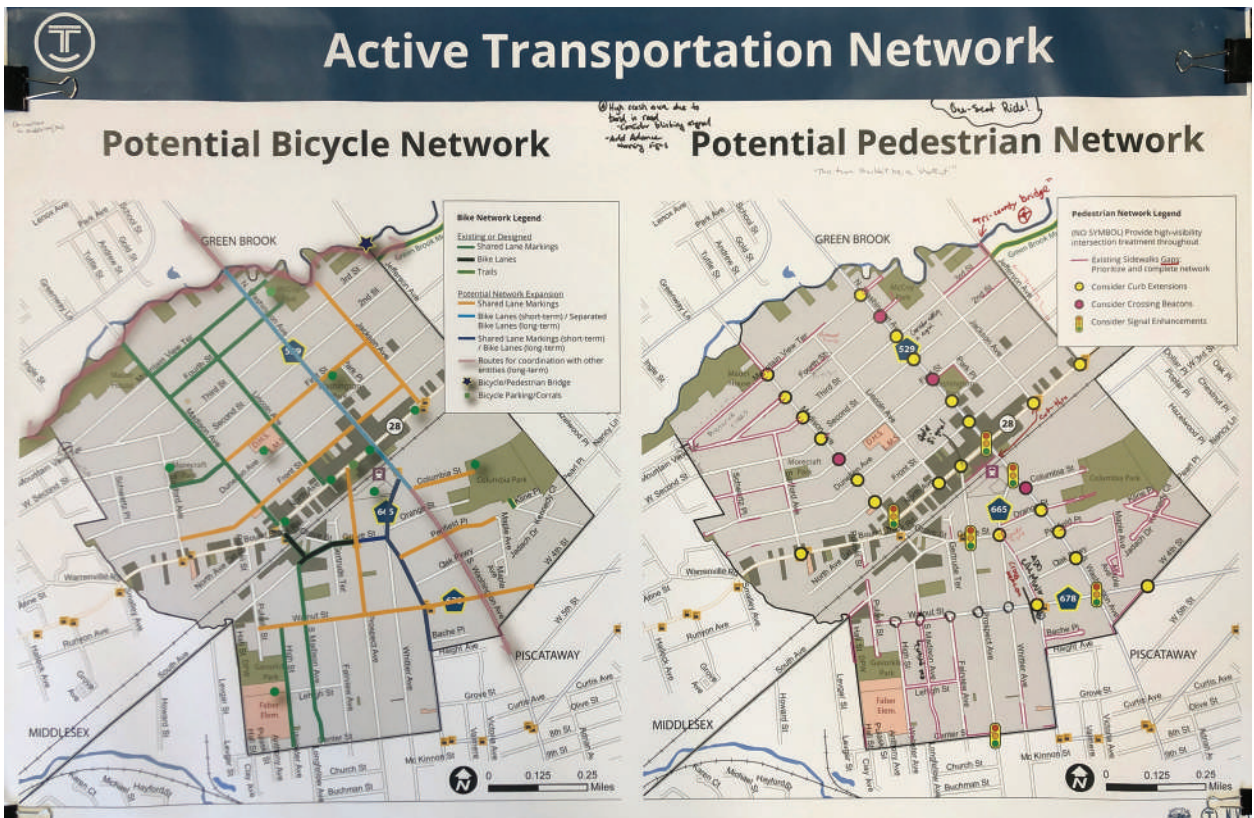
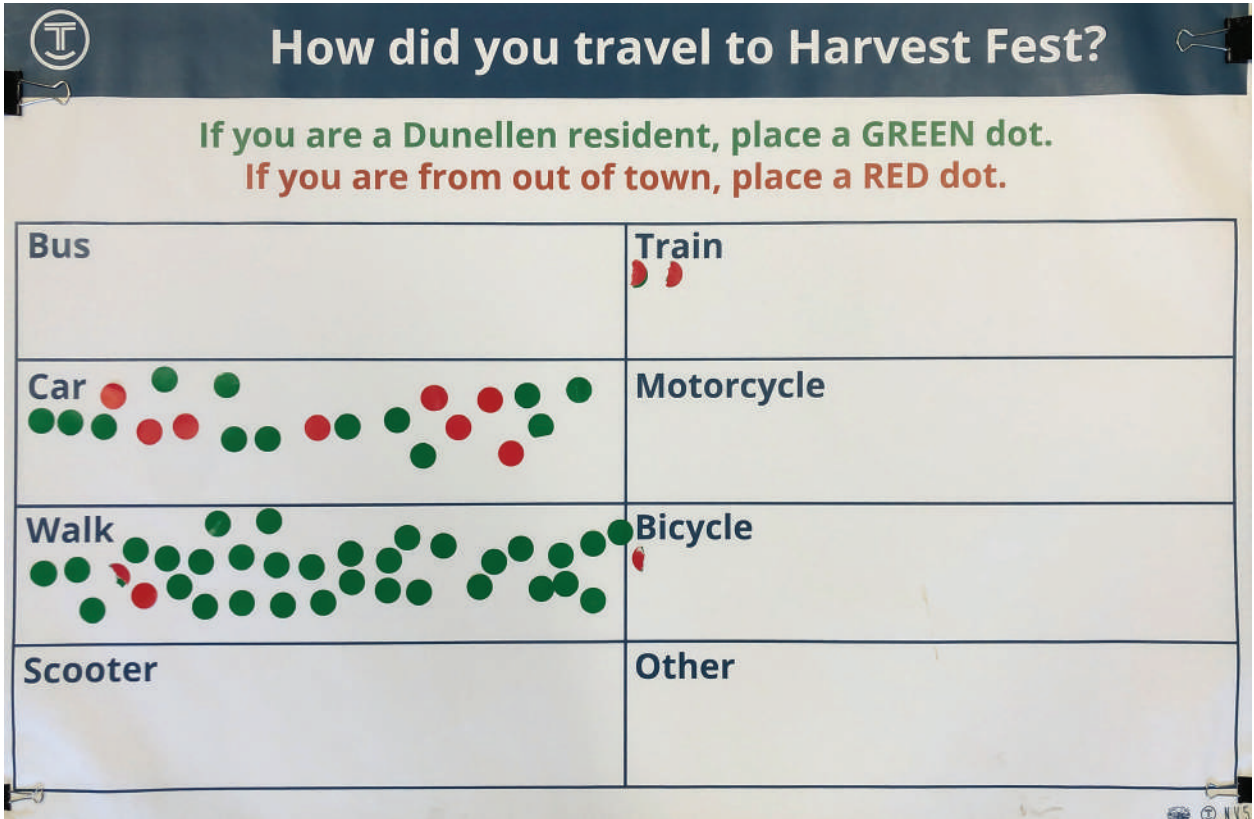
The following notes present key findings from the outreach effort of October 9, 2022. Additional notes and mark-ups are documented on the public input boards included in this memo and will be used for reference in refining the active transportation network and recommendations.

- The majority of the recommendations presented at the event were well-received by participants.
- Pedestrian facilities, such as a complete sidewalk network, high-visibility intersection treatments, crossing beacons (at strategic locations), and traffic signal enhancements were fully supported by participants.
- Curb extension received strong support, along with some concerns expressed, including:
  - Concern that cars would ride over the curb,
  - Concern that truck turns would be negatively affected,
  - Concern that parking capacity would be reduced.
- Bicycle facilities, in general, received strong support with full support for:
  - Bicycle parking/corrals,
  - Long-term expansion of the Green Brook Multi-Use trail (current terminus at Jefferson Avenue and Third Street),
  - Long-term consideration of a bicycle and pedestrian bridge connecting to Green Brook (at the end of Jefferson Avenue, where a vehicular bridge was removed due to flooding issues).
- Although the borough continues to re-stripe key bicycle routes with shared lane markings and speed limit markings (South Madison Avenue and Lincoln Avenue are examples), support for this treatment was mixed. Some participants stated that there are too many markings, distracting them from looking ahead and around for surrounding pedestrians or bicyclists. Others expressed confusion with shared lane markings and what they actually mean.
- Washington Avenue/CR-529, Madison Avenue, New Market Road/CR-665, and Walnut Street/CR-678 were discussed as barriers that are unsafe and discourage walking and biking.
- Along Washington Avenue/CR-529:
  - The posted 25 MPH speed limit is disregarded by the majority of drivers.
  - The wide roadbed north of Columbia Street has wide lanes (16-feet) and feels like a highway, which encourages speeding.
  - Few crosswalks are striped along Washington Avenue, and those that are have only parallel-striped crosswalks, which are not considered high-visibility.
  - When motorists do stop to allow a pedestrian to cross, numerous residents stated that traffic usually continues around (to the right) of the stopped car, putting pedestrians in great danger.
  - It was also stated that drunk driving along Washington Avenue is a significant concern, and that parked cars are often hit.
- Along Washington Avenue/CR-529, there was a stronger preference for separated bike lanes (long-term project) over standard bike lanes (short-term striping project).
- Madison Avenue was again described as a “speedway” with no regard for people on foot or on bikes. Residents expressed support for traffic controls (stop or signal) somewhere along Madison Avenue to force vehicles to a stop and slow speeds overall along the street.
- New Market Road/CR-665 was characterized as busy with many cars and trucks speeding. The bend in New Market Road near Walnut Street was described as particularly dangerous with numerous accidents in recent times.
- Along New Market Road/CR-665, there was a stronger preference for bike lanes over shared lane markings. However, the planning team may investigate a more substantial, long-term solution along New Market Road, such as a sidepath or cycle track.
- Walnut Street/CR-665 was described as having cars that speed and an incomplete sidewalk network. Walnut Street is a key east-west route that should enable children to walk to Faber Elementary School.
- Because of dangerous conditions walking to school, most parents drive their children to Faber Elementary School, which increases peak traffic around town.

# Outreach Photos



# Public Input Boards



# Bicycle Facilities

**Green Dot = Like it!**  
**Red Dot = Don't like it**

### Shared Lane Markings

### Bicycle Parking/Corrals

### Bicycle/Pedestrian Bridge and Trail Route

#### Washington Avenue/CR-529

##### Bike Lanes (short-term)

##### Separated Bike Lanes (long-term)

#### New Market Road/CR-665 and Grove Street (east of Prospect Avenue)

##### Shared Lane Markings (short-term)

##### Bike Lanes (long-term)

# Pedestrian Facilities

**Green Dot = Like it!**  
**Red Dot = Don't like it**

### High-Visibility Intersection Treatment

- High-visibility ladder-style crosswalks
- Sore stripe pattern through no-parking areas
- Advance warning signs
- ADA-compliant curb ramps

### Flags!

Light-up Crosswalks!

### Crossing Beacons

Enhance pedestrian visibility at key crossings of high-volume/high-speed roadways.

### Complete Sidewalk Network

### Curbs Extensions

Enhance safety and traffic calming at high-volume/high-speed intersections or mid-block crossings.

Textured epoxy surface (temporary)

Concrete (permanent, may require relocation of drainage or utilities)

### Traffic Signal Enhancements

### Pedestrian Countdowns

Leading Pedestrian Interval (LPI)

LPI Phase 1: Head Start for Pedestrians  
LPI Phase 2: Green Light to Vehicles



# Appendix C: Advisory Committee Meeting Notes

**Dunellen Technical Assistance Project  
Technical Advisory Committee (TAC) Meeting #1 Notes  
Tuesday, September 20, 2022 10-11AM**

**1. Welcome and Introduction**

Celeste Alsina started the meeting at 10:02am and welcomed everyone.

**a. Project Team**

**b. Mayor**

Mayor Jason Cilento introduced himself, as well as Bill Wagner (Dunellen Parking Authority). The Mayor thanked NJ TRANSIT Government Community Relations for connecting the Borough to the Transit Friendly Planning Program. The Mayor was impressed that the Planning Open House attracted approx. 40 attendees.

**c. Technical Advisory Committee**

The TAC members introduced themselves:

- Dr. Isaias Noel Gendrano, Dunellen Board of Education
- Francis Reiner and Thomas DiMartino, DMR Architects (Master Plan Re-Examination)
- Harold VanDermark and Diana Starace (Traffic and Pedestrian Safety Task Force).
  - They are working with Keeping Middlesex Moving on a walking school bus, walk to school day in October.
- Bill Wagner, Chairman of Parking Authority, Borough of Dunellen
- Arlene Holt, Program Coordinator Keep Middlesex Moving
- Marjoly Mascarenhas, Middlesex County DOT (Mobility Unit)
- Deb Kagan, Executive Director NJ Bike and Walk Coalition
- Jon Dugan, Voorhees Transportation Center, Rutgers University
- Dawn Spango, Government Community Relations, NJ TRANSIT
- Peter Bilton, NJTPA (Complete and Green Streets Policy)
- None - Planning Board, Dunellen PD, NJDOT

## **2. Transit Friendly Planning Program Project Background, & Approach**

- Celeste Alsina presented an overview of the Transit Friendly Planning Program.
- Kevin Perry discussed the Project Background and Approach. Kevin explained that the final deliverables will include an active transportation network map, a design guide, and a priority planning concept.

## **3. Existing Conditions Overview**

Corey Hannigan presented an overview of the Existing Conditions report. Corey stressed the importance of taking vehicle speeds, traffic volume, and roadway width into consideration.

## **4. Community Outreach / Survey Findings**

- Celeste Alsina discussed the community outreach that the project team has completed to date.
  - The project team attended the August 18<sup>th</sup> Music in the Park Event. Key findings were popular destination for biking and walking were identified, learned that high crash intersections are also places people like to bike and walk, and that residents are interested in traffic calming measures.
  - The project team also co-hosted the September 14 Planning Open House. The largest concerns were centered around driver behavior, speeding, and incomplete sidewalks. Attendees showed strong interest in more pedestrian amenities as well as improved lighting for pedestrians and cyclists.
- Diana Starace suggests printing large format of maps (particularly the crash data map) for the Fall Festival.
- Celeste Alsina presented several findings from the community outreach survey.

## **5. Next Steps: Active Transportation Network**

- Kevin Perry explained that the project team is moving on from existing conditions and community outreach to envisioning what an active transportation network could look like in Dunellen.
- Kevin explained the importance of identifying community priorities when designing this type of network.
- Kevin suggested that some potential crosswalk interventions could include sidewalk continuity, daylighted high-visibility crosswalks, beacon crosswalks, and traffic calming.
- Kevin suggested prioritizing low-cost improvements that “fit” within existing roadbeds as well as identifying long-term projects.
- Kevin mentioned that two key roads for this project will be N. Washington Avenue (CR-529) (48’) and Madison Avenue (40’).
- Kevin reiterated that the project is intended to encourage people to walk and bike to downtown to promote local economic development. Bike Parking/Corrals will be analyzed more as a potential recommendation.

## **6. Discussion and Next Steps**

- Kevin Perry informed the TAC that the 2<sup>nd</sup> TAC Meeting will discuss what the priority routes should be in Dunellen in great detail.
- Mayor Cilento asked how walkability and bike friendliness will impact the need for parking downtown. Kevin responded that we approach the project as avoiding any impact on existing parking. Additionally, he stated that upon successful completion, the demand for parking could decrease as residents walk for short, local trips.



- Mayor Cilento stated that if promoting a mode change from driving to walking/biking for short trips, it could open up existing parking spots for visitors from outside of town.
- Diana Starace said that it would be great if Dunellen became more of a destination that attracted people via NJ TRANSIT rail.
- Deb Kagan commented that the parking issue comes up frequently in many similar projects in New Jersey. She asked if the project team's outreach included all constituents as other issues can be daylighted later in the project (opposition to negative impacts to existing parking) from individuals who weren't involved in the project earlier.
- Deb Kagan suggested trying to reach more non-traditional organizations who are not normally engaged in active transportation projects (seniors, youth, disability advocates, health advocates). Kevin responded that the project team working with the Mayor's Traffic and Pedestrian Safety Task Force. Mayor Cilento responded to Deb Kagan stating that his Administration's philosophy with outreach is to "meet people where they are at."
- Mayor Cilento asked if the Transit Friendly Planning Program team could attend an upcoming senior club meeting to understand how to project could address older people's active transportation needs.
- Celeste Alsina responded that the project team will take the public outreach advice into consideration throughout the project. Kevin Perry stated that the 2<sup>nd</sup> meeting date has not been set but we will send as it becomes available. Celeste ended the meeting by thanking everyone for attending and reminding the TAC that the project team will be at Harvest Fest on Sunday, October 9.

**Attendees**

1. Arlene Holt
2. Bill Robins
3. Peter Bilton
4. Corey Hannigan
5. Deb Kagan
6. Diana Starace
7. Francis Reiner
8. Thomas DiMartino
9. Harold VanDermark
10. Sean Huberth
11. Isaias Noel Gendrano
12. Jason Cilento
13. Kevin Perry
14. Marjoly Mascarenhas
15. Joseph Rapp
16. Elise Bremer-Nei
17. Bill Wagner
18. Dawn Spango
19. Christopher D'Elia
20. Celeste Alsina
21. Michael Swan

**Action Items**

- Project team will prepare materials for Harvest Fest outreach event, October 9
  - Create a board that shows some Existing Conditions findings, such as crash maps
  - Create a board to obtain feedback on potential network considerations
- Project team will consider format for TAC Meeting #2 and provide an invitation to the TAC members when available



# Dunellen Active Transportation Planning Study

Transit Friendly Planning  
Technical Assistance

## Meeting with Mayor's Traffic and Pedestrian Task Force November 3, 2022

### **Celeste Alsina**

Senior Facilities Planner  
NJ TRANSIT  
CZatarain-alsina@njtransit.com

### **Kevin Perry, LLA**

Senior Landscape Architect  
NV5  
Kevin.Perry@nv5.com


# Dunellen Active Transportation Study

## Meeting with Mayor's Traffic and Pedestrian Task Force

### Discussion

1. **Outreach to date:**
  - a. Music in the Park
  - b. Public Meeting
  - c. Online Survey
  - d. Harvest Fest
2. **Active Transportation Study products:**
  - a. Existing Conditions
  - b. Bike/Pedestrian Network
  - c. Recommendations/Design Guidance
  - d. Preliminary Planning Concept
3. **Draft Recommendations:**
  - a. Continue sharrow/speed limit striping
    - i. Signage enhancements
    - ii. Education – meaning of shared lane markings
  - b. Continue high-visibility crosswalk treatment (ladder crosswalk, ADA curb ramp, gore striping, signs)
  - c. Sidewalk continuity
    - i. Identify key sidewalk gaps to be completed (e.g., Walnut Street, New Market Road, others?)
    - ii. Inventory/assess sidewalk conditions around town to quantify/prioritize repairs
    - iii. Assess lighting on key streets (Madison, Washington, North Ave, New Market, Walnut, station area)
    - iv. Key crossing locations (crossing barrier streets to access downtown/transit, schools, parks)
      1. Flashing beacons
      2. HAWK signal?
  - d. Bike parking
    - i. Pilot bike corrals downtown on North Avenue or approaches
    - ii. Install bike parking at parks and schools
  - e. Long-term improvements:
    - i. Washington Avenue – County coordination
    - ii. New Market Road – County coordination
    - iii. Washington and North Avenue intersection – County and NJDOT coordination
    - iv. Green Brook Multi-Use Trail
    - v. Madison Avenue – traffic study to determine if signal or stop control is appropriate
4. **Preliminary Planning Concept possibilities**
  - a. Bike corral pilot downtown
    - i. Transit Village
  - b. Walnut Street and Prospect Streets
    - i. High-visibility crossings, sidewalk completion, assess Prospect & Grove signal, lighting
    - ii. Safe Route to Transit/Safe Route to School
  - c. **Others?**

Public Input from Harvest Fest, 10/9/2022




# Pedestrian Facilities

**Green Dot = Like it!**  
**Red Dot = Don't like it**


  

### High-Visibility Intersection Treatment




- 1 High-visibility/judder-style crosswalks
- 2 Gore stripe pattern through no-parking areas
- 3 Advance warning signs
- 4 ADA-compliant curb ramps

### Complete Sidewalk Network




### Curb Extensions

Enhance safety and traffic calming at high-volume/high-speed intersections or mid-block crossings




Textured epoxy surface (temporary)




Concrete (permanent, may require relocation of drainage or utilities)

### Flags!

Light-up Crosswalks!




Flashing Beacon Assembly




Pedestrian Hybrid Beacon (HAWK signal)

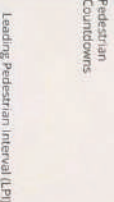
### Traffic Signal Enhancements




Accessible push-buttons




Pedestrian Countdowns



Leading Pedestrian Interval (LPI)



LPI Phase 1: Head Start for Pedestrians



LPI Phase 2: Green Light to Vehicles

Public Input from Harvest Fest, 10/9/2022



# Bicycle Facilities

**Green Dot = Like it!**  
**Red Dot = Don't like it**

**Washington Avenue/CR-529**



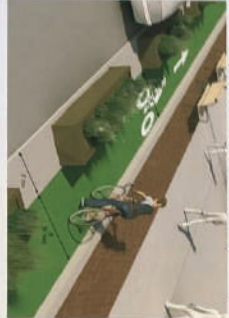
- Shared Lane Markings
- Bicycle Parking/Corrals




**New Market Road/CR-655 and Grove Street (east of Prospect Avenue)**



- Shared Lane Markings (short-term)
- Separated Bike Lanes (long-term)
- Shared Lane Markings (short-term)
- Bicycle/Pedestrian Bridge and Trail Route
- Bike Lanes (long-term)




# Dunellen Active Transportation Planning Study

## Mayor's Traffic and Pedestrian Task Force Notes

Transit Friendly Planning Technical Assistance  
Meeting: November 3, 2022; Notes: December 2022

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Analysis of existing conditions  
Bicycle Network  
Pedestrian Network

### County Roads

1. Feasibility Study
2. Additional coordination (look into grants and initiatives)
3. Curb extensions (\*highly recommended)
  - a. Epoxy
  - b. Concrete

### Pedestrian Facilities

1. Washington and North Ave
  - a. Recommendations
    - i. Protective Phase (\*cost efficient)
    - ii. Adjustment to length configurations on existing light signals

### Bicycle Facilities

1. Residents mentioned 'signage clutter' on residential streets
  - a. Recommendations
    - i. "Educate drivers"
    - ii. Resources on shared lanes
    - iii. Consider bike lanes for Penfield Ave; shared use path on one side
    - iv. Reconstruction of sidewalk gaps (New Market)

## Preliminary MTAP Task Force Recommendations

Prioritize low-cost improvements to increase pedestrian and bicyclist confidence

1. Signal Enhancements (\*\*\*North Ave/Washington, New Market Rd/Washington, North Ave/Madison, Prospect Ave/Grove)
  - a. Adjust configurations of traffic lights to accommodate
    - i. "Protected-only" phasing consists of providing a separate phase for left-turning traffic and allowing
    - ii. left turns to be made only on a green left arrow signal indication, with no pedestrian movement or vehicular traffic conflicting with the left turn.
  - b. Pedestrian displays North Ave/Washington Ave
2. Four-Way Stop on Walnut Ave and S Madison Ave
3. Curbs and Sidewalks around Faber School
4. Temporary Curb extensions along North Ave between Madison Ave and Jefferson

## **Dunellen Active Transportation Planning Study Technical Advisory Committee (TAC) Meeting #2 Notes Tuesday, April 11, 2023**

### **1. Welcome and Introductions**

Celeste Alsina introduced the project team and the technical advisory committee (TAC).

### **2. About the Study**

Kevin Perry gave an overview of the project. He discussed the purpose of the project, the methodology, and outcomes.

### **3. Existing Conditions Review**

Kevin gave a quick recap of the Existing Conditions, which were discussed in greater detail at the Fall 2022 TAC meeting.

### **4. Community Outreach Findings**

Celeste presented an overview of the community outreach process and findings.

Anne Heasley asked for clarification about the study's analysis of the rail embankment and its relation to storm events. Kevin reiterated the need to keep bicycle/pedestrian crossings clear and passable in flooding events.

Bill Robbins suggested there is a need for places across town for cyclists to store their bicycles safely. Kevin stated that bike corrals are included as a recommendation.

### **5. Recommendations for Dunellen's Active Transportation Network**

Kevin presented the study's recommendations. The project team paid special attention to make this study user friendly.

The recommendations have three key components: network, time frame, and level of detail. The recommendations include general design guidance for

pedestrian accommodations, bicycle accommodations, and traffic calming; bicyclists and pedestrians improvements for key routes; and a preliminary planning concept at Walnut Street (CR-678) and Prospect Avenue.

Hal Vandermark asked about the difference between the speed cushions and speed humps. Hal stated that both traffic calming instruments will slow down emergency vehicles. He also asked about how to conduct a pilot project.

## **6. Discussion and Next Steps**

- Celeste stated that Kevin is working on the final report and the cost estimate for the priority planning concept plan which will be shared with the Borough. The final report was written with the Safety Taskforce in mind. The final report will also include potential funding sources for the recommendations.
- Noel Gendrano asked if there is an increased urgency to implement these recommendations if there is anticipated population growth in the near term.
- Hal Vandermark mentioned that there have been several safety incidents on Route 28 already this year and that the urgency is already there for implementing several of the safety recommendations. Christopher D'Elia responded about the importance of the planning process in securing funding for capital improvements. Mayor Jason Cilento reiterated that these planning studies can help municipalities access funding.
- Noel Gendrano mentioned that low-cost striping improvements around Faber Elementary School have helped improve pedestrian safety and access. He is encouraged by the report's recommendations that improvements can be made.
- Anne Heasley stated that there is an opportunity to align this study with recent work conducted in Dullen regarding climate resiliency.
- Mayor Jason Cilento thanked everyone who has worked on this study including the TAC.
- Celeste asked that TAC members reach out if they have any additional comments for the project team.
- Kevin stated that the draft report will be updated to incorporate several of the comments from this meeting.

**Attendees:**

1. Anne Heasley
2. Arlene Holt
3. Bill Robbins
4. Elise Bremer-Nei
5. Cole Sigmon
6. Crisol-Iris Lantz
7. Christopher D'Elia
8. Dan Hauben
9. Blythe Eaman
10. Hal VanDermark
11. Isaias Noel Gendrano
12. James Sinclair
13. Jason Cilento
14. Kevin Perry
15. Megan Massey
16. Michael Dannemiller
17. Lou Ploskonka
18. Celeste Alsina-Zatarain
19. Michael Swan



# Appendix D: Vintage Photo Review

# Introduction

This appendix contains a series of photos taken between the 1940s and 1970s by longtime Dunellen resident William G. Perry, Sr. Where possible, the photos have been replicated from the same locations in 2023 to illustrate both persistent elements and changes to the Dunellen landscape over time.

1950 U.S. CENSUS OF POPULATION AND HOUSING

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS

FORM P1

DATE INDEXED: April 25  
INDEXED BY: Jack Madden

20

House 1 - filled out income blank & mailed to Washington

FOR HEAD OF HOUSEHOLD										FOR ALL PERSONS										FOR PERSONS 14 YEARS OF AGE AND OVER									
NAME										SEX, AGE, MARRIAGE										OCCUPATION									
AMSDEN, ANDREY DAV										W F 21 NEV N.J.										WK 37 OPERATOR FRANK UTILITY P 510 576									
FRED SR SON										W M 17 NEV N.J.										OT NO NO NO									
AVICE DAV										W F 12 NEV N.J.																			
DORSTAY DAV										W F 1 NEV N.J.																			
MCFADDEN, JOHN T HEAD										W M 52 MAR N.J.										WK 40 TEMPLATE MAKER MANLY STEEL P 820 361									
MARIE WIFE										W F 43 MAR N.J.										WK 40 SEWING MAKER MANLY CUMBER P 470 441									
LILLIAN DAV										W F 17 NEV N.J.										WK 40 WEAVING MAKER MANLY RETIG. IMP P 690 351									
JOHN T SON										W M 11 NEV N.J.										OT NO NO NO									
RITA DAV										W F 13 NEV N.J.																			
THOMAS SON										W M 10 NEV N.J.																			
TIMMY SON										W M 5 NEV N.J.																			
SREKMAN, LILLIAN HEAD										W F 46 NEV N.J.										WK 40 CARE OPERATOR PHONE UTILITY P 710 576									
HARRAN, CAL WIFE										W F 25 MAR N.J.										WK 40 PROPRIETOR RETAIL DEC. HARDWARE P 410 433									
MARIE WIFE										W F 11 MAR N.J.																			
REBACK, LEWIS HEAD										W M 33 MAR N.J.										OT NO NO									
MARY WIFE										W F 25 MAR N.J.										H NO NO									
ROBERT SON										W M 3 NEV N.J.																			
NICOLAI, VICTOR HEAD										W M 42 MAR Poland										WK 40 BAKERS HELPER METAL BAKERY P 690 621									
NATASHA WIFE										W F 41 MAR Poland										H NO NO									
HELEN DAUGHTER										W F 18 NEV Poland										WK 40 TRIMMER MANLY WOODS P 410 371									
WALTER SON										W M 13 NEV Poland																			
VICTOR SON										W M 7 NEV Poland																			
VICTORIA SON										W M 7 NEV Poland																			
ZABEL, LOUIS HEAD										W M 61 MAR Austria										WK 40 HASHING MANLY WOODS P 540 370									
KATEINA WIFE										W F 61 MAR Austria										H NO NO									
GERLACH, JOHN HEAD										W M 26 MAR NEW YORK										WK 40 MILKMAN DAIRY P 520 105									
MARLYN WIFE										W F 24 MAR N.J.										H NO NO									
PERRY, WILLIAM G HEAD										W M 33 MAR N.J.										WK 42 CORKER PRINTING PLANT P 590 411									
ANN WIFE										W F 34 MAR N.J.										H NO NO									

THE QUESTIONS BELOW ARE FOR PERSONS LISTED ON SAMPLE LINES

FOR ALL AGES

FOR PERSONS 14 YEARS OF AGE AND OVER

1950 U.S. CENSUS

1950 U.S. CENSUS



**NORTH SIDE OF ART COLOR PLANT (C. 1940s)**

*Credit: William G. Perry, Sr.*



**NORTH SIDE OF ART COLOR PLANT (C. 1940s)**

*Credit: William G. Perry, Sr.*



**DUNELLEN TRAIN STATION (1956)**

*Credit: William G. Perry, Sr.*



**DUNELLEN TRAIN STATION (2023)**

*Credit: Kevin Perry*



**DUNELLEN TRAIN STATION (1960)**

*Credit: William G. Perry, Sr.*



**DUNELLEN TRAIN STATION (2023)**

*Credit: Kevin Perry*



**WASHINGTON AVENUE GRADE-SEPARATED CROSSING (1960)**

*Credit: William G. Perry, Sr.*



**WASHINGTON AVENUE GRADE-SEPARATED CROSSING (2023)**

*Credit: Kevin Perry*



**ART COLOR (1960)**

*Credit: William G. Perry, Sr.*



**REDEVELOPMENT OF ART COLOR SITE (2023)**

*Credit: Kevin Perry*



**VIEW TO NORTH AVENUE FROM DUNELLEN TRAIN STATION (1960)**

*Credit: William G. Perry, Sr.*



**VIEW TO NORTH AVENUE FROM DUNELLEN TRAIN STATION (2023)**

*Credit: Kevin Perry*



**DUNELLEN RESCUE SQUAD (1958)**

*Credit: William G. Perry, Sr.*



**DUNELLEN RESCUE SQUAD (2023)**

*Credit: Kevin Perry*



**VIEW OF NORTH AVENUE FROM NEAR WASHINGTON AVENUE (C. 1970s)**

*Credit: William G. Perry, Sr.*



**VIEW OF NORTH AVENUE FROM NEAR WASHINGTON AVENUE (2023)**

*Credit: Kevin Perry*



**VIEW OF NORTH AVENUE FROM MADISON AVENUE (C. 1970s)**

*Credit: William G. Perry, Sr.*



**VIEW TO NORTH AVENUE FROM MADISON AVENUE (2023)**

*Credit: Kevin Perry*



**MEMORIAL DAY PARADE ON ALONG NORTH AVENUE (1961)**

*Credit: William G. Perry, Sr.*



**VIEW EAST ALONG DUNELLEN AVENUE (1958)**

*Credit: William G. Perry, Sr.*



Dunellen Station

AVENUE

AVENUE

5

AVENUE

AVENUE

AVENUE

AVENUE

AVENUE

DUNELLEN  
HOMETOWN HEROES



HAL VANDERMARK

ABE 3RD CLASS  
U.S. NAVY  
COLD WAR

Welcome to  
DUNELLEN, NJ



Shop, Dine  
& Enjoy