



Borough of Raritan

Circulation Plan Element  
&  
Bicycle and Pedestrian  
Safety Plan

Prepared by  
The Borough of Raritan Planning Board

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**DRAFT**

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## I. **INTRODUCTION**

This section of the Master Plan was prepared in accordance with the Municipal Land Use Law, N.J.S.A. 40:55D-28b:

(4) A circulation plan element showing the location and types of facilities for all modes of transportation required for the efficient movement of people and goods into, about, and through the municipality, taking into account the functional highway classification system of the Federal Highway Administration and the types, locations, conditions, and availability of existing and proposed transportation facilities, including air, water, road, and rail;

The Borough of Raritan, consisting of 2.1 square miles, is located in the geographic center of Somerset County adjacent to the County seat of Somerville. This small Borough has a long history and still retains its small town feel. The Borough is served well by many transportation modes. U.S. Highways 202 and 206 bisect the Borough and U.S. Route 22 and Interstate 287 are just to the north and east. The Borough is also served by a NJ Transit rail stop serving Newark, New Jersey and New York City. Although the Borough maintains its small-town character, new development and redevelopment will inevitably bring additional traffic.

This circulation plan element summarizes the future traffic impact to Raritan Borough based on current land use and traffic data. It also proposes a set of recommended road improvements that may be needed to serve anticipated future traffic volumes. In an effort to lessen any impacts additional traffic will have on the pedestrian experience in the Borough, this plan offers a section on Bicycle and Pedestrian Safety, goals for achieving safe passage, and recommendations to achieve those goals.

It should be understood that the Circulation Plan Element is not intended to be a static document that is fixed for any particular time period; instead, it is subject to modification and refinement as additional information becomes available or circumstances change. Further, the Circulation Plan Element is a planning document: therefore, the exact engineering design for the proposed improvements to existing and future roadways and intersections are subject to site specific characteristics and restrictions that are beyond the scope of this report and will be determined at the time the particular improvement is to be constructed.

## II. BACKGROUND

### Policy Content

Traffic congestion and safety affect the quality of life for residents, as well as transient traffic, throughout the Borough of Raritan. Therefore, it is necessary to plan for future circulation and transportation needs by taking into consideration both future traffic volumes and the impact of changing patterns in modes of transportation.

### 2003 Focus Areas

The 2003 plan indicated the following three focus areas as important to the land use/transportation connection: the Raritan Woolen Mills, Federal Steel and Johnson Drive sites. Since the adoption of the 2003 Master Plan, the Raritan Woolen Mills site has been redeveloped into a luxury rental apartment building; the Federal Steel site became another rental apartment complex and the Johnson Drive site has been expanded to include additional industrial uses. The 2003 plan stated that all too often land use decisions are made without assessing the impacts to the transportation network. At the time, the discussion of the focus areas from a transportation perspective was critical to the overall planning for these areas. This remains true for the new redevelopment projects happening within walking distance to the train station, in the downtown and along the riverfront. A new focus area for the Borough, some 13 years later, is to find a way to connect residents north of Route 202 to areas south of Route 202 – namely, the train station, downtown and riverfront – and to make the whole town more pedestrian and bicycle friendly.

The 2003 Plan also identified seven general focus areas within the Borough of Raritan. They included:

- Downtown Area/Gateways
- Raritan Train Station
- Route 202
- Route 202/First Avenue Intersection
- Route 202/Vones Lane Intersection
- Route 206
- Somerville Circle
- Nevius Street Bridge
- Raritan River Greenway

Some of these are still relevant today; however traffic volumes on Route 202 and the Somerville Circle have increased over the past decade and so walking and biking on those routes is not encouraged in this plan. Unless and until major improvements are made to accommodate pedestrians and bicyclists on these roads, this plan makes recommendations for walking and biking in and around town and tries its best to avoid these corridors for these purposes. However, as major highways, these routes are

connectors for Raritan Borough residents and visitors. Route 202 connects points north and south of Raritan as it crosses over the Somerville Circle. The Circle remains an important junction between Routes 206, 28, and 202 and between the Boroughs of Raritan and Somerville and the Township of Bridgewater.

### **Complete Streets Policy**

In 2011 the Borough was the first municipality in Somerset County to adopt a Complete Streets Policy. It is recommended this policy document be reviewed and updated to reflect changes in the community since it was adopted and to reflect new standards identified in the NJDOT Policy Guide: Complete & Green Street for All (2019).

*Complete streets* are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Instituting a complete streets policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users.

*Incomplete streets* – those designed only with cars in mind – limit transportation choices by making walking, bicycling, and taking public transportation inconvenient, unattractive, and too often dangerous.<sup>1</sup>

### **Concurrent Projects and Programs**

In addition to the Complete Streets Policy, the Borough has engaged with different agencies and organizations to move forward with implementing their plans, as described below.

1) NJDOT Transportation Alternatives Program – Streetscapes and Wayfinding

In 2017 the Borough received a \$1 Million grant from the NJDOT to improve roadways and sidewalks between the Train Station and the Riverfront. Improvements were focused on Orlando Drive, Canal St., and the Veterans Memorial Park, as a start. Resurfacing, new sidewalks, re-striping, new crosswalks and ADA compliant curb ramps were installed all along these roads with the intention of creating more aesthetically pleasing and safer routes to places of recreation and respite. As that project was completed in 2018, additional areas around the JFK Elementary School, Bell Ave., Sherman Ave., and Frelinghuysen Ave. received similar treatment. Examples of these treatments are the speed humps on Bell and Sherman Aves that were installed to help with traffic calming in those neighborhoods.

2) Somerset County – Walk, Bike, Hike Framework

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<sup>1</sup> National Complete Streets Coalition  
<https://smartgrowthamerica.org/program/national-complete-streets-coalition/>

The Walk Bike Hike: Connecting Vibrant Communities Plan was finalized in July 2019, and is a Framework Strategy designed to improve multimodal mobility and safety for Somerset County travelers of all ages and abilities. The findings and candidate improvements of the Framework Strategy will guide the development of convenient, equitable, and interconnected travel routes, facilities, and networks, over time, and in a collaborative manner. It includes more than 220 candidate walk, bike, and hike improvements, totaling almost 275 miles of new facilities across Somerset County. Raritan Borough participated in the public and municipal sessions to recommend improvements in the Borough. Those recommendations are included in this plan's mapping.

3) North Jersey Transportation Planning Authority: Planning for Emerging Centers

In 2018 it was announced that the Borough will be a participant in the NJTPA's technical assistance program, Planning for Emerging Centers. This program will focus on economic development strategies in the downtown core of the Borough, with consideration for mobility and bicycle and pedestrian friendly streets – especially in the area from the rail station to Somerset Street to the riverfront.

4) Somerset County – Raritan River Greenway Initiative

The Raritan River forms the southern boundary of the Borough flowing east through a number of municipalities in Somerset and Middlesex Counties. The river is accessible in some municipalities, but not all. One goal of the Regional Center Partnership is to “Embrace the Raritan River”, to recognize it as an asset to the communities it traverses. In Raritan Borough it is proposed in the County's Walk, Bike, Hike Plan that connections between Somerville and Bridgewater are made via a greenway that follows the contours of the Raritan River. Portions of the Greenway are complete while others, particularly in the area of Orlando Drive, are not. This plan supports the Regional Center Partnership goal of making the Raritan River accessible to all and it promotes the connections proposed in the County Walk, Bike, Hike Plan.

5) RideWise, Inc. – Street Smart Initiative

RideWise, Inc. is Somerset County's Transportation Management Agency, a non-profit organization dedicated to promoting bicycle and pedestrian safety throughout the County. RideWise partnered with the Raritan Borough Police Department and the Borough of Raritan to conduct a Street Smart New Jersey pedestrian safety campaign in July 2018. The campaign was conducted with the support and assistance of local businesses. Raritan Borough Police provided ongoing community policing and pedestrian and driver enforcement. The campaign included 119 hours of pedestrian safety law enforcement by the Raritan Police, who issued 193 warnings and 50 summonses during the

campaign. The campaign lasted eight weeks with education and enforcement activities occurring through the month of July. Before and after the campaign, RideWise staff conducted observations at two intersections along Somerset Street.

According to the project report, the intersection observations showed that most pedestrians used crosswalks. However, there were issues with pedestrians crossing mid-block or deviating/drifted from the crosswalks. This behavior generated the most warnings from police during the campaign enforcement. Staff observed an increase in distracted drivers (those texting or on the phone) between the pre-and post-campaign observations—though it should be noted that this is difficult to capture with complete accuracy. Distracted driving was the third highest violation cited among drivers during the campaign enforcement, which points to the need for more education and enforcement on the dangers of distracted driving. The full report is available at <https://ridewise.org/wp-content/uploads/2019/03/Raritan-SS-Report-final.pdf>

6) Raritan Valley Line Coalition

The Raritan Valley Rail Coalition (RVRC) is the advocate for the Raritan Valley Line commuters. The RVRC was created in 1998 as a non-profit, bipartisan group to advocate for a one seat ride on the Raritan Valley Line into Penn Station New York. The organization is also dedicated to service improvement to the rail line and to its stations. The primary mission remains to achieve a one seat ride in all time slots. This kind of service to the Borough would not only provide ease of travel for commuters, but would also support those who wish to visit the Borough.

7) Green Infrastructure

The Borough has the opportunity to incorporate green infrastructure where possible throughout this Circulation Plan element and Bicycle and Pedestrian Safety Plan. Green streets are those with landscaped features installed in the right-of-ways that capture and allow stormwater runoff to soak into the ground, while still preserving the primary function of a street as a conduit for pedestrians, bicyclists, motorists, and transit riders.<sup>2</sup> Recommendations for green infrastructure are made throughout these plans.

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<sup>2</sup> “Complete and Green Streets for All: Model Complete Streets Policy & Guide”, NJDOT, July 2019  
[https://www.state.nj.us/transportation/eng/completestreets/pdf/CS\\_Model\\_Policy\\_2019.pdf](https://www.state.nj.us/transportation/eng/completestreets/pdf/CS_Model_Policy_2019.pdf)

### III. OUTREACH

A comprehensive planning process was undertaken for the Circulation Plan Element update and the development of the Raritan Bicycle and Pedestrian Safety Plan. This Plan represents the outcome of the following process:

- 1) Coordination of a Bicycle and Pedestrian Safety subcommittee of the Planning Board, which worked to identify desirable routes and make recommendations for improvements to those routes. The subcommittee was composed of members of Borough Council, the Borough Planning Board, the Environmental Commission, and cycling enthusiasts who are also members of the community. The subcommittee worked in conjunction with RideWise, Inc., to collect data throughout the town. The Borough's Planning Consultant prepared the plan.
- 2) Developed and conducted walkability audits in all quadrants of the Borough to identify impediments to cycling in Raritan, hazard locations and priority roadways and bicycle parking areas.
- 3) Developed a vision statement for bicycling and walking in Raritan. Determined goals for the bicycle and pedestrian safety plan and derived objectives to achieve each goal.
- 4) Inventories existing bicycle facilities in the Borough and surrounding areas.
- 5) Identified current and potential bicycle traffic generators and destinations.
- 6) Identified on-street roadways that connect to all destinations.
- 7) Evaluated roadway characteristics (width, traffic volumes and speed, presence of trucks, parking, etc.) to determine bicycle and pedestrian friendly roadway index. Develop a bicycle network map and pedestrian routes.
- 8) Selected the most appropriate corridors to recommend for bicycle facilities and made recommendations for chosen corridors, including short and long-term suggestions, based on land use and density, the presence of generators and roadway characteristics.
- 9) Identified gaps in the bicycle network and pedestrian routes for use in prioritization of improvements.
- 10) Evaluated existing policies to encourage and promote bicycling and reduce conflicts.
- 11) Reviewed national and New Jersey design standards for all new bicycle facilities and made recommendations regarding operational issues such as signage, pavement markings, maintenance, and intersection treatments.
- 12) Prioritized the recommendations in the Bicycle and Pedestrian Safety plan.

#### **Walkability Audits**

In order to encourage walking and biking in town, it is important to understand how safe and inviting the areas are. To pinpoint issues with walking and biking, the Borough collaborated with RideWise to conduct four walkability audits throughout the Borough in June 2019. The Borough was delineated into quadrants by neighborhood and the

groups of officials and residents, led by RideWise, were able to identify barriers to safe and accessible walking routes.

The result of this activity was a series of "story maps" for each neighborhood that were created using GIS and Google Earth. The story maps can be viewed here: <https://rwtm.maps.arcgis.com/apps/Cascade/index.html?appid=33ba023b876246eda5dc69b7b07df43e>. They help to inform the recommendations for bicycle and pedestrian safety in this plan. This plan also uses the same quadrants to organize the Borough's "Focus Areas" in Section VII. The primary concerns in most neighborhoods were uneven sidewalks, missing or faded crosswalks, dangerous crossings in the downtown, and lack of connectivity between neighborhoods.

### **Streetscapes Workshop**

On February 2, 2019 a group of about 40 residents, county representatives and Borough staff participated in a workshop coordinated by Van Cleef Engineering Associates. During the course of a morning, the group discussed ideas for Wayfinding and Streetscape improvements along routes leading from the Train Station to Somerset Street to the Raritan



River. Participants learned about design elements that make a lively streetscape and then walked the routes to experience the spaces for themselves, making recommendations along the way for where improvements could be made. This workshop was part of a grant awarded to the town by the NJDOT and was the first in a series of public outreach opportunities that will happen throughout the year are part of a larger strategy for Pedestrian & Bicycle Safety and Economic Development.

## **IV. MUNICIPAL GOALS AND OBJECTIVES**

### **VISION STATEMENT**

The Borough of Raritan will have successfully accommodated new growth and maintained the quality and uniqueness of the Borough. This was accomplished through smart growth and sustainable development principals. Equal space has been allotted in its circulation network to all modes of transportation. Its citizens will feel safe to walk to commercial uses, schools and their neighbor's homes.

Bicycling along the Raritan River and along its streets will be safe and common. Trucks will be using the appropriate roadway and not going through residential areas. Speeding of cars through high pedestrian areas will be unusual. Frequent mass transit service will be a common sight, which will allow for better access to the rest of the Regional Center.

### **GOALS and OBJECTIVES**

The Borough's overall circulation goals and objectives can be summarized as follows:

- Ensure that the transportation services are safe and readily accessible to all members of the community.
- Provide residents with alternative means of transportation, such as multi-use trails and jitneys, which provide linkages to places of interest.
- All types of transportation infrastructure and services such as walking, bicycling, and ride sharing are recommended to enhance capacity increasing projects.
- Encourage the free flow of goods on the appropriate streets and rail corridors.
- Work closely with the transit agencies in order to improve and increase service for the Borough's residents.
- Land Use and transportation planning should occur together. Impact assessments and build-out analysis should be utilized to determine the effect of land use plans on the movement of goods and people.
- Any increases or decreases in land use zones within Raritan should have a build-out analysis performed prior to the adoption of the new standard.
- Land use densities that are within close proximity to a mass transit stop should be reviewed for possible increases and changes of use to allow for a diversity of uses such as retail, office and residential that could compliment transit.
- All transportation infrastructure should be designed and constructed with the minimum improvements necessary to provide safe movement of people and goods.
- In order to control the appropriate speed limit on Borough streets, the three "E's" should always be applied equally; Enforcement, Education and Engineering / design.

- To the extent possible and appropriate, the roadways designated to handle the largest volumes of traffic (i.e., the arterials and major collectors) should be those under the jurisdiction of the State of New Jersey and Somerset County.

## V. INFRASTRUCTURE

### Roadways

#### ***Existing System***

The system of roadways within a municipality is a significant part of the land use planning process, since it is the roadway network that provides people with their most basic way to get around. Raritan Borough is somewhat dependent upon the automobile and has adequate access via the existing road system, as shown on the Raritan Borough Transportation Facilities Map.

The purpose of this section of the Circulation Plan Element is to document the characteristics of the existing road network throughout the Borough of Raritan. Information has been analyzed in order to determine those situations where the present roadway system appears to be deficient or problematic; thereby, helping to form the basis for the recommendations articulated later in this document.

#### ***Jurisdiction of Roads***

The "Jurisdiction of Roads Map" indicates the Federal, State, County and Town jurisdiction of roads within Raritan Borough (**Figure 1**). Generally speaking, the volume and the function that a road performs are revealed by the political jurisdiction that has control of its design and maintenance.

There are over 22 miles of public roads in Raritan Borough. The bulk of these consist of municipal roads (over 72%) followed by county jurisdiction (over 14%) then state and federal roadways (14% or less). The State of New Jersey, through the New Jersey Department of Transportation, is responsible for maintaining all federal and state highways.

State Highway 202 runs east-west through the Borough and is located about ½ mile north of the center of town. State Highway 206 forms part of the eastern border of Raritan Borough and runs south-easterly through the Borough.

Roads under the jurisdiction of the County of Somerset include Somerset Street (CR 626), Old York Road (CR 567), Frelinghuysen Avenue (CR 644), and First Avenue (CR 567).

#### ***Functional Classifications of Roadways***

Each of the various roads in the Raritan Borough is called upon to perform a different type of function in the overall transportation network. For planning purposes, roads are generally classified into three (3) major types: arterial, collector, or local. Each of these types defines a certain range of function.

*Arterial Roads* - Vehicular rights-of-way whose primary function is to carry traffic in a continuous route across or through an area. Arterials are typically a principal part of the road network for through-traffic flow, taking traffic from collector streets that serve neighborhoods and connecting to freeways, expressways, and/or parkways. Arterial roads also may be broken down into principal and minor arterials. Principal arterials are those interstate and major highways that form an interconnected network of continuous routes serving regional corridors having the highest traffic volumes and the longest trip lengths. Minor arterials interconnect with and augment the principal arterial system.

Existing roads in Raritan Borough are classified as the following types

<b>Table 1 Street Classification Raritan Borough, 2019</b>	
<b>Principal Arterial</b>	U.S. Route 202
<b>Major Arterial</b>	U.S. Route 206, State Route 28
<b>Minor Arterial</b>	Somerset St. (CR 626), Old York Rd. (CR 567), Frelinghuysen Avenue (CR 644), and First Avenue (CR 567)
<b>Residential Collectors</b>	Center Street/Helene Place, Johnson Drive, Weiss Terrace, Anderson Street, Thompson Street, Vones Lane, Bell Avenue
<b>Local Streets</b>	All streets not listed above

*Note: The functional classifications described above are ideal types; since they rarely exist in true form.*

*Collector Roads* - These are the roads that carry traffic between arterials and local streets and provide access to abutting properties. In Raritan Borough, collectors are subdivided into two functional road systems: primary (major) and secondary (minor). The primary or major road is so classified due to its higher traffic volumes (both present and anticipated), and its importance in the overall circulation system. Essentially, this type of road carries more vehicular traffic than the typical collector, yet it is not an arterial road. The secondary or minor collector is the more typical collector type road connecting local streets with arterials or primary collectors and is herein referred to as a collector.

*Local Streets* - Streets that primarily provide access to abutting properties, usually single-family homes. These roads typically have low traffic volumes and low speeds. The local road system contains the large majority of all roadway mileage in a state, but only a small percentage of total traffic.

### **Classification and Access**

Access is characterized as limited, partial, or full depending on the purpose of the roadway.

Limited access occurs on highways especially designed for through traffic. The Borough of Raritan does not have any limited access roads within its boundaries. Abutting lot owners usually have a right to reasonable, but not direct, access. Interstate highways, parkways, and freeways are considered limited access highways.

Partial access occurs on arterial and collector roadways. An arterial transportation route primarily serves through traffic and provides access as a secondary function. An arterial roadway may have signalized intersections and access via driveways, and turn lanes may be restricted through the use of raised medians or barriers.

Collector roads primarily serve intra-county trips and are characterized by moderate volume and speed. They provide for land access, traffic circulation, and access to arterial routes. Access to abutting properties may or may not be restricted.

Full access occurs on local roads whose purpose is to provide direct access to abutting land and roads of higher classification. Mobility is lower than for other classifications and through movements are discouraged, especially in urban areas.

### **The State Highway Access Management Code**

The State Highway Management Act was signed into law on February 23, 1989. Pursuant to this Act, the New Jersey Department of Transportation adopted the State Highway Access Management Code on March 25, 1992. The Municipal Land Use Law requires the contents of the municipal ordinances governing subdivision and/or site plan approval to include provisions ensuring conformity with the State Highway Access Management Code regarding any state highway within the municipality and with any County Management Code regarding any county roadway within the municipality.

The State Highway Access Management Code consists of two components. The first is an access classification matrix and the second is a desired typical section for each segment of each state highway. Access levels to each classification and segment of road are established in the Code with the overriding purpose of controlling access to adjacent lands commensurate with the classification speed and design of the highway. Within Raritan Borough the following roads fall under State jurisdiction: State Route 28 and U.S. Routes 202 and 206 are part of the federal highway system, but are state maintained.

Table 2 State, County and Municipal Road System Service Characteristics Raritan Borough, 2019					
Roadway	Length	Access	Desired Typical Section	Speed Limit	Orientation
<b>State</b>					
<b>US 202</b>	1.57 miles	Right-turn access with provision for left turn access via jughandle	4 lanes divided with shoulders or parking (114' ROW)	55 & 45 mph	East-West
<b>US 206</b>	0.48 miles	Right-turn access with provision for left turn access via jughandle	6 lanes, divided with shoulders or parking (148' existing ROW)	40 mph	North westerly – South easterly
<b>NJ 28</b>	1.48 miles	Driveway with provision for left-turn access via left-turn lane	2 lanes with shoulders or parking (78' ROW)	45 mph	East-West
<b>County</b>					
<b>Somerset St. (CR 626)</b>	0.68 miles	Full	As required to meet functional classification	25-35 mph	South west – North east
<b>Frelinghuysen Ave (CR 644)</b>	0.29 miles	Full	As required to meet functional classification	25 mph	East-West
<b>Old York Rd (CR 567)</b>	0.16 miles	Full	As required to meet functional classification	25-35 mph	South west – North east
<b>First Ave (CR 567)</b>	1.1 miles	Full	As required to meet functional classification	25-35 mph	North-South
<b>Municipal</b>					
<b>All streets not listed above</b>	N/A	Full	As required by local conditions	25-35 mph	N/A

**Existing Right-of-Way Widths**

It is recommended that an estimated street right-of-way be produced for Raritan Borough from tax assessment maps and other relevant resources. Right-of-way can provide an indication of the traffic volumes traversing the road and its functional performance.

It should be noted that the right-of-way of a street is not synonymous with the width of the paved portion of the roadway, which is referred to as the cartway width. The right-of-way includes the paved area, or cartway, the shoulders, and most often the sidewalks, if present. Somerset County roadways generally range in right-of-way widths

between 50 to 80 feet. The municipal roadways in Raritan Borough generally provide a 40-foot right-of-way width. With property land use planning and zoning controls, it is possible to limit the right-of-way and cartway widths of roads, while nevertheless providing sufficient room for designs that enable the safe and convenient movement of traffic. As stated earlier in this document, it is a goal of Raritan Borough to have the roads within the municipality improved to the degree necessary to provide safe and convenient traffic movement. Conversely, it is also a goal of Raritan Borough to prevent any road work, which may cause traffic speeds to unnecessarily increase, cut-back existing bicycle and pedestrian area, and require the removal of existing vegetation along the road's frontage.

### **Congestion**

A safe and efficient roadway system is vital for the continued economic health of Raritan Borough. It is recommended that Raritan Borough identify roadways with congestion problems. Once congestion in areas has been identified, a traffic analysis should be conducted. Recommendations to ameliorate congestion issues can be developed following such a study. Roadways should be analyzed in relation to their functional classification and level of service.

### **Traffic Volumes**

Traffic volumes on roadways within Raritan Borough have been increasing as the Borough and the surrounding areas have become more developed. This growth trend has resulted in increased travel times, capacity problems, diversion of traffic from highways to local roads, increased air pollution, and additional resources having to be diverted to new roadway construction. A traffic volume study should be performed in the Borough to determine where volumes exceed the roadway. Problem roadways should be identified for improvements. In Hillsborough Township, the Route 206 Bypass is under construction and it remains to be seen how that will improve or impede traffic throughout the region.

### **Traffic Accidents**

Through the Borough's partnership with RideWise, the non-profit provided data on the number and frequency of crashes in town. **Figure 2** (Vehicle Crash Density) shows the areas of high concentration of crashes. As expected most are at intersections and near the downtown where there is more traffic volume. Borough should conduct an accident analysis to help identify high collision locations.

### **Mass Transit**

#### **Existing System Inventory**

The public transportation in Raritan includes a commuter rail network by NJ Transit called the Raritan Valley Line. This station is a part of the Raritan Valley Line and has

service from High Bridge to the west to Newark to the east. From Raritan it would take one hour and twenty-three minutes to get to NYC Penn Station, with a switch in trains in Newark. The train service or frequency from Raritan is fairly regular. There are 23 trains on weekdays that travel east towards Newark and 23 trains heading west from NY Penn that stop in Raritan. The next station west of Raritan, the North Branch station located in Branchburg, has a total of 17 trains a day (combined east and west).

The Raritan Valley Rail Coalition has been campaigning for a “one-seat ride” ticket to New York-Penn Station which means that a change in Newark would be eliminated. There are several factors to making this happen, the largest perhaps being that a second tunnel, the “Gateway Tunnel” needs to be constructed. As it stands now, diesel trains are not permitted in the tunnels and therefore riders must exit the train at Newark and board an electric-powered train at a different platform. A second set of tunnels in and out of Penn Station and the acquisition of more electric-powered trains would allow for the one-seat ride to prevail. Currently, the one-seat ride is in effect for off-peak trips. A legislative bill just passed to request NJ Transit to study the potential for rush hour one-seat ride service.

The cost for a monthly pass to NY Penn Station is \$445.00 or \$30.50, round-trip. Since times of departure, arrivals and fares change over time it is recommended that the local transit agency be contacted for the most up to date information.

The parking lot at the train station has both daily and permit spaces and is operated by the Borough. It costs \$40/month to park in this lot and parking passes can be purchased at the Borough Hall. Tickets for the train can be purchased at the station kiosk or on the train from the conductor. Tickets must be purchased at the station prior to boarding or a surcharge is imposed.

Collapsible bicycles are accommodated on all NJ Transit trains at all times. During off-peak travel periods standard frame bicycles may be carried on-board and all day Saturday and Sunday. During peak travel periods, standard frame bicycles are only permitted on outbound trains scheduled to depart a cyclist's boarding station during the weekday morning commute. Standard frame bicycles are only permitted on inbound trains scheduled to depart a cyclist's boarding station during the weekday evening commute. The train station has available bike lockers that can fit a bike, helmet and some gear. They are available to rent for \$8/month with a \$5 refundable key deposit.<sup>3</sup>

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<sup>3</sup> RideWise, Inc. – Rail Station Bike Lockers - <https://ridewise.org/bicycling/rail-station-bike-lockers/>

Bus service via NJ Transit is not available in Raritan Borough but it is available in Somerville. It is recommended the Borough advocate for the NJ Transit bus service to be extended into Raritan Borough with at least one stop at the Train Station.

### **Paratransit**

Each of the 21 counties in New Jersey provides County-based Paratransit service for Senior Citizens and People with Disabilities. NJ Transit assists in the provision of accessible services by the counties and non-profit agencies through the administration of the Casino Revenue's Senior Citizens and Disabled Residents Transportation Assistance Program, and Federal Transit Administration (FTA) Section 5310, 5311, and 5307 Programs. The Somerset County website has information on the variety of trips they provide.<sup>4</sup>

### **Somerset County Bus Routes**

Somerset County operates three different public transit bus lines – SCOOT, DASH and CAT. The SCOOT and DASH do not run through Raritan Borough.

CAT - In general the bus routes are fixed and the schedules indicate the time the buses are expected to be near a stop. It is the passengers' responsibility to flag down a bus they wish to board. The fare is \$2.00 for a one-way ride and transfer tickets can be purchased from the driver for \$0.50. In Raritan, the following services are available:

- CAT-1R, which runs from New Brunswick to Branchburg / Raritan Valley Community College. Stops in Raritan include the Raritan Library.
- CAT-2R, which travels from North Plainfield to Branchburg / Raritan Valley Community College. Stops in Raritan include: Somerville Circle (in front of Burger King) to Somerville – two morning stops and two afternoon stops; Somerville Circle (in front of Buy Buy Baby) to Branchburg – three morning stops and one afternoon stop.
- CAT-3R, which makes one morning run from Bridgewater Commons Mall to Raritan Valley Community College and back. Stops in Raritan include: Somerset St. & Route 206 (in front of Walgreens) @ 7:42am toward Bridgewater; Somerset and 1<sup>st</sup> Ave @ 7:15am toward Branchburg and 7:40 am toward Bridgewater; 1<sup>st</sup> Ave and Route 28 @ 7:15am toward Branchburg and 7:35am toward Bridgewater.

### **Goods Movement**

Moving freight, like raw materials and finished products, is an area of increasing importance to New Jersey. Businesses, jobs, and consumers all rely on it. The key is to devise regional goods movement strategies that will facilitate the flow of freight and minimize adverse impacts on local communities. A freight movement system includes

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<sup>4</sup> Somerset County Division of Transportation: Passenger Information Booklet and Transportation Service Description (Revised 3/2017) - <https://www.co.somerset.nj.us/home/showdocument?id=3704>

the highway network, a rail freight network, maritime ports, air cargo facilities, and freight transfer facilities.

These elements of the transportation system are connected through numerous intermodal facilities. An intermodal transportation facility is a transportation hub that connects different modes serving intrastate, interstate, or international movement of people and goods. Because of the critical role these facilities play, they are vital components to economic vitality and growth.

The goods movement industry is a major user of the transportation network in Somerset County and throughout the state. Because of the county's extensive transportation network and proximity to markets, this industry is key to its economy. Trucks are the dominant mode of freight transportation in Somerset County. However, rail, air and waterborne freight also play a vital role. Goods movement in Somerset County consists of two types: overhead and originating / terminating. Overhead freight only passes through the county, while originating / terminating traffic either begins or ends its trip within the county.

### **Truck Freight**

The extensive highway system in Somerset County has been a factor in the amount of truck traffic to and through the area over the last ten years. Trucks have benefited from the technological advances made during the 1970s and 1980s with stronger suspensions, better tires, and lighter materials, allowing them to transport heavier loads more efficiently.

It is necessary to plan for the continued growth of trucking in and through the area. The added truck volumes and the delays caused by congestion and an inadequate transportation network for extensive freight traffic are issues that need to be continually addressed.

## Green Infrastructure for Stormwater Management<sup>5</sup>

### **Bioretention Facilities**

Bioretention facilities are vegetated retention systems that are designed to manage and treat stormwater by using a conditioned planting soil bed and organic materials that filter runoff stored within shallow depressions or cells. Biofiltration facilities can be flow-through filtration systems with an underground perforated collection pipe that captures and conveys treated runoff to the final discharge point. They also may be designed as pure retention facilities, relying on natural soil infiltration as a primary discharge. Both systems rely on an amended or engineered soil filtration specifically designed to remove particulates and pollutants before proceeding to a self-contained discharge location.



### **Biofiltration Swales**

Biofiltration swales are vegetated, shallow landscape conveyance systems that are designed to capture and treat stormwater runoff as it is conveyed and discharged to the downstream storm system. Bioswales are typically sized to treat the initial infiltration of stormwater, which includes the most pollutants. They are a very effective type of infrastructure for slowing runoff velocity and cleansing water while recharging the underlying water table. Biofiltration swales are flexibly designed and may be installed in medians, cul-de-sacs, bulb outs, or other spaces not within the pedestrian zone.



<sup>5</sup> This section, including graphics, has been excerpted from the NJ Complete Streets Design Guide, 2017, Sidewalks / Stormwater Management

### **Flow-through Planters**

Flow-through planters may also be considered small bioretention facilities. These are hard-edged stormwater management facilities with an impermeable base. Flow-through planters treat water by allowing runoff to soak through its soil and filter into an underdrain system that conveys filtered runoff to a downstream discharge point.



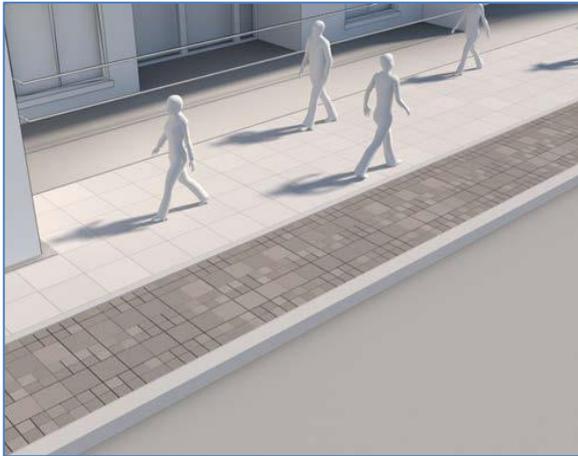
### **Pervious Strips**

Pervious strips are long, linear landscaped areas of permeable pavement or gravel that capture and slow runoff. Pervious strips provide some infiltration but far less than a biofiltration swale. Pervious strips are an inexpensive step in stormwater management but are less effective than other BMPs for treating a street's full water event. They are also subject to a much higher maintenance cycle due to the lack of ability to incorporate an upstream pre-settlement chamber that prevents clogging of permeable and gravel voids.

### **Rain Gardens**

Rain gardens are planted depressions or holes that allow rainwater runoff from impervious surfaces to be absorbed. Native plants are recommended for rain gardens because of their tolerance for local climate, soil, and water conditions. Native plants also have deep and variable root systems that enhance water filtration.





### **Permeable Pavement**

Permeable paving materials allow stormwater runoff to infiltrate through the material into the ground instead of being diverted as runoff into the storm drain systems. In addition to reducing runoff, permeable pavement traps pollutants, reducing the environmental impact of runoff and the need for expensive filtration and water conveyance systems. Permeable, or porous, paving can be used on roads, walking paths, and even lots that are subject to light vehicular traffic. Permeable pavement is typically laid on top of an infiltration bed and subgrade soil.

The Borough should assess stormwater issues throughout the town and determine which roadways and which of the above techniques would be most appropriate for each location. The NJ Complete Street Design Guide can provide guidance on selecting the right biofiltration facility.

## VI. BICYCLE & PEDESTRIAN SAFETY PLAN

### VISION

*"Our Bicycle and Pedestrian System will provide a safe and efficient means of travel on a comprehensive network of facilities to access all desired destinations. This plan will provide for the continuing enhancement and expansion of a sustainable bicycle and pedestrian network that will be inclusive to users of all ages and abilities, and will promote safety, health, education, and recreation."*

### OVERVIEW

In addition to responding to the requirements of the American with Disabilities Act, which seeks to remove or prevent impediments to free access by persons with disabilities, an important feature of streets that are safe for pedestrians and bicycles is if they are WALKABLE and BIKEABLE. Planning for future pedestrian and bicycle circulation improvements must improve convenience and safety, and promote non-vehicular travel. In 2016 the State of New Jersey adopted the Bicycle and Pedestrian Master Plan which was an update to the 2004 NJ Statewide Bicycle & Pedestrian Master Plan, Phase 2. The intent of the 2016 plan is to support broader efforts to improve safety and reduce pedestrian and bicyclist fatalities. The plan goes on to acknowledge the importance of walking and bicycling:

*"Walking and bicycling are essential components of the transportation system. Walking is the most fundamental of all transportation modes and part of nearly every trip people make. Bicycling also holds potential to increase mobility options for the relatively short trips that make up the majority of daily travel. Although progress has been made and many communities in New Jersey recognize the value of walking and bicycling, there remains a need to articulate the wide range of individual and community benefits of non-motorized transportation"<sup>6</sup>*

The State Development and Redevelopment Plan echoes this message by stating "New Jersey's communities are healthy, active communities where adults and children are living active, healthy lives because exercise and walking are a vital part of their daily lives. Communities are designed to promote walking and cycling for transportation and recreation".

In Raritan Borough, it is generally accepted that sidewalks should be provided along streets used for access to schools, parks, shopping and transit stops, in order to encourage walking to these destinations. This Bicycle and Pedestrian Safety Plan looks at the existing and proposed sidewalk requirements to ensure they are based on the street classification system and on density of development as measured in terms of lot

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<sup>6</sup> Site Planning, Lynch & Hack, 1984

size, lot frontage or number of housing units per acre. **Figure 3** (Existing Conditions: Pedestrian & Bicycle Circulation) shows the existing sidewalks and obstruction points alongside the street classifications. Street classification is particularly important to safety since traffic volumes and speeds increase as roads assume higher traffic circulation functions. Density affects the extent of pedestrian movements to be generated, and in higher density areas sidewalks are important for both convenience and safety. The absence of sidewalks on busy streets cause pedestrian movements in the paved cartway of the street and conflict with traffic movements and creates potential safety hazards. This plan also uses the street classification system to propose bike lanes, shared road markings, and separated paths where appropriate. **Figure 4** (Proposed Improvements: Pedestrian & Bicycle Networks) shows the street classifications with potential bikeway connections. The Borough does not have a Safe Routes to School Plan or Program, where such a program would address all of the above and create a plan for safe biking and walking around schools.

This Bicycle and Pedestrian Safety Plan is organized following the methods used to perform the walkability audits in the summer of 2019. For that process, the Borough was divided into four quadrants according to their geography within the town. Each of these neighborhood quadrants possess unique characteristics from the rest and may therefore have differing challenges and opportunities based on the makeup and density of land uses, their proximity to businesses and areas of interest, and their proximity to schools, parks and other community facilities.

This Bicycle and Pedestrian Safety Plan identifies the existing conditions of pedestrian and bicycle infrastructure in each quadrant, summarizes the walkability audit results for each, and makes recommendations for improvements that respond to the SIX GOALS stated in the next section. For each quadrant, in some cases down to the street level, this plan provides specific design standards for sidewalks, bike lanes, traffic calming measure like curb extensions, and separated bike lanes where appropriate. This Bicycle and Pedestrian Safety Plan also indicates within each quadrant where there are existing connections between neighborhoods and to community facilities and businesses, and where new connections to these places should be considered. Lastly, this plan follows closely the recommendations made in the Somerset County Walk-Bike-Hike Framework.

**GOAL:**  
*“...to increase the percentage of all trips made by bicycling or walking.”*

## GOALS

An overall goal of this plan is to increase the percentage of all trips made by bicycling or walking. In order to achieve this goal, the Borough strives to improve safe passage of bicyclists and pedestrians, improve connectivity between neighborhoods and to places of business, promote sustainability as a benefit to non-vehicular travel, encourage the development and maintenance of public spaces as destinations, promote the Borough's assets and attractions as destinations, and remove barriers to accessing safe passage throughout the Borough.



### **Goal #1 – Improve Safe Passage of Bicyclists & Pedestrians**

Intersections, particularly signalized intersections, are the most complex part of the road network for pedestrians. There are 32 possible vehicle-to-pedestrian conflicts at the 4-way intersection of two roads. Many occur at high speeds.

- a. Assess and improve intersections for safety
  - Generally the most concentrated area of pedestrian activity occurs at street intersections, especially in business districts. Not only do pedestrian flows intersect each other at these locations but also these flows are interrupted by vehicular cross traffic and are exposed to vehicular turning movements. Since these areas have higher concentrations of pedestrians and cross traffic, they are the least desirable places for sidewalk impediments that constrict flow and may result in pedestrian overflow into vehicular spaces.
  - Pedestrian facilities should be designed to provide for pedestrian flows and the storage of pedestrians waiting to make their desired street crossing. It is desirable not to locate parking spaces, poles, mail boxes, bus stop shelters, planters, trees and similar items near crosswalks where they may obscure pedestrians and the handicapped from the motorists' view and decrease pedestrian storage and queuing areas.
- b. Eliminate all road fatalities, significantly reduce crash severity and injury, eliminate all road fatalities, significantly reduce crash severity and injury, and improve personal safety through increasing the number of people of walking and bicycling.



### **Goal #2 – Improve Connectivity between the Places where People Live, Work & Play**

“Walkability”, in a sense, is the definition of place that provides strong connections between where people live, work, and play and is dictated by the relationship between land use and transportation. This relationship is symbiotic and must therefore be considered with every development or

redevelopment opportunity.<sup>7</sup> If this relationship is an after-thought then reactive measures like widening roadways, installing new traffic signals, etc. become the solutions to making connections where they previously were not.

- c. Land Use and transportation planning should occur together.
- d. Land use densities that are within close proximity to a mass transit stop should be reviewed for possible increases and changes of use to allow for a diversity of uses such as retail, office and residential that could compliment transit.
- e. Encourage walking and biking for short-distance trips – from home to downtown shops and restaurants. This requires the right mix of commercial and non-commercial within a 5-min walking radius, or a ¼-mile.
- f. Improve signage to direct pedestrians and cyclists to appropriate and safe pathways to destinations.



### **Goal #3 – Promote Sustainable Living as a Benefit to Non-vehicular Travel**

Sustainable Living encompasses a number of quality of life factors that can be impacted by how we design our streets and how people move around their communities. According to the Centers for Disease Control and Prevention (CDC), “sitting is the new smoking”. Childhood obesity affects about 17 percent or 12.7 million children (ages 2-19) nationwide. In addition, air quality is impacted by traffic congestion and unnecessary vehicular trips where walking or biking may be a reasonable alternative. Not only does the design of our streets improve our health when logical connections are made to promote pedestrian and bicycle activity, but reducing vehicle miles traveled (VMTs) reduces carbon emissions and improves air quality.

Integrating green infrastructure into street design also helps to reduce the impacts of stormwater runoff entering the water system and can mitigate long-term capital infrastructure costs. Other sustainable design elements such as streets trees also help to clean the air, provide shade which reduces energy consumption, reduces heat island effect, and creates a pleasant atmosphere for all. All of these design elements should be incorporated into planning and design of streets in new development and redevelopment projects.<sup>8</sup> Improvements to existing roadways should be made where necessary to achieve the following goals:

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<sup>7</sup> NJ Complete Streets Design Guide. 2017. InfoBox: Walkability, Connectivity and Land Use, p.86.

<sup>8</sup> NJ Complete Streets Design Guide. 2017. Environment, p.9.

- a. Reduce VMT, Carbon emissions
- b. Improve air quality
- c. Increase health index of residents and visitors
- d. Encourage walking and biking for short-distance trips – from home to downtown shops



**Goal #4 – Integrate Public Spaces into Land Use Decisions and the Design of Streets**

Attractive streets, wide sidewalks and public spaces are all parts of a livable community. They encourage healthy and active lifestyles and create spaces for people to gather. A vibrant community focuses on the people shopping in the shops, eating in the restaurants, working in the office buildings, and relaxing in the public spaces. Public spaces can be natural areas of green space, a park, a playground, or a riverfront. They can also be manufactured spaces such as outdoor seating for a restaurant, a pedestrian plaza, temporary or permanent seating (chairs, benches, seating walls, etc), or a “parklet” that extends the sidewalk with seating and other visually interesting components. In each of these cases – whether organic or not – the focus is on the pedestrian and/or the bicyclist, not the automobile.

- a. Ensure visibility of public spaces from the street and from a distance.
- b. Ensure connectivity of public spaces to adjacent buildings and their occupants. Promote the use of the space to occupants of adjacent buildings
- c. Create safe passage to public spaces with sidewalks, alleys, paths, etc.
- d. Ensure functionality of the space for people with special needs, beyond ADA compliance.
- e. Promote and provide alternative transportation choices to reach public spaces (bus, train, car, bicycle, etc.) and the facilities to accommodate them.
- f. Develop wayfinding signage to assist visitors arriving by train or bus to get to public spaces and other popular destinations such as libraries, post offices, park entrances, etc.



**Goal #5 – Incorporate Community Assets into the Planning & Design of Streets for Circulation and Placemaking**

Places thrive when users have a range of reasons to be there. They might include restaurants, shops, street benches, art, music, conveniences, and people. How they get there is part of what makes them great places. This Bike & Pedestrian Safety Plan identifies community assets, the places that

people are drawn to, and considers them in the planning and design of streets and other connections (Figure 5: Community Assets). Installing the correct infrastructure to help people get to these special places is part of the overall solution for a successful circulation plan, bike and pedestrian safety plan, and for placemaking.

- a. Identify community assets and assess existing connections to and between assets.
- b. Ensure accessibility to community assets via a number of transportation choices.
- c. Coordinate with the Economic Development Committee to promote community assets, businesses, public spaces, etc. and to inform the public about getting to and from these places.



### **Goal #6 – Remove Barriers to Implementing Safer, More Complete Streets**

The primary barrier to making roads safer for bicycle and pedestrians is that most design manuals for roadways focus on the automobile. The design of these roadways tends to create a perceived barrier that perhaps only very confident bicyclists would be comfortable navigating. It is not a road for all users. This is the opposite of a Complete Street. Understanding the Level of Traffic Stress (LTS) on roadways can help to determine if the road is suitable for all users, keeping in mind however that all solutions must be context sensitive to the surroundings. The NJ Complete Streets Design Guide shares their methodology for assessing LTS and where separation between automobiles and bicycles is necessary.

Barriers to accessibility are also typically handled in the design phase where small differences can make a big impact. Many older neighborhoods in the Borough do not have ADA-compliant curb ramps, rumble strips, and crosswalks, where it would be safer for those with limited mobility to cross the road. The walkability audits noted where this occurred throughout the Borough, and while the Borough does have a plan to update those crossings accordingly, it should be a continual effort to maintain them properly.

For pedestrians crossing large intersections such as Route 206 and Route 202, the median should not be a barrier for those with limited mobility and people with strollers. This is another area where the pedestrian and bicyclist should be considered and where appropriate, the median should be used as a refuge for crossing multi-lane roadways. Other barriers in the Borough such as the railroad tracks may require alternative solutions to creating safe bicycle and pedestrian connections. The Borough should

work to find solutions to crossing these large roadways and other infrastructure without encouraging the pedestrian or bicyclist to use the roadway. Pedestrian bridges or tunnels, where appropriate, are examples of alternative solutions.

Lastly, there are instances where either natural or physical barriers require a bicyclist or pedestrian to access their destination by a longer route when the “as the crow flies” distance is much shorter. This is evident in the LaGrange Street vicinity where Frelinghuysen Park is approximately 245 feet from the middle of LaGrange Street on the opposite side of the railroad tracks, but is only accessible by walking approximately 2,500 feet via two blocks up Thompson Street, then two blocks across Sherman Street. There may be other examples throughout the Borough. Finding solutions to these barriers (physical or perceived) will help to enhance the livability of the neighborhood.

- a. Conduct a LTS Analysis on roadways in the Borough to demonstrate barriers to comfortable and continuous bicycling.
- b. Assess pedestrian crossings at multi-lane intersections and the railroad tracks to gauge the need for refuge areas in the median or pedestrian bridges or tunnels.
- c. Identify routes typically taken by pedestrians and bicyclists to and from popular destinations and assess the routes typically followed. Are there natural or physical barriers that prevent travelers from accessing the “crow-fly” route?

## 2019 FOCUS AREAS

The focus areas for this Bicycle and Pedestrian Safety Plan are identified by the neighborhood quadrants and other important areas as follows (**Figure 5: Focus Areas**):

- ❖ Vones Lane / Cardinal Woods Neighborhood; **Figure 6**
- ❖ 1<sup>st</sup> Ave – north of Route 202; **Figure 7**
- ❖ 1<sup>st</sup> Ave – south of Route 202 & Downtown Business District; **Figure 8**
- ❖ Weiss Terrace / Johnson Drive; **Figure 9**
- ❖ Raritan River Greenway
- ❖ Train Station
- ❖ Nevius Bridge & Pedestrian Plaza

## **Vones Lane / Cardinal Woods Neighborhood**

### Description

Vones Lane in the northwestern portion of the Borough should be considered for improvements because of increased traffic growth. Currently, the road has high volumes and narrow widths. The road serves as an important north/south connector for this portion of the Borough. The neighborhood is strictly residential in character with homes that were built between the 1930s and 1990s.

The Cardinal Woods section of the neighborhood is made up of single-family homes and a small number of duplexes that were constructed as part of the Borough's Fair Share Housing Plan. The Hidden Pond section of the neighborhood is a newer townhouse development that is connected to Cardinal Woods by a park that has become derelict in the recent years.

A portion of this study area is occupied by Janssen Pharmaceutical which hosts its own walking trail around the campus. It would be in the interest of the residents for the Borough to work with the company to develop a plan for a shared public walking and biking trail that would provide safe passage for residents from one neighborhood to another.

### Walkability Audit Results

The Walkability Audit Results assess the existing conditions of the streets, sidewalks, crosswalks, and any other barriers to safe pedestrian access. The main roadways in this neighborhood are in fair condition with faded crosswalks, missing sidewalks, overgrown tree limbs, etc. From a design standpoint, Vones Lane is very curvy in spots, causing blind spots to drivers making the sharp turns throughout the neighborhood. Since this roadway is a cut-through to Vanderveer in Bridgewater, drivers tend not to respect the speed limit, sometimes taking the curves too fast.

From a walkability perspective, the audit revealed that a number of the sidewalks in this neighborhood were uneven, broken, or disjointed and could pose unsafe conditions. In these instances it was difficult to push an umbrella stroller over the sidewalk and could be a barrier to someone in a wheelchair.

With regard to connectivity, there appears to be a potential connection between Cardinal Woods and Hidden Pond Court via a large piece of open space. This space used to have a playground and pavilion but due to misuse and neglect, the facilities have been removed. During our research for this plan, we heard from residents of both of these neighborhoods that they would like to see the park and playground restored and they would like to see a connection made in the form of a bike path.

### Recommended & Proposed Improvements

The following is a list of recommendations for the Vones Lane / Cardinal Woods / Hidden Pond Neighborhoods:

- Initiate a study to determine the feasibility of constructing a deceleration lane at the intersection of Vones Lane and Route 202.
- Install traffic calming features along Vones Lane to slow the speed of traffic, especially coming into the “s-curves”.
- Install sidewalks, crosswalks and ADA compliant curb ramps where they are currently missing.
- Provide property maintenance education for homeowners to include information about tree trimming in the public right-of-way.
- Repair uneven sidewalks
- Connect Hidden Pond Ct. to Cardinal Way via a refurbished park / playground and to Roderer Dr. via open space between the two cul-de-sacs.
- Work with Janssen Pharmaceuticals to develop a public biking and walking trail to connect Barbieri Ct. with the campus walking trail, then the sidewalks along the southern loop road and east to connect with either Brooklyn Ave. or New York Ave. This network would help link residents in the northwest corner of the Borough to the ballfields on 1<sup>st</sup> Ave and ultimately downtown, without having to travel on Route 28 or Route 202.

### **1<sup>st</sup> Avenue – North of Route 202**

#### Description

The “First Ave - North of Route 202” neighborhood can be described as primarily residential with some large commercial and medical uses adjacent to the Somerville Circle. First Avenue is also known as CR-567 that bisects the neighborhood from north to south. It is a major thruway for traffic passing through the Borough and for more local traffic ultimately traveling to Route 22 or to points east and west along Route 202. The grid-like neighborhood to the west of First Ave. is comprised of single-family homes that were built between 1945 and the 1980s with some homes being renovated and/or rebuilt in the 2000's. The neighborhood to the east of First Ave. is comprised of single-family homes built as early as the 1930s and up through the 2010's.

The intersection of First Avenue with Route 202 has a capacity issue during normal peak periods. The congestion at this intersection is the cause of accidents and makes it difficult for emergency vehicles to navigate through the "bottleneck". The delays at this location also cause motor vehicles to use local roads for regional trips and make it difficult for pedestrians to cross the street at this location. The County is working with the Borough to improve this intersection and has plans to widen Route 202 in this area to add a 3<sup>rd</sup> lane in each direction and to realign the “jughandle” further north on First Ave. to the area where the Washington School was once located. This may help alleviate some of the traffic that backs up on First Ave and help traffic flow through the intersection better.

Route 202 is the primary urban arterial that cuts through the Borough from west to east, even though the highway is a major north to south route for the state. The highway acts as a dividing line of sorts, which makes connections from the north to the south difficult at best. The connections or intersections across Route 202 are the major focus for Raritan's internal circulation for all modes of transportation. Route 202 also has the majority of congestion or traffic volumes through the Borough. It has an Average Daily Traffic (ADT) count of over 35,000.

#### Walkability Audit Results

During the walkability audit for this neighborhood, it was noted that there were a number of uneven sidewalks, missing sidewalks, and missing or faded crosswalks. In particular, the audit looked at the neighborhood west of First Ave. where there are no sidewalks at all. Residents stated that they would like to be able to safely cross First Ave. to access the ballfields and playground and to have options when walking around their “neighborhood”. Crossing First Ave. is dangerous because of the high traffic volumes and because the topography of the neighborhood causes limited sight distance when traveling south on the roadway. The road crests at about Rhine Blvd making it difficult to see a pedestrian crossing First Ave. anywhere between Rhine Blvd. and Prospect St.

Route 28 is a major thoroughfare and would be a logical connection for residents to walk or bike to shops around the Somerville Circle; however, the traffic volumes and speeds, plus the lack of sidewalks on Route 28, make it impossible to safely walk to these businesses. Residents are forced to drive when it is approximately one mile from the furthest resident of this neighborhood to Panera Bread, for example. A connection through the neighborhoods via internal streets, or making Route 28 safer for pedestrians, would improve quality of life for residents in the First Ave.–North of route 202 neighborhoods.

Similarly, residents expressed a desire to be able to walk to downtown from their neighborhood. Some carefully cross Route 202 using the crosswalk and pedestrian crossing signals, however for such a wide highway, it is daunting for those who are not confident in crossing or may have a disability that would take them longer to do so. As can be seen in Figure XX the train station and downtown are both within a 10-minute walk from most of this neighborhood, and would be easy if crossing Route 202 was safer.

#### Recommended & Proposed Improvements

The following is a list of recommendations for the First Ave-North of 202 neighborhoods:

- Improve the pedestrian crossing at Route 202 and First Avenue.
- Install sidewalks, crosswalks, and ADA-compliant curb ramps where missing.
- Install a new pedestrian overpass at either Anderson Street or Thompson Street to connect this neighborhood with points south of Route 202.
- Implement traffic calming techniques in the adjacent neighborhoods to minimize "cut through" traffic.
- Connect open spaces and recreational spaces with the neighborhoods by providing crosswalks at important intersections and signage on First Ave. to alert drivers of pedestrians and bicycles crossing the street.
- Work with the NJ DOT to install sidewalks and provide traffic calming on State Route 28.
- Connect neighborhood to shops via Avon Place and N. Thompson St.

### ***1st Avenue – South of Route 202 / Downtown Business District***

#### Description

These neighborhoods encompass the Stonebridge apartment complex, Tillman St. and Quick Ave., Bell Ave, Sherman and Frelinghuysen, and the Downtown Core consisting of the area between the train station and the riverfront. These neighborhoods represent a microcosm of the character of the Borough with multi-family rentals, single-family homes, brand new and century-old apartment buildings, a commercial core lined with shops, restaurants and offices, and a riverfront within walking distance to the commercial core and to recreation.

The downtown area of Raritan has a number of transportation issues that have to be considered in any short or long term planning. Somerset Street is the core east/west bisector that not only serves as the downtown main street but also as a major connector to Bridgewater and Branchburg to the west and Somerville to the east. The sidewalks had upgraded in the recent past with pavers, benches and tree grates and while crosswalks are clearly marked, additional traffic calming measures could benefit the automobile driver, the pedestrian and the bicyclist.

Typical pedestrian distances are shorter than vehicle trip distances, and travel distance poses a greater limit on pedestrian travel compared to vehicle travel. As a result, the pedestrian network in Raritan Borough includes numerous shortcuts and passages, including parking lots, alleys and pedestrian paths. Walkways to off-street parking lots provide a critical portion of the pedestrian network, both to provide access to the parking lot and to allow cut-throughs between blocks.

Since there is a mix of land uses within Raritan Borough and since there is a continuity of the pedestrian network one would conclude that a substantial portion of local trips are made by walking. Even though the current census shows that work trips mode by walking has decreased it does not necessarily mean that all trips made by walking have also decreased. Elimination of vehicle trips by walking helps to enhance the quality of life, provides a healthy citizenry, and reduces the total amount of traffic on local streets. Improvement of the sidewalks and their landscaping will make walking more appealing and further the goal of making Raritan Borough a truly pedestrian-friendly community.

#### Walkability Audit Results

The results of the walkability audit for this neighborhood concluded that there were a number of uneven sidewalks, missing sidewalks, missing crosswalks and crosswalks that did not connect to sidewalks, some overgrowth into the public right-of-way, and unsafe crossings – even with crosswalks – on Somerset Street due to on-street parking and limited visibility of pedestrians. While most crosswalks led to ADA-compliant curb ramps, a number of the ramps were obstructed by storm drains. This was especially apparent

on Somerset Street in the vicinity of the library. Although the walkability audits did not collect speed data, there was a sense that the speed of traffic was faster than permitted.

Understanding that the Borough has an interest in providing safe passage to pedestrians between the train station and the riverfront, the audits took into consideration the ease with which a pedestrian or cyclist would be able to navigate these routes. The Borough has taken measures in these neighborhoods to calm traffic with speed humps on Bell Ave. and Sherman Ave. and with a four-way stop on Anderson and 2<sup>nd</sup> Street. The audits recognized that two streets, Anderson and Thompson, were a kind of extension of the downtown core and should be reconfigured for pedestrian safety, but also to draw businesses to those streets, where appropriate. See recommendations for these streets in the next two sections.

### **Anderson Street**

Anderson Street is a north-south route between Somerset Street and Route 202 bisected by the railroad. It provides access to and from the train station for commuters from both the north and south. Land uses on Anderson Street in the vicinity of Somerset Street are generally mixed residential and non-residential. Land uses in the vicinity of the train station are primarily residential and the land uses on Anderson Street in the vicinity of Route 202 are primarily commercial, with a few scattered residential properties.

Because the intersection at Somerset Street does not have a traffic light, Anderson Street tends to be a “cut-through” to Route 202 for those traveling from the south. The street is approximately 35 feet wide and allows for on-street parking on both sides of the street. A four-way stop at the intersection with 2<sup>nd</sup> Street was installed in 2018 and has proven to help with traffic calming. However, more needs to be done to help slow traffic speeds and provide a more pedestrian and bicycle-friendly environment.

One recommendation is to change the direction of Anderson Street from two-way to one-way from Somerset Street to the train station, going north. This would allow traffic to continue to travel from the south to the north, but not in the opposite direction. Traffic leaving the train station would have to travel north on Anderson Street. This would eliminate any turning traffic from Anderson Street onto Somerset Street. Having created a one-way street, with one travel lane of approximately 11 feet, this would provide the Borough an opportunity to maintain on-street parking on the west side of the street (approximately 9 feet) and establish a two-way bike lane on the east side of the street (approx. 15 feet). If the Borough chose to reduce the bike lane to one-way, this would provide an opportunity to add a green buffer between the vehicle parking lane and the bike lane. (See Graphics)

### **Thompson Street**

Thompson Street is similar to Anderson in that it is a north-south route between Somerset Street and Route 202 and is also bisected by the railroad. It provides access to the train station parking lots and, like Anderson Street, hosts a mix of uses near its intersection with Somerset Street, residential uses near the train station, with the exception of the AGWAY garden center, and commercial uses with scattered residential near the intersection with Route 202. It is also bisected by the railroad.

Thompson Street is signalized at the intersection with Somerset Street, is approximately 40 feet wide and allows for on-street parking on both sides of the street. Because of the amount of foot-traffic in this area, the Borough should consider providing crosswalks at the intersections of Colfax Street, 2<sup>nd</sup> Street, and La Grange Street in order to help with pedestrian safety. The Borough should also consider changing the direction of traffic from two-way to one-way from the train station to Somerset Street, going south. Traffic leaving the southern train station parking lot via Thompson Street would have to travel south toward Somerset Street. Eliminating the two-way travel lanes, this would also provide an opportunity to create one travel lane approximately 11 feet wide, maintain on-street parking on the east side of the street (approx. 9 feet) and establish a bike lane (one or two lanes) on the west side of the street (approx. 7.5 to 15 feet). (See Graphics)

#### Recommended & Proposed Improvements

- Install sidewalks, crosswalks, and ADA-compliant curb ramps where missing.
- Install a new pedestrian overpass at Anderson Street to connect this neighborhood with points north of Route 202.
- Curb extensions should be considered at areas along Somerset Street that have a high number of pedestrian crossings.
- Reduce the speed limit to 20 mph on Somerset Street between First Ave. and Route 206.
- The entrance from both the east and west seems to architecturally announce that you have reached a center. Any gateway treatment should be subtle and sensitive to the context of the commercial core. A road narrowing on the east and west with space for plantings, flags and monuments would be sufficient for a gateway "treatment."
- Consider making Thompson Street one way (southbound) and Anderson Street one way (northbound) between Somerset Street and the train station. Use the reconfigured street to accommodate a 10-ft. travel lane, a 6-ft. bike lane, a 9-ft. parking lane, and two 2.5' green buffers.

## **Weiss Terrace / Johnson Drive**

### Description

The Weiss Terrace / Johnson Drive neighborhood is comprised of single-family homes, multi-family, a light industrial area at the northern border and the Raritan River at the southern border. Homes in this neighborhood were built between the late 1800's and the mid 1960's. The Borough's only public primary school, JFK Elementary, is located in this neighborhood. One of the Borough's public pools (Basilone Pool) and the bocce court are located on the same property as the school so it is a major destination for families.

Basilone Park, located parallel to Woodmere Road, is a unique feature for the town and for this neighborhood. It is presently unimproved but has the potential to connect Duke Island Park with the elementary school and points beyond. Since it is a linear park, the entrances are located on Old York Road to the south and Center Street to the north. An improved scenario would be to install a shared use path that follows the contours of the stream. A crosswalk on Old York Road would allow for cyclists and walkers to park in the Raritan River Greenway Park parking lot and cross into Basilone Park.

The industrial areas of this neighborhood are considered light industrial and employees of these businesses would benefit from improved walking and bicycling facilities in and around this neighborhood.

### Walkability Audit Results

The walkability audit in this neighborhood revealed that there are a number of uneven sidewalks, some instances of overgrowth into the public right-of-way, a number of the crosswalks are missing or are faded and many of the intersections show extreme wear and tear from years of stormwater runoff. The silt build up at the curb ramps proved that stormwater is an issue in this neighborhood.

The Borough had received a Community Development Block Grant to upgrade curb ramps to ADA-compliant standards in this neighborhood. It was evident which intersections were the recipients of those improvements. However, even though some corners have been improved the actual roadway is in need of repairs, as well. Within the "grid" of this neighborhood there was evidence of poor driver behavior and some speeding especially on Weiss and Woodmere but these are not typically used as "cut-through" streets. Share the Road signs may be sufficient for driver awareness of bicycles in the streets.

As previously stated, the walkability audits do not collect speed data however; walking on the sidewalk on Old York Road felt dangerous due to what felt like faster traffic

speeds. This was most apparent where the road slopes downhill into the Borough. The posted speed limit at Meehan Street is 25 mph (going west into Bridgewater, the speed limit is 35 mph) however it felt like many cars were traveling faster than the posted speed limit going into the Borough. The crosswalk on Gaston Ave across Old York Road has adequate visibility for the pedestrian to see oncoming traffic, but not for the vehicle traveling into town and likely at speeds greater than what is permitted. Residents of this area noted that drivers do not tend to stop for pedestrians waiting to cross the street at this crosswalk.

Residents also noted that this is an important area for children and families who ride their bicycles to school every Tuesday (weather permitting) on the "Bike Train" to JFK Elementary School. The Bike Train has two branches that pick up kids in locations around this area of the town and then they meet up at Johnson Drive and Weiss Terrace where they all ride to the school together. On a good day, the Bike Train can see about 15 kids, and 4-7 adults. The route is identified on Figure 3: Existing Conditions: Pedestrian and Bicycle Facilities.

Because of the popularity of this weekly event and the consistency of the group, the walkability audit made special note of the route and considered the safety of the streets for bicycling. Participants noted that the kids will disembark and walk their bicycles on First Ave. under the train bridge. Here the sidewalk is too narrow for the bicycles and riding in the road is not an option due to the volume of traffic during riding times.

Another trouble spot for the bike train is Johnson Drive. The road is curvy and sloping so visibility is limited in sections. The Borough is currently working on a plan to install a separated bike path in front of the LabCorp parking lot along the curb line specifically for this reason. There is not currently a sidewalk on the north side of Johnson Drive and installing a bike path would make a great difference to those walking and biking on this side of the road.

#### Recommended & Proposed Improvements

- Install and/or repair crosswalks, sidewalks, and curb ramps where needed.
- Repair damaged pavement throughout the neighborhood.
- Install green infrastructure measures where ponding is apparent. Biofiltration strips along the north bound side of Woodmere, along all of the curbs.
- Install traffic calming measures on Old York Road and on First Ave. Rumble strips on the downhill into the Borough on Old York Road may be enough. First Ave. may want to be considered for a road diet or improved sidewalk widths, especially when the intersection with Johnson Drive is redesigned for truck traffic.

- Plan for a pedestrian / bicycle network to connect Duke Island Park with points north and east via Basilone Park to Johnson Drive.
  - Install a shared use path in Basilone Park that is well lit at the entrances and has amenities like benches and educational signage about stream life.
  - Install a separated bike path along Johnson Drive from First Ave. to Weiss Terrace in front of the LabCorp parking area.
  - Work with the property owner at the end of Johnson Drive (Raritan Johnson) to agree on a path to connect JFK School with Johnson Drive. A suggested route would follow the property's boundaries.
- Work with the County to install a sidewalk on the south side of Old York Road for better access between Duke Island Park, Veterans Memorial Park, and Raritan's riverfront.

## **Raritan Train Station**

### Description

The train station in Raritan is in the middle of a primarily residential neighborhood. This station is a part of the Raritan Valley Line and has service from High Bridge to the west to Newark to the east. From Raritan, it would take one hour and twenty-three minutes to get to NYC Penn Station, with a connection at Newark Penn Station. The train service or frequency from Raritan is fairly regular. There are 23 trains on weekdays that travel east towards Newark and 23 trains heading west from NY Penn that stop in Raritan. The next station west of Raritan, the North Branch station located in Branchburg, has a total of 17 trains a day (combined east and west).

Since Raritan is the best served "last" station there is a large parking demand. This is further exacerbated by the location of the station in a primarily residential neighborhood. The cost for a monthly pass to NY Penn Station in 2019 is \$445.00 or \$30.50, round-trip. Parking in the Raritan Train Station lot costs \$40/month.

This neighborhood can be defined by the boundaries including Fifth Street and Sherman Avenue to the north; Lincoln and Victoria Streets to the east; Second and Colfax Streets to the south; and First Avenue to the west. The NJ Transit train station is the focal point of the area. In 2006 the Borough engaged in a Transit Village Study which resulted in the conclusion that it was not the right time for such a designation. Ten years later, with the completion of Stonebridge Apartments, River Park Apartments (now, The Lena), and other streetscape, wayfinding, and redevelopment plans in the pipeline, the Borough looked at the area again and determined that rezoning the area would be most appropriate. This area was rezoned to B-5 Transit Village in 2016 and opened the door to the Borough's first transit-oriented redevelopment project, Raritan Crossing apartments, also known as "Block 81".

The train station is a major anchor in the Borough and contributes to the accessibility of the downtown and the riverfront. It is also a major draw for commuters mainly to points east. From a pedestrian safety standpoint, the parking lots are not pedestrian friendly especially since the two lots to the north of the station abut residential properties where there are currently no sidewalks. The southern lots also abut residential and commercial properties where there are no sidewalks. The train station itself is a historic structure and should be refurbished to house additional commercial and/or conveniences for commuters. The lot surrounding the train station is not very pedestrian-friendly due to the fact that in order to get from the station building to the platform, pedestrians must cross two-way traffic and two lanes of parked cars. It is also an open area of cars with no refuge for pedestrians.

### Walkability Audit Results

At the time of the audit, the crosswalks and sidewalks leading to the train station were in disrepair and very unsafe. Since then, the crosswalks have been repainted, the uneven sidewalks have been repaired and new ADA-compliant ramps have been installed. However, the crossings themselves remain unsafe and the parking lots have not been improved. The audit revealed that the crossing over the railroad tracks was almost impossible for someone with a stroller which would mean that it may also be difficult for someone in a wheelchair.

The audit also looked at connections and barriers to connections in the area. One in particular was a logical connection from the Raritan Crossing apartments to the train station. The apartment complex is one block to the west of the train station and could be accessed via a shared-use path along the railroad right-of-way between 2<sup>nd</sup> Ave. and Anderson St.

#### Recommended & Proposed Improvements

- Reconfigure the main parking lot to make the train station more attractive and pedestrian friendly with landscaping and a sidewalk from the station building to the platform (see GRAPHIC).
- Reconfigure the side lots and install sidewalks along the front of the parked cars, for pedestrian safety.
- Improve wayfinding signage to the station.
- Encourage more use of the bicycle lockers at the station. Repair and/or replace broken lockers.
- Strengthen the connection to downtown along Thompson Street and Anderson Street.
- Strengthen connection to new and redevelopment projects such as Raritan Crossing located at the corner of 3<sup>rd</sup> St. and 2<sup>nd</sup> Ave.

## **Raritan River Greenway**

### Description

The Raritan River Greenway is an important long-term project for both Raritan and the Regional Center. This linear park will reconnect the Borough to the river and to the entire region. A coordinated linear park along the river could serve as an important alternative bicycling connection to New Brunswick, if completed that far.

Connections to the south and east have already begun with a new trail connecting the Nevius Bridge and Duke Farms, and the completion of the greenway bike path from Somerville, crossing under Route 206 at North Bridge Street and continuing north to the Raritan Borough Public Works yard. The Borough should continue to work with the County and the private landowners along Orlando Drive to continue assembling parcels that will help to continue the greenway along Orlando Drive.

The side streets between Somerset Street and Orlando Drive are important features to this part of the town. It is the oldest part of the town with homes built between the 1850s and the 1940s. These streets connect the downtown core to the riverfront and provide excellent walkability to both of these locations. It is important to ensure they are maintained so that walking and biking remain the preferred means of accessing these areas.

Route 206 is one of the primary arterials that run from south to north through the eastern edge of the community joining Route 202 and 28 of the "Somerville Circle." Route 206 has Average Daily Traffic (ADT) of over 35,000. Route 206's major intersection in Raritan is at Somerset Street. The intersection at Orlando Drive is slated for extension into the Somerville Landfill Redevelopment Area and will provide a connection for Somerville residents to the Raritan riverfront. That redevelopment project is currently underway.

### Walkability Audit Results

The audit along Orlando Drive revealed the fact that many drivers use this road as a cut-through from Route 206 to points north and west. In doing so, speeds on Orlando Drive appear to be higher than the posted speed limit, making it unsafe for pedestrians to cross. The sidewalks and crosswalks along this route were recently improved although there is one instance where a crosswalk leads to a curb ramp, but no sidewalk. Similarly in the vicinity of the Nevius Bridge, crossing Orlando Drive is well-marked but then once in front of the bridge, there are areas where incidents could occur between vehicles and pedestrians.

Along Canal Road the audit revealed that sidewalks and crosswalks had recently been improved in the area of the Nevius Bridge, but the sidewalks closer to Thompson were

very uneven and in some cases missing. There was a lot of overgrowth into the public right-of-way.

### Recommended & Proposed Improvements

- Install and/or repair crosswalks, sidewalks, and curb ramps where needed.
- Flooding along Orlando Drive has been an issue in the past. The Borough should consider installing green infrastructure measures where possible.
- The Downtown streetscape should continue down each of the side streets intersecting Canal Road and Orlando Drive to create a cohesive downtown/residential character.
- The Borough should consider rezoning the south side of Orlando Drive to Recreation / Greenway in order to continue developing the greenway along the riverfront.
- Raritan should start to plan logical trailheads within the Borough limits so access is convenient. Two planned trailheads include the Nevius Bridge and Old York Road at Basilone Park.
- Wayfinding signage should be used to connect the downtown from the greenway so users of the trail can access shops and restaurants.
- When the connection between Orlando Drive and Somerville Station Redevelopment Area begins, ensure there is a focus on pedestrian and bicycle safety and that there is a continued sidewalk on both sides of Route 206.

### Design Standards

The portions of the Greenway that are along Orlando Drive should generally adhere to the following design standards<sup>9</sup>:

- Traffic separated. Includes a physical barrier that combines both horizontal spacing and vertical elements to protect trail users from motor vehicles.
- Firm surface. Easily navigable by a touring bicycle or wheelchair; may be paved or fine stone dust surface or other natural surface that a touring bicycle can easily and comfortably navigate.
- Publicly accessible. Open and free to the public every day of the year. In a few areas, we have incorporated fee-charging ferry service, but we seek crossings that minimize cost and provide frequent service.
- Wide enough for shared use. We aim for a 12 foot wide pathway but understand that may not always be achieved initially. In more rural areas, where use may be lower, a narrower width may suffice. All new trails are expected to be designed and built according to best practices (E.g., AASHTO standards for shared-use paths).

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<sup>9</sup> Excerpted from the *East Coast Greenway Criteria & Design Guide*

- Avoids steep grades and steps that prohibit wheelchair access and make bicycle access difficult. See AASHTO guidelines on the acceptable grade of a shared-use path.
- Integrated recreation and transportation infrastructure. The trail must route through a town or city center. Connects people to where they work, live, and play.
- Responsive to new design. In addition to shared-use path designs, an on-road facility that provides a physical barrier separating users from motor vehicles may also be designated. The term “physical barrier” will be interpreted to include firm, fixed objects such as concrete barriers, planters, guard rail or vehicle railing or bollards. Bicycle lanes separated from motor vehicle traffic by flexible vertical delineators are generally not eligible for designation, although our new design exceptions may allow for designation of such facilities upon further review of the roadway context. In an instance where the facility prohibits pedestrian and wheelchair use, it may be designated as East Coast Greenway provided that there is a parallel facility for pedestrians and wheelchair users which is designated as well.

## ***Nevius Bridge & Pedestrian Plaza***

### Description

This area of the town can be described as the most historic. As the gateway to the riverfront, the Nevius Bridge is an iconic structure in the Borough and provides a unique way of accessing the riverfront and nearby Duke Farms. The bridge was pedestrianized in 2005 when the Lyman Street Bridge was constructed. The entrance to the bridge is a bit confusing for pedestrians who have to navigate a semi-public parking area and a driveway that is the same width as the former roadway. The two Duke Farms buildings that flank the bridge entrance appear to be in disrepair and are not very attractive in their current conditions. This section of Orlando Dr. is the start of the Raritan River Greenway and there is great potential for this area to be a significant gathering space in the community.

### Walkability Audit Results

While a number of the sidewalks, crosswalks and curb ramps along Canal St. were improved in 2019, the walkability audit revealed that there are uneven sidewalks and missing or faded crosswalks in the vicinity of some of the side streets leading up to Canal St. and the bridge.

### Recommended & Proposed Improvements

- Install and/or repair crosswalks, sidewalks, and curb ramps where needed.
- Work with Duke Farms to improve the conditions of the Water Pump Station building and the Power House and develop a plan for adaptive reuse of these buildings. Some examples may include:
  - A food and beverage establishment;
  - An orientation center highlighting the history of the river and the Borough;
  - Outdoor sports outfitter / equipment rental establishment (canoes, kayaks, tubes, bikes, etc.);
  - Bicycle shop and repair center;
  - Art Gallery;
  - And others.
- Improve the entrance to the Nevius Bridge with a reconfigured pedestrian plaza, parking across Orlando Drive, and a connection to the Raritan River Greenway.
- Improve wayfinding signage to the bridge from downtown, and improve educational signage at the bridge that represents the history of the area.
- Work with Duke Farms to install educational signage about the ecosystems represented near the bridge.

### **CAPITAL IMPROVEMENT PLANS**

Currently, Raritan Borough does not have a municipal capital improvement plan. It is recommended that the Town engineer generate a capital improvement plan with a five-year forecast. This plan should be updated annually. Such a person will be helpful in programming and budgeting improvements in Raritan Borough.

The County has a 6-year capital improvement plan. The County plan is prepared annually and lists projects for the next 6 years. The County plan is prepared by the Department of County Engineering and is approved by the County Freeholders at a public meeting. The County solicits input from municipal representatives. The County has one (1) roadway project in their program that could impact the community: Local Safety Improvements, including ADA compliance for Somerset Street from Route 206 to First Avenue. Design is programmed to begin in 2021.

### ***Planned Improvements***

The policies stated in the New Jersey State Development and Redevelopment Plan relating to transportation have been considered and incorporated into the formulation of this Circulation Plan Element.

## **SUMMARY OF RECOMMENDATIONS**

- Where possible throughout the entire town: Install sidewalks, crosswalks and ADA compliant curb ramps where they are currently missing; repair uneven sidewalks.
- Where possible throughout the entire town: Install traffic calming techniques as a tool to increase pedestrian safety and access.
- Update the Borough's Complete Streets Policy to follow the State's Policy and create design guidelines for individual roadway types.
- Update the proposed cross-section for each roadway, including the number and width of traffic lanes and the requirements for shoulders and sidewalks, bike lanes and biofiltration facilities.
- Educate homeowners about property maintenance of landscaping so as not to impede on the public right-of-way.
- Prepare a 5-year road improvement plan. This plan should study areas identified in the Borough's Circulation Plan Element and prioritize the recommended improvements for all road infrastructure improvements that fall under municipal jurisdiction.
- Provide short-and/or long-term bicycle parking in all commercial districts, in employment centers and multifamily developments, at schools, in industrial developments, at special events, in recreational areas, and transit facilities.
- Coordinate proposed bike and pedestrian connections with the Borough's Open Space and Recreation Plan and the Borough's Land Use Plan.
- Ensure that all projects in Raritan Borough conform to the NJDOT Pedestrian guidelines.
- Identify existing or future roadway features that are unsafe or limit the passage of trucks.
- Increase enforcement of motor vehicle violations by trucks and other large vehicles.
- Borough government should sponsor walk and bike to work days as an annual event.
- The NJ Transit bus service (Route 114) should be extended into Raritan.
- Develop benchmarks, standards, or measurements which the community can gauge current and future compliance and noncompliance with overall plan goals. These may include transit-supporting population densities, transit level of service based not only on capacity, but also on headways (time between service), and other service characteristics, walk mode share, pedestrian facility mileage, poor sidewalk condition, pedestrian-friendly areas guidelines, vehicle miles traveled (VMT) per capita, vehicle air pollutant emissions, poor bridge/pavement condition, bicycle mode share, bicycle facility mileage, provision of bicycle facilities/amenities at transit hubs and other activity centers.