
# RED BANK TRAIN STATION REPORT

JUNE 2018

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# Red Bank Train Station Report Contents

# 1. Overview and Context

The Red Bank Station is located in the northwest corner of the Borough in a mixed-use neighborhood. The station is served by NJ TRANSIT's North Jersey Coast Line. In 2016, the station averaged 1,150 weekday boardings.

The pedestrian network in the Borough is comprehensive, although many crosswalks and pedestrian ramps are deficient. In 2010, the Borough adopted a Complete Streets Policy and undertook the Red Bank Bicycle/Pedestrian Planning Project, a study of potential improvements to bicycle and pedestrian amenities that informed the priority bicycle routes examined in this street audit.

Red Bank's street network follows a deflected grid pattern, which adjusts to follow major transportation and geographic barriers, such as the bank of the Navesink River and the North Jersey Coast Line. The Priority Route Map (Figure 1) for Madison shows all routes that were reviewed in this study, as well as the priority routes, and indicates the locations of specific road cross-sections that are presented in the appendix. The Priority Routes identified include:

- Shrewsbury Avenue
- Monmouth Street
- Oakland Street
- Peters Place
- Harding Road
- Reckless Place
- Broad Street

## Background Data

Background research included review of existing documents, programs and data sources:

### Local Documents

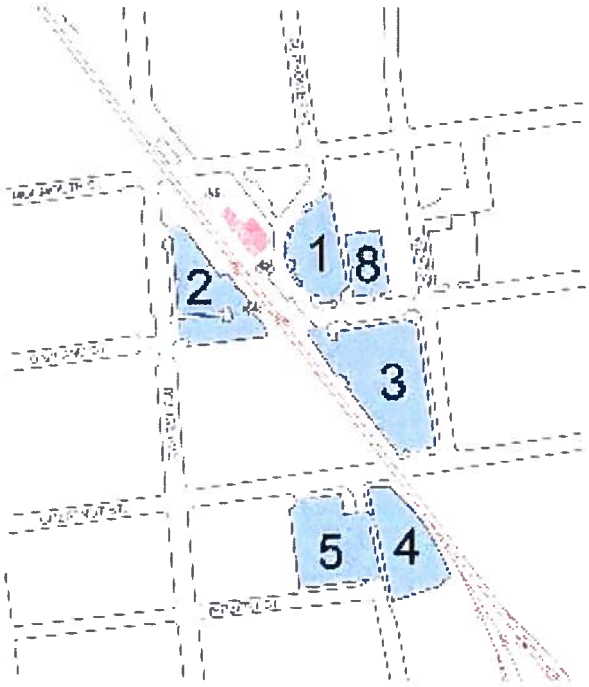
| Title | Date |
|---|---|
| **Walkable Community Workshop** | October 2006 |
| **Red Bank Borough Complete Streets Policy** | August 2010 |
| **Red Bank Bicycle/Pedestrian Planning Project** | December 2010 |

### Parking Lots

| Lot Number | Location | Owner | Spaces |
|---|---|---|---|
| 01 | Monmouth St & Burrowes St | NJ TRANSIT | 73 |
| 02 | Bridge Ave & Oakland St | NJ TRANSIT | 60 |

| | | | |
|---|---|---|---|
| 03 | Oakland St & Burrowes St | NJ TRANSIT | 143 |
| 04 | Chestnut St | NJ TRANSIT | 69 |
| 05 | Chestnut St | NJ TRANSIT | 100 |
| 08 | Oakland St & West St | NJ TRANSIT | 39 |
| | | Total spaces | 484 |

**Map: Locations of Parking Lots**



## 2. Existing Conditions

(observed February 1, 2018, temperature in the 40s)

- Sidewalks in the vicinity of the train station, as well as between parking areas and other pedestrian trip generators, are typically in good condition
    - Sidewalks are generally continuous with adequate connections within a 1/2-mile radius of the station
    - Crosswalks in the immediate vicinity of the station are severely faded (Images 8, 9 and 10)
    - Many pedestrian ramps outside of NJ TRANSIT property do not meet ADA standards
- Most of the intersections on Shrewsbury Ave, Broad St and Maple St require pedestrian ramp upgrades and crosswalk re-striping
- Bicycle racks are full on the north side of the station building at Monmouth Street (Image 4)
- Bicycle lockers are available on the east side of the station
- Bicycle parking is available for (58) bicycles at the station

## Photo Log

The following photos and captions describe existing conditions around and to the train station.

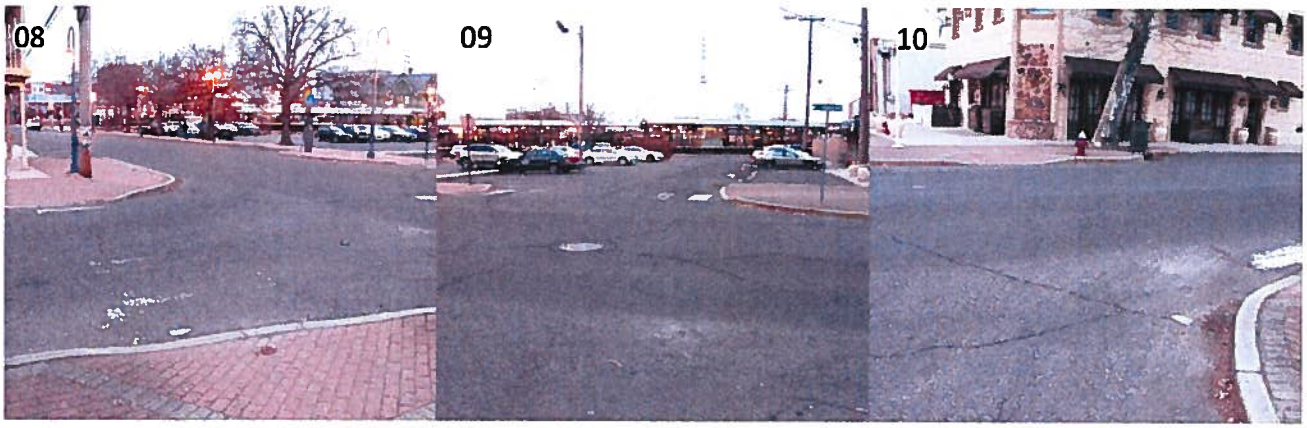

Red Bank Station has good quality signage that clearly identifies the station and how the parking lots are to be used. (RedBank_180201_070506.JPG, RedBank_180201_070443.JPG)


Lighting at the station and on adjacent sidewalks is bright and in good condition. (RedBank_180201_070313.JPG)


Parking for (20) bicycles is available on the north side of the station building with access to the New York-bound platform. (RedBank_180201_070609.JPG)


Additional parking for (16) bicycles is provided south of the station building on the NY-bound side (6 rack capacity + 10 bike box capacity). (RedBank_180201_074038.JPG)


Parking for (22) bicycles is provided in (3) locations with access to the Bay Head-bound platform. (RedBank_180201_072437.JPG, RedBank_180201_072303.JPG)




At the intersection of Bridge Ave and Oakland St, all crosswalks need to be re-striped. The northern leg of this intersection, crossing Bridge Ave, did not include a crosswalk and curb ramps. It may be worth adding a crosswalk and curb ramps to this leg, since it is a natural travel pattern to/from the station. (RedBank_180201_071950.JPG, RedBank_180201_072000.JPG, RedBank_180201_072005.JPG)


Lot 02 includes landscape islands with shrubbery in need of pruning. It may be possible to retrofit these islands to function as infiltration gardens by providing curb cuts and re-grading. (RedBank_180201_072330.JPG)


Lot 02 includes (5) ADA parking spaces with an accessible route to a ramp leading to the station platform. The ramp is ±200' from the parking. (RedBank_180201_072434.JPG)


The east side of the station includes Lots 01, 08, and 03 with access roads and drive aisles throughout. Curb ramps were recently upgraded within the vicinity of the station. High visibility crosswalks will help with safety and circulation in these areas. (RedBank_180201_073348.JPG)


This crossing at a drive aisle in Lot 01 was not upgraded as shown in the previous photo. (RedBank_180201_073553.JPG)

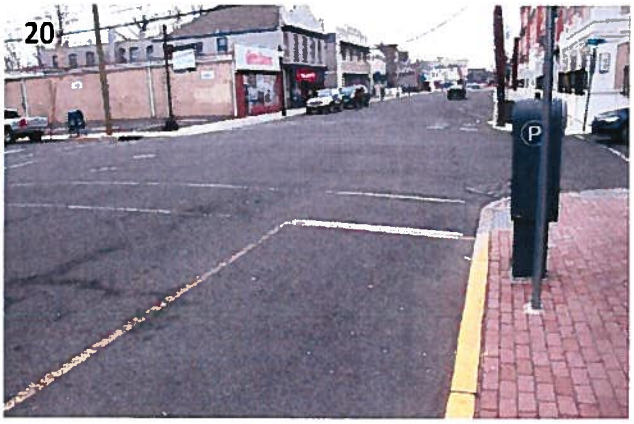

Cars were observed moving quickly through the station area. It may be advisable to post a parking lot speed limit (such as 9 MPH) and increase the visual presence of pedestrian crossings. (RedBank_180201_073921.JPG)


Markings and striping throughout the parking lots are due for replacement. (RedBank_180201_074611.JPG)


Lot 03 includes striped parking lot islands. These can be retrofitted as infiltration gardens through pavement removal, curbing, soil amendment, and planting. (RedBank_180201_074922.JPG)


The eastern edge of Lot 03 could be retrofitted with a bioswale between the parking lot and sidewalk to aid in stormwater infiltration. (RedBank_180201_075201.JPG)


Lot 08 appears on NJ TRANSIT's parking lot inventory for Red Bank station, but signage at the site indicates it is managed by Mayo Auto Service. (RedBank_180201_075517.JPG)




The intersection of West St and Monmouth St could be improved for pedestrian safety with high visibility crosswalks and curb extensions. (RedBank_180201_075840.JPG)


The intersection of Bridge Ave and Herbert St is an excellent example of ADA compliant curb ramps and high visibility crosswalks that could be replicated throughout the borough. (RedBank_180201_084125.JPG)


The intersection of Drummond Ave and S Bridge Ave is an example of an intersection due for curb ramp replacement and crosswalk re-striping. (RedBank_180201_084825.JPG)


The northern half of Broad St is finished with brick paver sidewalks that are generally in good condition. Brick paver curb ramps should be retrofitted with detectable warning surface. (RedBank_180201_093350.JPG, RedBank_180201_093439.JPG)


Bridge Ave has bike lanes between Chestnut St and Drs James Parker Blvd. It may be advisable to provide centerline striping on this road. (RedBank_180201_095919.JPG)


Chestnut St lacks a marked crossing for pedestrians between Lots 04 and 05 (to left) and the station (to right). (RedBank_180201_114230.JPG)

# 3. Issues & Opportunities

## General Issues

- Crosswalks in the immediate vicinity of the station are severely faded
- Many pedestrian ramps outside of NJ TRANSIT property do not meet ADA standards
    - Most of the intersections on Shrewsbury Ave, Broad St and Maple St require pedestrian ramp upgrades and crosswalk re-striping
- Intersection of Chestnut St and the railroad tracks, southeast corner, does not have a continuous sidewalk
    - Gravel service areas parallel to the tracks spill out onto Chestnut St without a driveway apron or sidewalks connecting adjacent sidewalks on the northwest and southeast sides of the tracks
- No existing pedestrian crosswalk access at Chestnut St between Parking Lots 04 and 05 to the train station platform
    - Nearest connection requires a detour, users of Parking Lots 04 and 05 cross Chestnut St at the shared entrance to these lots
- Crosswalk markings at the intersection of the Oakland St terminus and the exits from Parking Lots 01 and 03 is faded and does not adequately organize vehicles
    - Lack of channelizing markings allow pick-up and drop-off to take place at this pedestrian crossing location
- Private vehicle pick-up and drop-off take place in the bus stop just south of the station building
    - Bus stop is poorly marked and faded
- Bicycle racks are full on the north side of the station building at Monmouth Street (Image 4)
- On-road bicycle facilities are striped in standard paint
    - Chestnut St: shared lane markings are spaced infrequently
        - One or fewer shared lane markings are installed per block
    - Bridge Ave: bicycle lane is in good condition
        - Bicycle lane lines are marked in 4" white paint
    - W Bergen Pl: shared lane markings are spaced infrequently
        - One or fewer shared lane markings are installed per block
- The station downtown area lacks bike parking
    - NJ Transit bicycle racks have been installed on the north side of the station building, off of Monmouth Street

### Station Area Issues

*East side of the station*

- Pick-up/drop-off takes place at various locations
    - Handicapped parking stalls south of station building
    - Bus stop south of station building
    - At the terminus of Oakland Street, between parking lots 01 and 03
    - In the taxi pick-up/drop-off area west of the platform in lot 02
- Vehicles were observed traveling at speeds that were uncomfortably fast for the setting
    - Drive aisle are wide

- Pedestrian crossing lack visual prominence
- General pavement markings are lacking

*West side of the station*

- Taxi area in Parking Lot 02 is poorly marked

*Commuter parking lots*

- No ADA compliant connection between Parking Lots 04 & 05 and the platforms

## General Opportunities

- Improve crosswalks visibility, paying attention to areas that wear out the most
  - Crosswalk upgrades and/or restriping should use "Ladder" or "Continental" striping
  - Placement of the lines parallel to the direction of travel should be placed around the portions of the lane where tires track and wear down markings, to minimize wear
- Improve curb ramps lacking high contrast tactile warning surface
- On-road bicycle facilities should use thermoplastic paint when roadway is re-striped
  - Chestnut St: shared lane markings should be placed as frequent as every 100' to provide greater visibility for the shared lane facility
  - Bridge Ave: bicycle lane lines should be re-striped with 6" bicycle lane lines to resist wear and increase longevity
  - W Bergen Pl (Drs James Parker Blvd): shared lane markings should be placed as frequent as every 100' to provide greater visibility for the shared lane facility
- Install bicycle parking in the downtown area

### Station Area Opportunities

*East side of the station*

- Clearly define an area for pick-up/drop-off

*West side of the station*

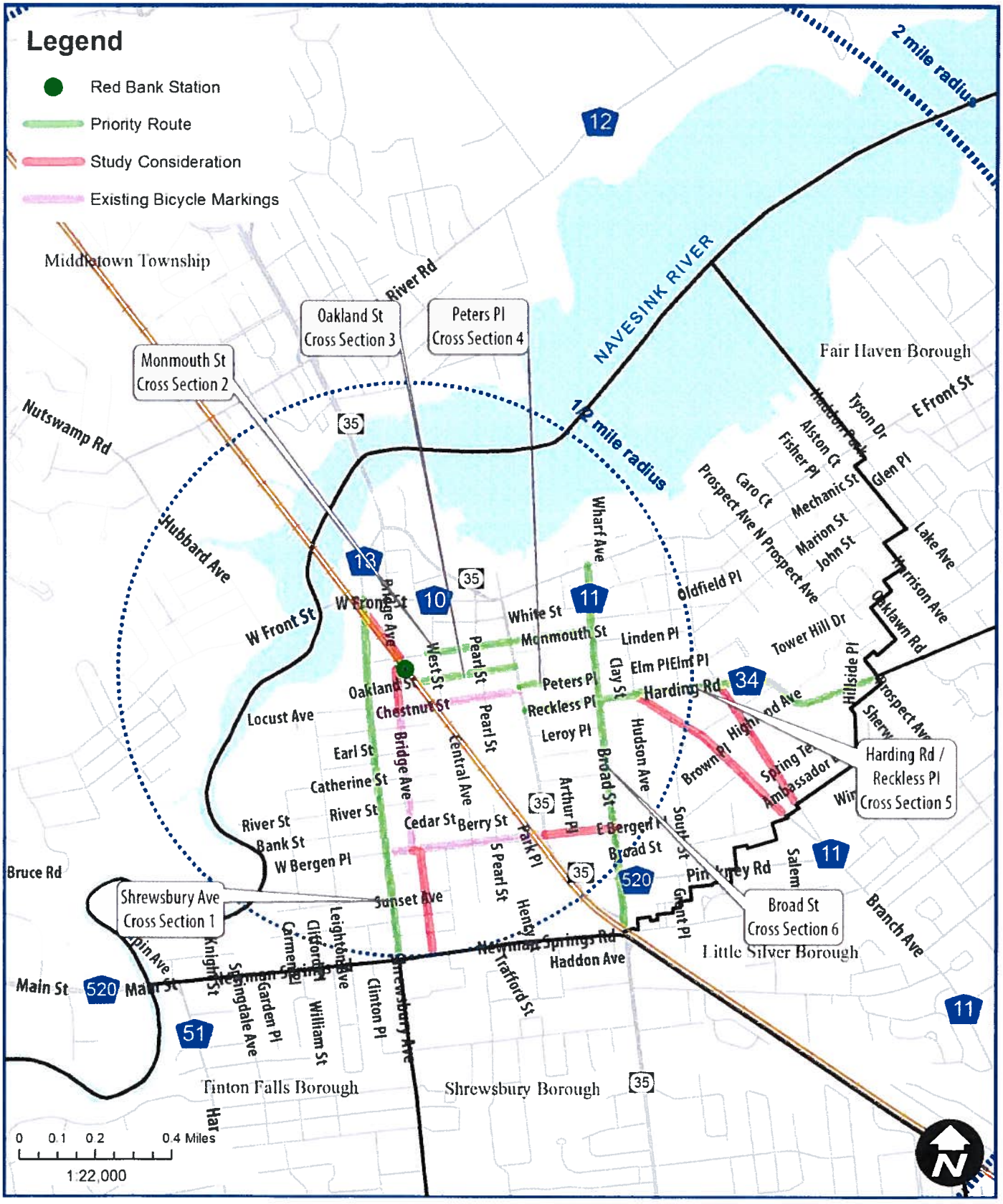
- Taxi pick-up/drop-off area is poorly designated

*Commuter parking lots*

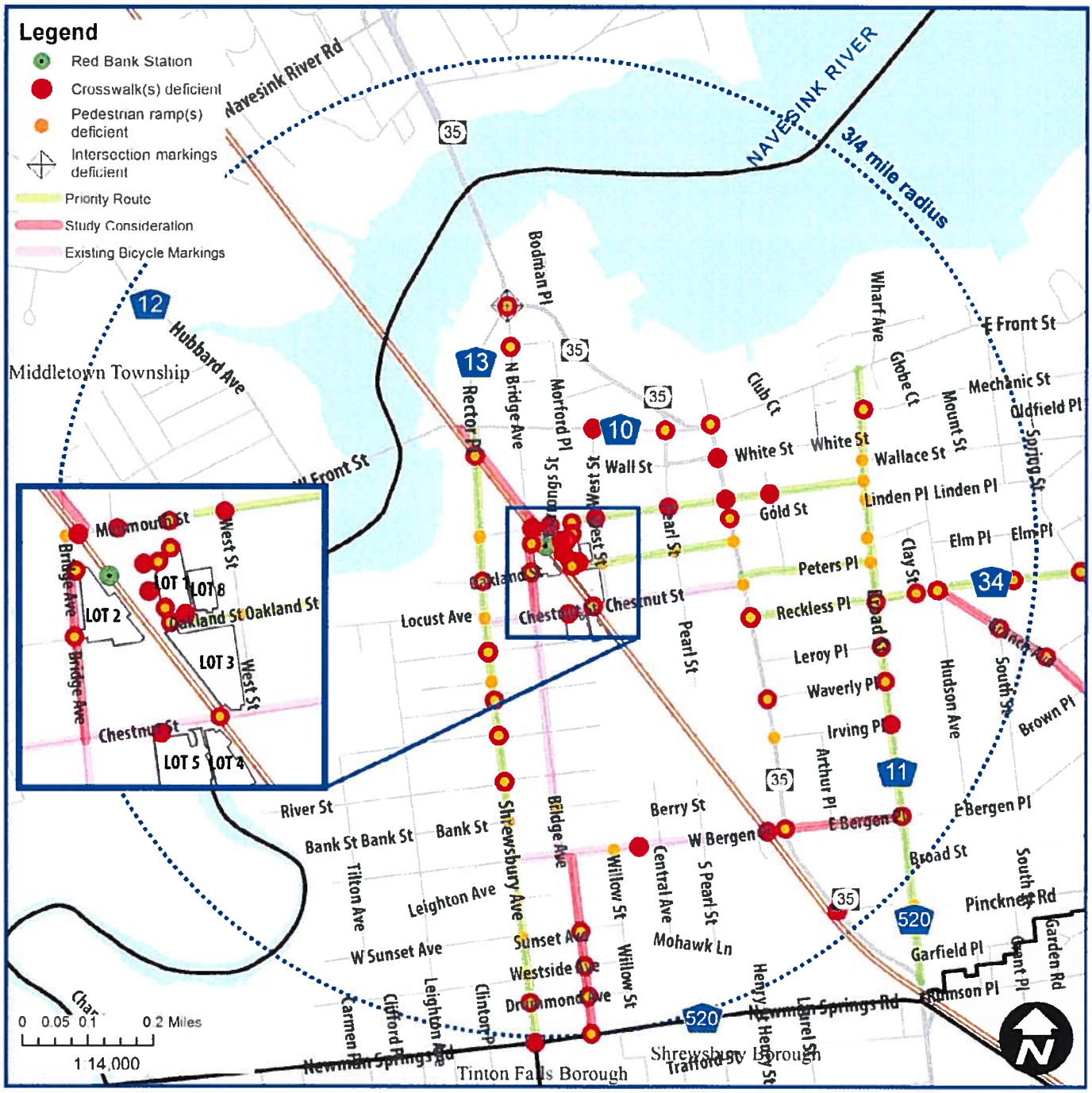
- Employ traffic calming strategies in Lots 01 and 03 to reduce vehicle travel speeds
- Create ADA compliant connection from Parking Lots 04 & 05 and the platform entrances
- Explore green infrastructure measures for stormwater infiltration in all parking lots

Existing Conditions, Issues & Opportunities (general and station area specific) are synthesized and presented in Figure 2 – Issue & Opportunities Map

## Figure 1: Priority Routes Map



## Figure 2: Issues & Opportunities Map




### KEY ISSUES

1. Oakland St terminus between Lot 1 and Lot 3 lacks organization between vehicles exiting the lot and pick-up/drop-off
2. Discontinuous sidewalk on both sides of the railroad crossing of Chestnut St
3. Private vehicle pick-up/drop-off takes place in designated bus stop in Lot 3

### OPPORTUNITIES

1. Add channelizing striping to organize exiting vehicles and to limit pick-up and drop-off at undesignated locations
2. Connect existing sections of sidewalk to provide a continuous, ADA compliant route
3. Re-stripe bus stop area with 6" thermoplastic markings, install enlarged bus stop sign

# 4. Recommendations

The goal of this study was to identify the most basic barriers limiting pedestrian and bicycle access to the station, and to propose recommendations to address them. Most recommendations consist mainly of markings, with more substantial interventions at high-priority locations.

Recommendations respond to deficiencies involving:

- Pedestrian ramp condition (if any) for ADA compliance
- Crosswalks for visibility and condition
- Intersection markings to organize turning and thru alignment at complex intersections
- On-street bicycle facilities where feasible
- Lighting for adequate coverage during low-light hours

In response to these issues, we have identified one or more of the following recommendations for each station area:

- Provide high visibility crosswalks
- Provide curb ramps at all intersections and crossings
- Provide bicycle accommodations along low-stress routes (Bike Boulevard treatments)
- Deploy epoxy curb ramps
- Provide RRFBs at unsignalized crossings, as appropriate
- Track implementation and perform post-implementation studies
- Provide sufficient bicycle parking (coordination with NJ TRANSIT may be required to provide additional bike racks) and consider covered, secure bicycle parking

### Short-Term Conceptual Enhancements

The short-term conceptual enhancements are the basis of these recommendations. Minimal funding can still accomplish many of these concepts, without having to initiate a larger capital project. In many cases, re-striping roads with these concepts after being repaved could result in little to no additional cost, compared to replacing the markings as they were prior to repaving.

Many of the concepts in this study have the potential to be deployed as Tactical Urbanism projects, which are design changes implemented to street environments in a "light, quick, cheap," and temporary manner. By showing people – pedestrians, bicyclists, drivers – the design changes in real space, there is an opportunity to build significant community support before making large investments in infrastructure.

### Long-Term Conceptual Enhancements

Many of the short-term concepts have long-term build-outs. The primary example, which is used throughout the six transit stations reviewed in this study, is the proposed tan colored epoxy gravel curb extensions. While the short-term application can be implemented almost anywhere, the long-term build-out of actual curb extensions could be pursued as a long-term upgrade. Locations where short-term epoxy gravel curb extensions are proposed require additional study (to understand implications for road drainage, utilities, etc.), as well as funding identified for design and construction.

### Phasing

With a goal of presenting NJ TRANSIT and the local municipalities with actionable recommendations to improve pedestrian and bike access to the stations, the recommendations were mainly low-cost and high-impact. Each intersection that received specific recommendations has a combination of treatments, and could be implemented together as part of a broader

## 5. Cost Estimates, Phasing, & Funding Sources

These costs include general maintenance and operational cost, such as those for sidewalk or shared use path leaf, litter and snow removal and roadway striping treatment replacement over time. A phasing plan with short, medium and long term time frames will also be developed to help the municipalities plan the recommended enhancement implementation.

| Item | **Concept 1: Bridge Ave & Oakland St** | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | White striping | 110 | LF | $1.60 | $176 | Short | |
| 2 | White thermoplastic crosswalk | 715 | SF | $3.20 | $2,288 | Short | Safe Streets to Transit |
| 3 | Detectable warning surfaces (assuming 2'x4') | 6 | EA | $250.00 | $1,500 | Short | |
| 4 | Curb ramps | 2 | EA | $1,500.00 | $3,000 | Short | |
| 5 | Shared lane markings on Bridge Ave & Oakland St (assuming 30 SF) | 6 | EA | $200.00 | $1,200 | Short | |
| | | | | SUBTOTAL | $8,164 | | |
| | | | | CONTINGENCY (30%) | $2,449 | | |
| | | | | **TOTAL** | **$10,613** | | |

| tem | **Concept 2: Lots 4 & 5 Station Access** | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | White thermoplastic crosswalk | 495 | SF | $3.20 | $1,584 | Short | Safe Streets to Transit |
| 2 | Curb ramps | 2 | EA | $1,500.00 | $3,000 | Short | |
| 3 | Concrete sidewalk at driveway aprons (assume 5' wide) | 55 | LF | $60.00 | $3,300 | Short | |
| 4 | Rectangular Rapid Flash Beacons (RRFBs) | 2 | EA | $15,000.00 | $30,000 | Medium | |
| | | | | SUBTOTAL | $37,884 | | |
| | | | | CONTINGENCY (30%) | $11,365 | | |
| | | | | **TOTAL** | **$49,249** | | |

| Item | Concept 3: Lots 1 & 3 | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | White thermoplastic crosswalk | 2,065 | SF | $3.20 | $6,608 | Short | NJ TRANSIT Capital / Maintenance Programs AND/OR Local efforts |
| 2 | White striping | 295 | LF | $1.60 | $472 | Short | |
| 3 | Yellow striping | 225 | LF | $3.20 | $720 | Short | |
| 4 | Colored epoxy gravel | 250 | SF | $7.50 | $1,875 | Medium | |
| 5 | Regulatory signs | 8 | EA | $360.00 | $2,880 | Short | |
| | | | | SUBTOTAL | $12,555 | | |
| | | | | CONTINGENCY (30%) | $3,766 | | |
| | | | | **TOTAL** | **$16,321** | | |

| Item | Concept 4: Oakland St & West St | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | White thermoplastic crosswalk | 1,030 | SF | $3.20 | $3,296 | Short | Safe Routes to School |
| 2 | Detectable warning surfaces (assuming 2'x4') | 2 | EA | $250.00 | $500 | Short | |
| 3 | White striping | 280 | LF | $1.60 | $448 | Short | |
| | | | | SUBTOTAL | $4,244 | | |
| | | | | CONTINGENCY (30%) | $1,273 | | |
| | | | | **TOTAL** | **$5,517** | | |

| Item | Concept 5: Monmouth St Typical Intersection Treatment (per intersection) | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | Yellow striping | 90 | LF | $1.60 | $144 | Short | Local Aid / PeopleforBikes Community Grants |
| 2 | Colored epoxy gravel | 1,020 | SF | $7.50 | $7,650 | Medium | |
| 3 | White striping | 240 | LF | $1.60 | $384 | Short | |
| 4 | White thermoplastic crosswalk | 765 | SF | $3.20 | $2,448 | Short | |
| 5 | OPTION: Planters in epoxy area | 4 | EA | $250.00 | $1,000 | Long | |
| | | | | SUBTOTAL | $11,626 | | |
| | | | | CONTINGENCY (30%) | $3,488 | | |
| | | | | **TOTAL** | **$15,114** | | |

| Item | Concept 6: Shrewsbury Ave Typical Intersection Treatment (per intersection) | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | Colored epoxy gravel | 825 | SF | $7.50 | $6,188 | Medium | County Aid |
| 2 | White thermoplastic crosswalk | 440 | SF | $3.20 | $1,408 | Short | |
| 3 | White striping | 245 | LF | $1.60 | $392 | Short | |
| 4 | OPTION: Planters in epoxy area | 4 | EA | $250.00 | $1,000 | Long | |
| | | | | SUBTOTAL | $8,988 | | |
| | | | | CONTINGENCY (30%) | $2,696 | | |
| | | | | **TOTAL** | **$11,684** | | |

| Item | **Concept 7: Bicycle Boulevards** | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | Shared lane markings (1 SLM every 250' in both directions on ±8,700' of roadway) | 70 | EA | $100.00 | $7,000 | Short | PeopleforBikes Community Grants |
| 2 | Bicycle route signage (1 sign every 500' in both directions on ±8,700' of roadway) | 35 | EA | $120.00 | $4,200 | Medium | |
| | | | | SUBTOTAL | $11,200 | | |
| | | | | CONTINGENCY (30%) | $3,360 | | |
| | | | | **TOTAL** | **$14,560** | | |

| Item | **Concept 8: Broad St** | QTY | UNIT | UNIT PRICE | COST | PHASING | FUNDING |
|---|---|---|---|---|---|---|---|
| 1 | Budgeting cost for possible future Planning Study | 1 | EA | $150,000 | $150,000 | Long | NJDOT |
| | | | | SUBTOTAL | $150,000 | | |
| | | | | CONTINGENCY (30%) | $45,000 | | |
| | | | | **TOTAL** | **$195,000** | | |

# 6. Bicycle and Pedestrian Access at Red Bank Station Concepts

## Red Bank Concept #1


*Concept - Planning Purposes Only*

### General Approach:

The intersection of Bridge Ave and Oakland St is a busy pedestrian crossing in need of rejuvenation. Provide ADA-compatible curb ramps at all crossing locations. Re-stripe crosswalks in high visibility thermoplastic. Northern leg of crosswalk is new; proposed to address pedestrian crossing habits that were observed in the field.

### Starter (Low Cost) Materials:

- White striping
- White thermoplastic crosswalk
- Detectable warning surface
- Curb ramps
- Shared lane markings on Bridge Ave and Oakland St

### Long Term (High Cost) Materials:

- New curb ramps

## Red Bank Concept #2


Concept - Planning Purposes Only

### General Approach:

Provide a designated crossing for Lot 04 and 05 users across Chestnut St. Include high visibility crosswalks, curb ramps, concrete sidewalks with pedestrian priority driveway aprons, and Rectangular Rapid Flash Beacons.

Note: These concept level recommendations adjacent to the railroad crossing will require engineering design and approvals from local jurisdiction, NJ TRANSIT, and NJDOT.

### Starter Materials:

- White thermoplastic crosswalk
- Curb ramps
- Concrete sidewalk at driveway aprons
- Rectangular Rapid Flash Beacons (RRFBs)

*Example RRFB in Summit, NJ*

*Example of concrete sidewalks with concrete surface extended through driveway apron*

## Red Bank Concept #3

**LOTS 01 AND 03**

### General Approach:

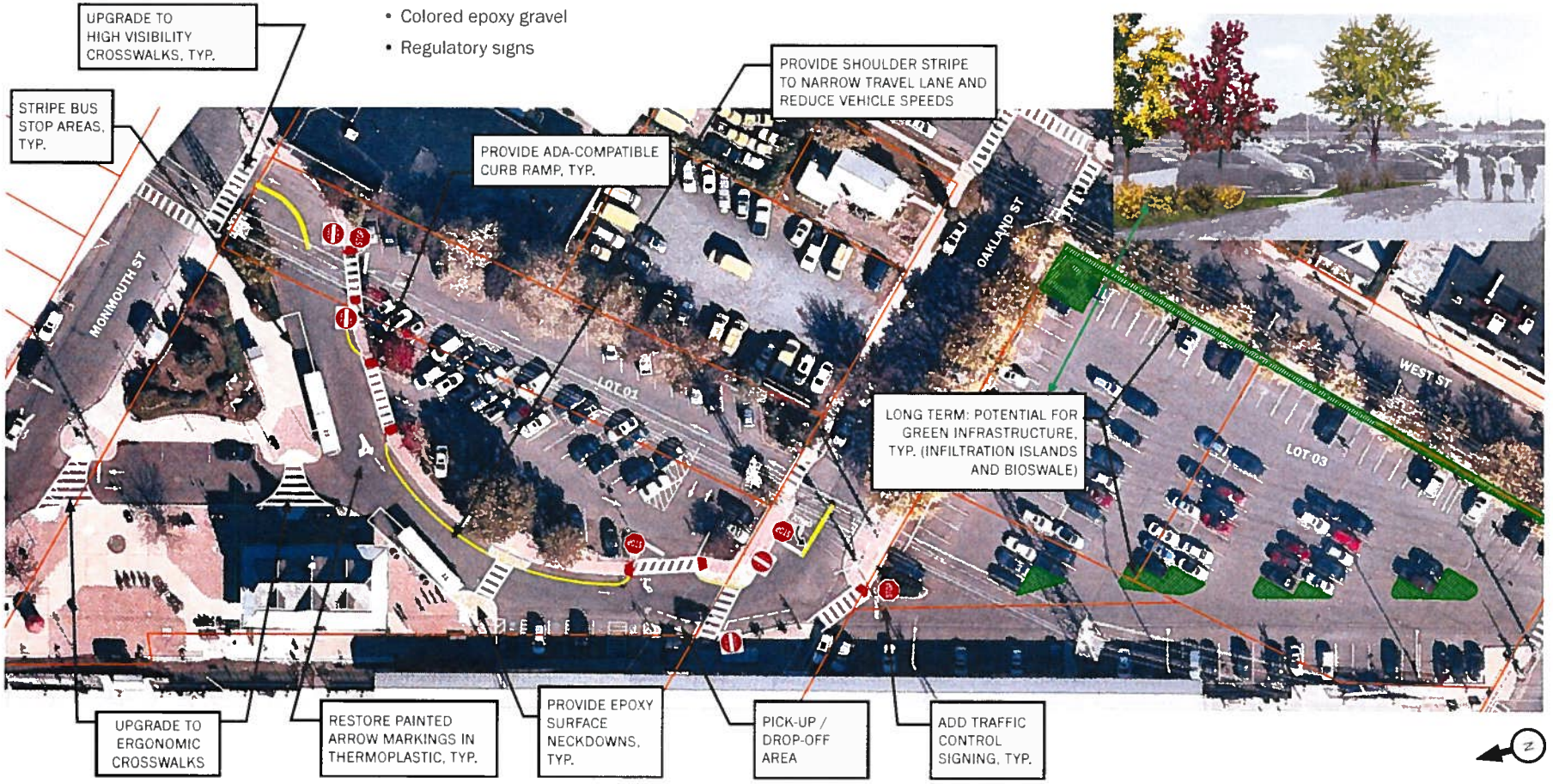
Clearly delineate pedestrian crossings and vehicular movements within Lots 01 and 03 through the application of high visibility crosswalks, neckdowns, edge striping, arrow stencils, and signage.

### Starter (Low Cost) Materials:

- White thermoplastic crosswalk
- White striping
- Yellow striping
- Colored epoxy gravel
- Regulatory signs

### Long Term (High Cost) Materials:

- Curb Ramps
- Green infrastructure considerations (Lot 03)




*Concept - Planning Purposes Only*

## Red Bank Concept #4


*Concept - Planning Purposes Only*

### General Approach:

Increase visibility at this parking lot access road, and slow/calm traffic entering/exiting the lots from Oakland Ave. Provide parking stall lines to visually narrow and calm traffic on Oakland St. (Shared lane markings are proposed on Oakland St).

### Starter (Low Cost) Materials:

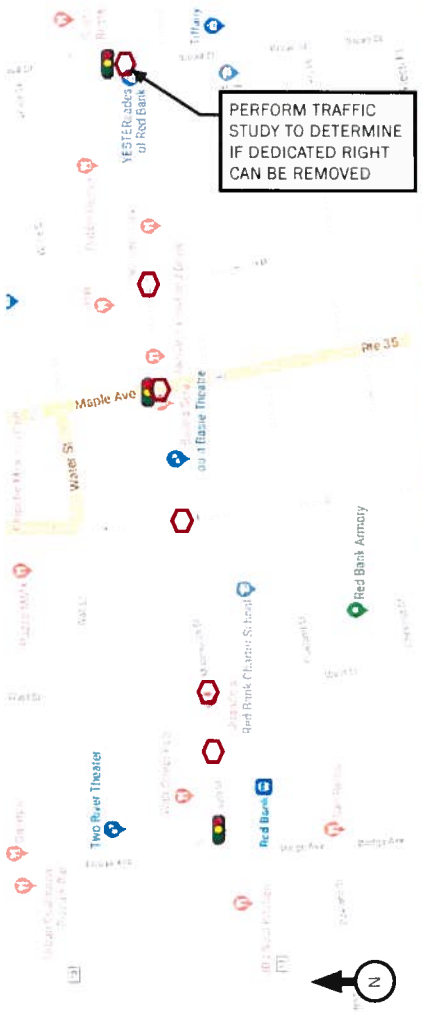
- White thermoplastic crosswalk
- Detectable warning surface
- White striping

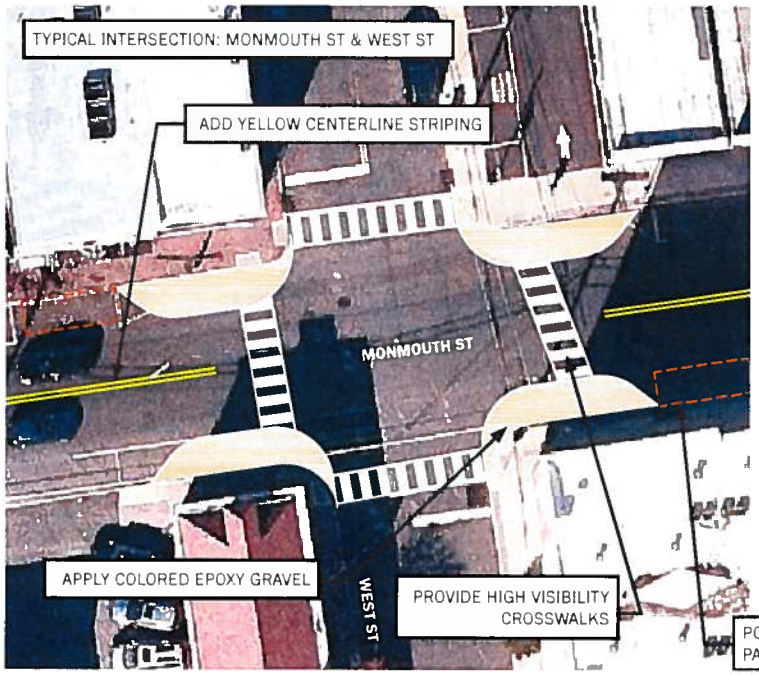
### Long Term (High Cost) Materials:

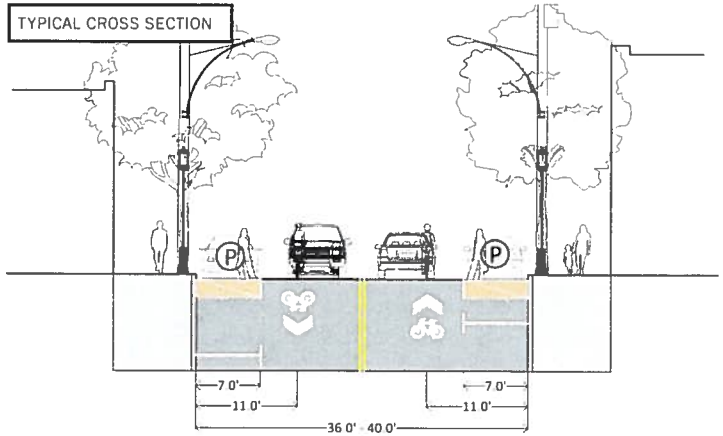
- Extend sidewalk and provide (2) new curb ramps and a crosswalk on the west side of West St
- Extend existing planting design into new curb area

## Red Bank Concept #5

**MONMOUTH ST**
**TYPICAL INTERSECTION TREATMENT**




### General Approach:

Provide Complete Streets improvements for pedestrians and bicyclists on Monmouth St. Provide curb extensions and high visibility crosswalks at intersection crossings. Provide shared lane markings and bicycle parking.

### Starter (Low Cost) Materials:

- Yellow striping
- Colored epoxy gravel
- White striping
- White thermoplastic crosswalk
- Option: Install planters in colored epoxy gravel area

### Long Term (High Cost) Materials:

- Full build-out curb extensions (concrete curb, paving, new curb ramps)
- Full build-out curb extensions can accommodate additional amenities, such as bicycle parking, benches, and street trees/green infrastructure

*Concept - Planning Purposes Only*

## Red Bank Concept #6

**SHREWSBURY AVE**
**TYPICAL INTERSECTION TREATMENT**



### General Approach:

Provide Complete Streets improvements for pedestrians Shrewsbury Ave. Provide curb extensions and high visibility crosswalks at intersection crossings. Consider providing bicycle parking at cross streets.

### Starter (Low Cost) Materials:

- Colored epoxy gravel
- White thermoplastic crosswalk
- White striping
- Option: Install planters in colored epoxy gravel area

### Long Term (High Cost) Materials:

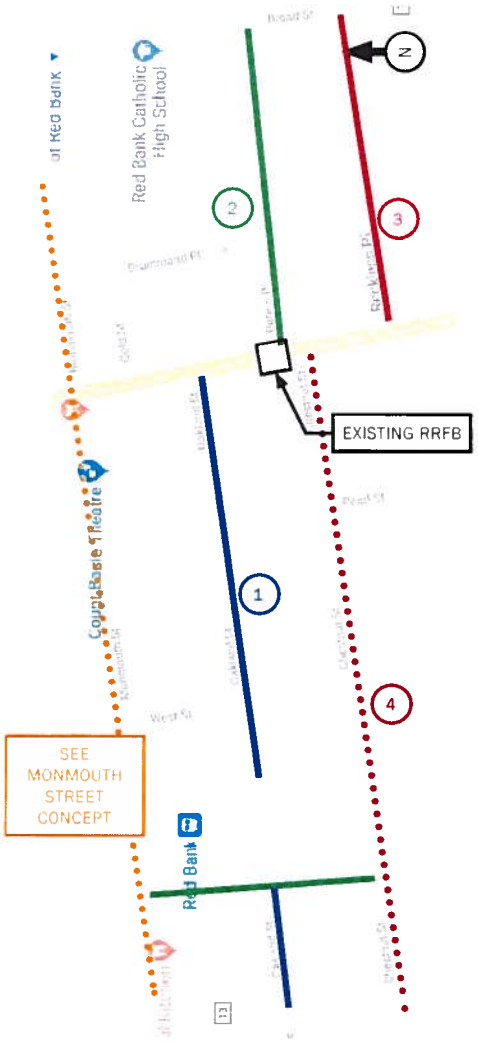
- Full build-out curb extensions (concrete curb, paving, new curb ramp)
- Full build-out curb extensions can accommodate additional amenities, such as bicycle parking, benches, and street trees/green infrastructure

- Note: Monmouth County is currently engaged in a design process for Shrewsbury Ave. County recommendations may differ from what is show here.

Concept - Planning Purposes Only

## Red Bank Concept #7

**BICYCLE BOULEVARDS**






### General Approach:

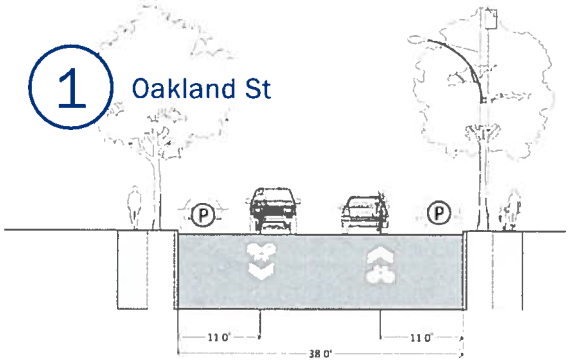
A bicycle boulevard is a low-volume and low-speed street that has been optimized for bicycle travel through treatments such as signage and pavement markings, traffic calming, and intersection crossing treatments. These treatments prioritize travel and safety for bicyclists and pedestrians, maintain access to local destinations for motor vehicles, but discourage high volume and high speed motor vehicle traffic.

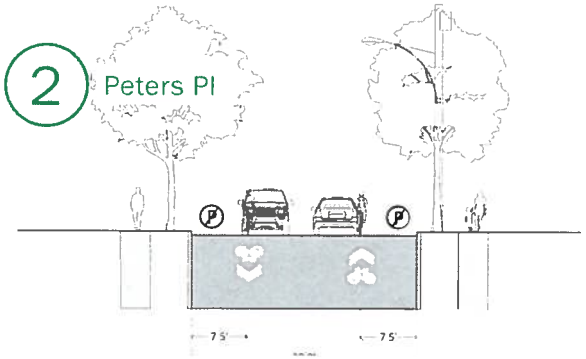
### Starter (Low Cost) Materials:

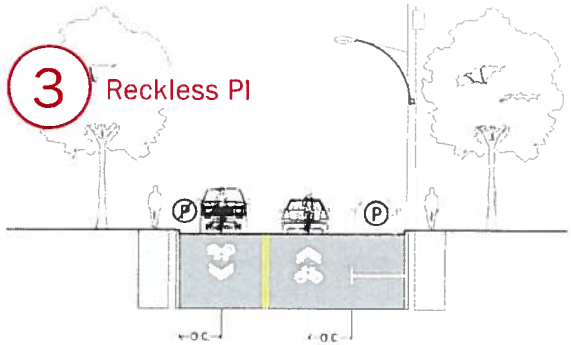
- Shared lane markings (thermoplastic preferred)
- Bicycle route signage

### Long Term (High Cost) Materials:

- Colored epoxy gravel for curb extensions, neckdowns
- Fully deployed wayfinding and signage
- Fully constructed traffic calming



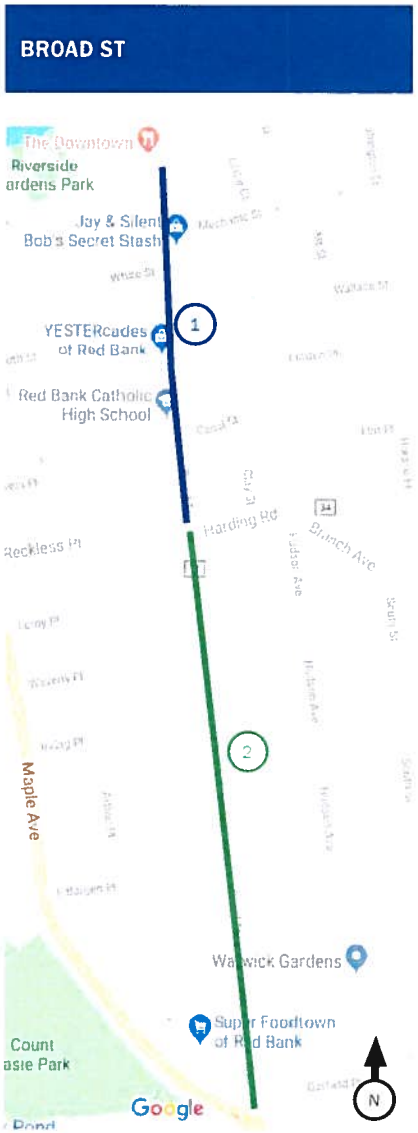



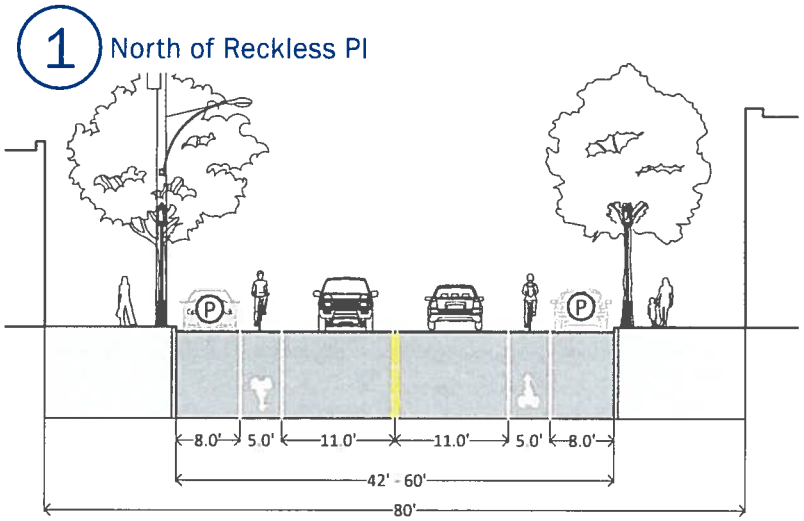

**4 Chestnut St and Bergen Pl (not on map)**

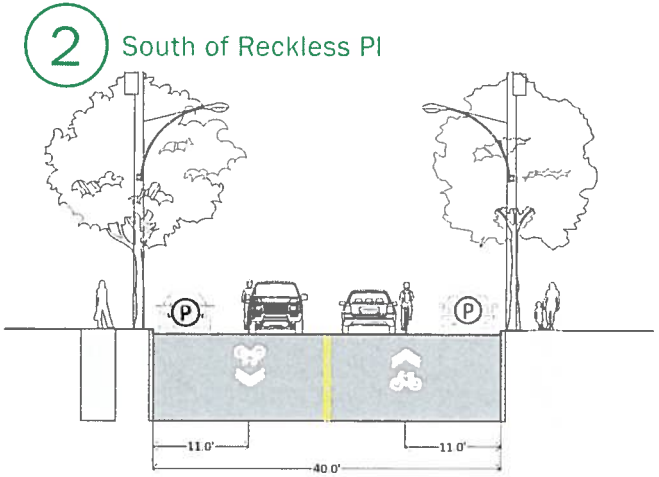
**Increase The frequency of Shared Lane Markings along Chestnut St and Bergen Pl. Markings should be placed at interval of 200-250 feet. Also provide bicycle route signage.**

*Concept - Planning Purposes Only*

## Red Bank Concept #8




Speed limit reduction from 30 to 25 MPH should be evaluated

*Concept - Planning Purposes Only*

### General Approach:

Broad Street is the principal street in Red Bank's downtown retail and dining district. This study includes the concept of developing bicycle lanes and/or shared lane markings along Broad Street as a means to improve pedestrian and bicycle connections between Red Bank Station and the retail and dining district.

Whereas the majority of the concepts included in this study are easy to implement in the short term, these conceptual ideas for Broad Street would require a comprehensive design process that includes:

- Traffic engineering analysis of
  - traffic volumes,
  - signal timing/level of service,
  - detailed roadway geometry,
  - drainage;
- Formal design process: conceptual through final design with thorough public input and vetting; and
- Economic benefits/impacts analysis.

# RED BANK STATION REPORT APPENDIX

JUNE 2018

## Appendix Contents

# Traffic Counts

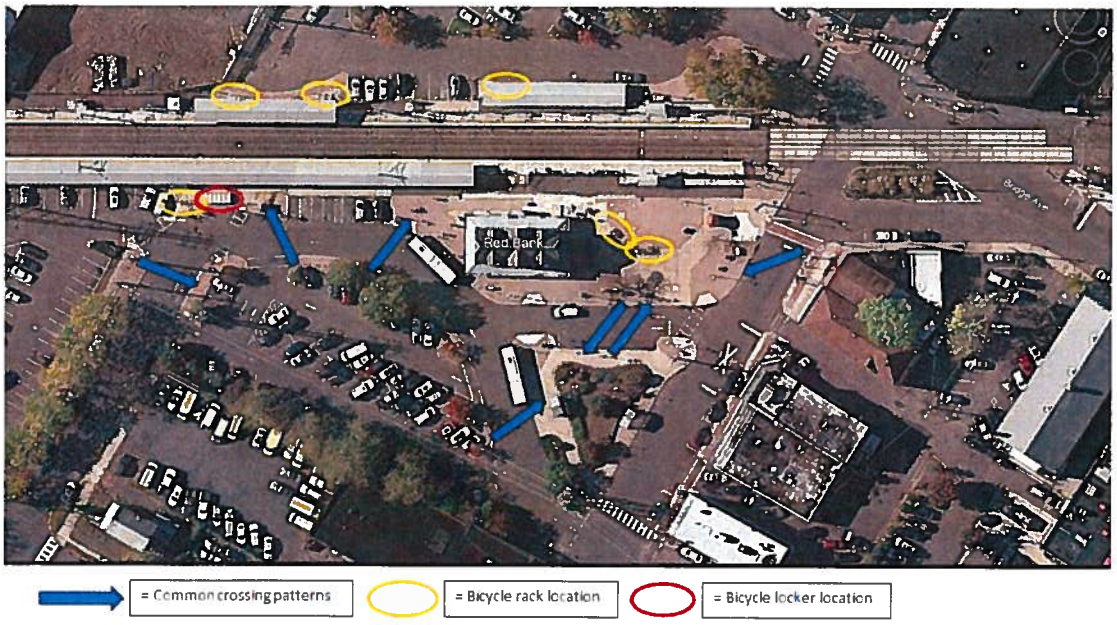
## Field Observations

Bicycle and pedestrian counts were manually collected in the field during two-hour peak periods in the AM and PM. These counts identified bicycle parked at the station at the start of the count period, with a count at each hour to include additional bikes parked or removed during each peak hour.

Date: Tuesday, May 15th, 2018
Time: AM Peak: 7:00 AM to 9:00 AM
Location: Red Bank Train Station
Weather: 62°F Foggy turned to Sunshine

Pedestrian Count: 243
Bicycle Count 7:00 AM: 13
Bicycle Count 9:00 AM: 14
**Notes:**

- Five (5) bicycle lockers are present at this train station. The design of the locker requires a lock and key and bicycles cannot be seen inside them. Cannot say for certain whether they were in use or not.
- Bus usage is very frequent at this location. Although safety for the entirety of the station is the goal, pedestrian safety around the bus drop-off/pick-up points should be put at a higher priority. Heaviest pedestrian use of the busses was between 8:45 AM and 9:00 AM.
- Existing crosswalks were used consistently and as intended throughout AM observation.
- Mapped irregular crossing patterns below were the most consistent throughout the morning.



Date: Tuesday, May 15th, 2018
Time: PM Peak: 5:00 PM to 7:00 PM
Location: Red Bank Train Station
Weather: 87 & Sunny (Impending severe weather)
Roughly 6:00 PM: Dark clouds/Light rain
6:20 PM – 6:30 PM: Heavier rain with thunder & lightning

Pedestrian Count: 411
Bicycle Count 5:00 PM: 31
Bicycle Count 7:00 PM: 21

**Notes:**

- Impending severe weather could have played a role in pedestrian/bicycle counts & crossing patterns.
- Bus usage is very frequent at this location. As with the AM observation, there should be a focus on pedestrian safety around the bus drop-off/pick-up zones.
- Most irregular crossing patterns were observed around the bus shelter at the station – supporting the need for increased pedestrian safety around this location. (Mapped below)
- Existing crosswalk were used consistently and as intended throughout the observation.
- No use of the bicycle lockers observed during analysis.
- One main area of bicycle racks was used throughout both AM & PM observations. A consideration for a prospective project is to centralize the bicycle racks and move the bicycle lockers to encourage more bicycle usage to and from the station.

## Digital Traffic Camera Counts

To supplement live field observations of pedestrian movements at the various train stations, NV5 staff installed portable digital traffic cameras (known as MioVision cameras) at key locations at each station. The cameras are temporarily installed on a telescoping pole at an intersection or crossing area and record video from a 'bird's eye' view to observe pedestrian and vehicle travel movements. For this project, video was collected during two weekdays. This video helped to inform pedestrian patterns in the vicinity of the train stations while minimizing the number of field staff needed at a given location. When actual pedestrian volume data was desired, key times of the video were sent into Miovision for automated processing to determine the pedestrian, bicycle and vehicle volumes present

Date: Wednesday, April 11, 2018
Location: Red Bank Train Station

| PEDESTRIANS | | | | |
|---|---|---|---|---|
| **Start Time** | Station to/from Lot 4 Southbound | Station to/from Lot 5 Southbound | Station to/from Lot 4 Northbound | Station to/from Lot 5 Northbound |
| 6:30 | 0 | 0 | 23 | 1 |
| 6:45 | 1 | 0 | 12 | 0 |
| 7:00 | 4 | 0 | 3 | 0 |
| 7:15 | 2 | 0 | 20 | 0 |
| 18:30 | 9 | 3 | 3 | 0 |
| 18:45 | 11 | 0 | 2 | 0 |
| 19:00 | 10 | 0 | 0 | 0 |
| 19:15 | 16 | 1 | 2 | 0 |
| **TOTAL** | **53** | **4** | **65** | **1** |

| BICYCLES | | | | |
|---|---|---|---|---|
| **Start Time** | Station to/from Lot 4 Southbound | Station to/from Lot 5 Southbound | Station to/from Lot 4 Northbound | Station to/from Lot 5 Northbound |
| 6:30 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 0 |
| 7:00 | 1 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 |
| 18:30 | 0 | 0 | 0 | 0 |
| 18:45 | 1 | 0 | 0 | 0 |
| 19:00 | 0 | 0 | 0 | 0 |
| 19:15 | 0 | 0 | 0 | 0 |
| **TOTAL** | **2** | **0** | **0** | **0** |

## Cross Sections

The following cross sections were developed for priority walking and bicycling routes. These cross sections are representative of existing conditions observed February 1, 2018 and were used to assess the suitability of pedestrian and bicycle facilities, and to inform concept design development.

The following cross sections are included:

1.0 Shrewsbury Ave (Newman Springs Rd to West Front St)
2.0 Monmouth St (Shewsbury Ave to Broad St)
3.0 Oakland St (Shrewsbury Ave to Lot 02, and, Lots 01 & 03 to Maple Ave)
4.0 Peters Pl (Maple Ave to Broad St)
5.0 Harding Rd/Reckless Pl
    5.1 Harding Rd (Prospect Ave to Broad St)
    5.2 Reckless Pl (Broad St to Maple Ave)
6.0 Broad St
    6.1 Broad St (Front St to Harding Rd)
    6.2 Broad St (Harding Rd to Rumson Pl)

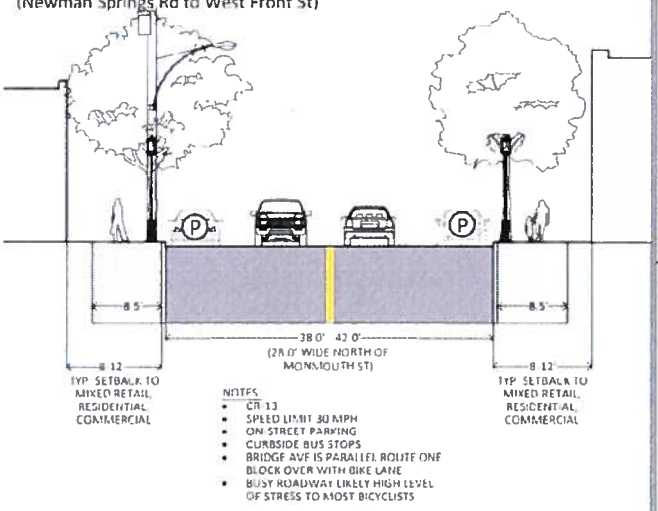
For specific locations of cross-sections, refer to Figure 1 – Priority Routes Map.

## Cross Section 1

Shrewsbury Ave

Red Bank

(Newman Springs Rd to West Front St)

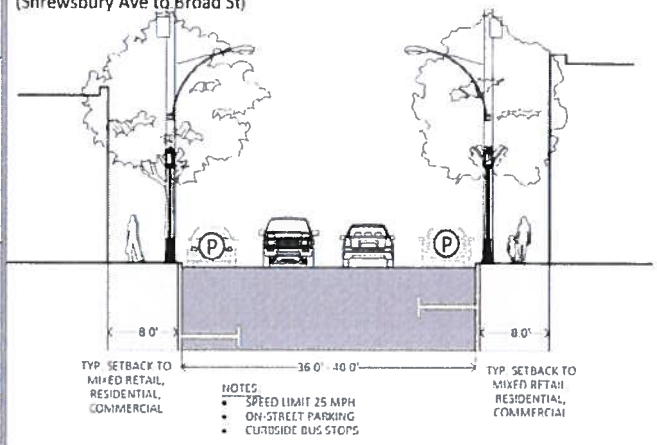



## Cross Section 2

Monmouth St

Red Bank

(Shrewsbury Ave to Broad St)



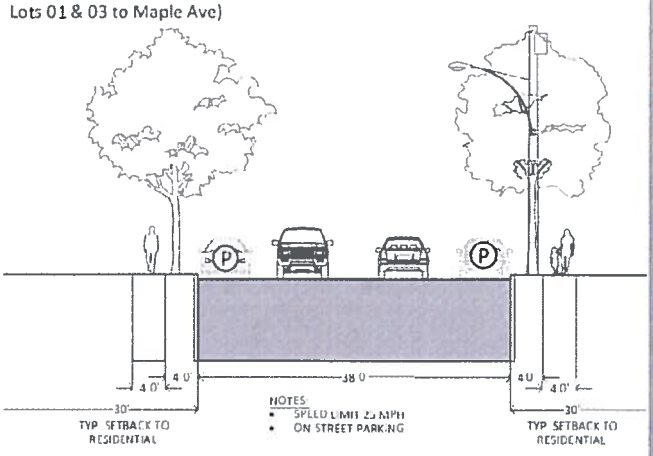

## Cross Section 3

Oakland St

Red Bank

(Shrewsbury Ave to Lot 02, and,

Lots 01 & 03 to Maple Ave)

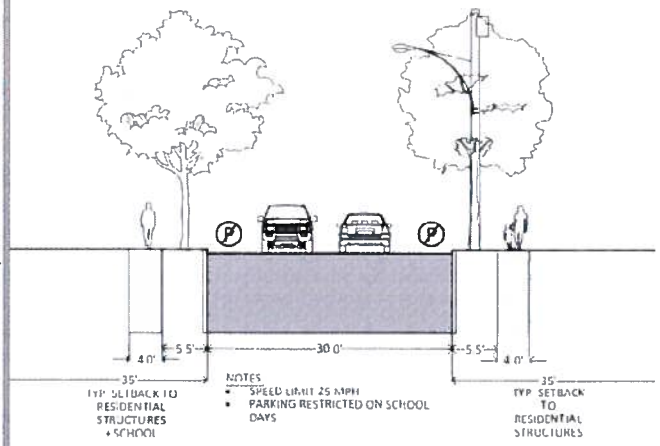



## Cross Section 4

Peters Pl

Red Bank

(Maple Ave to Broad St)

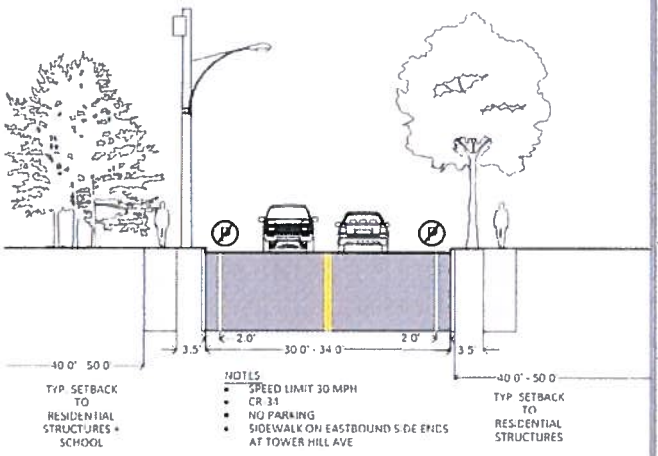


## Cross Section 5.1

Harding Rd

(Prospect Ave to Broad St)

Red Bank

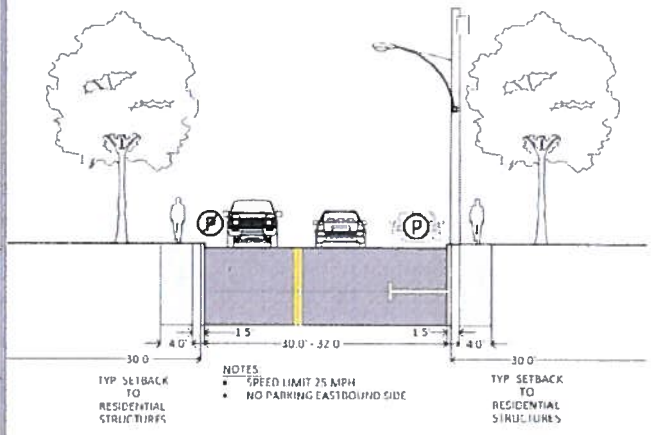



## Cross Section 5.2

Reckless Pl

(Broad St to Maple Ave)

Red Bank

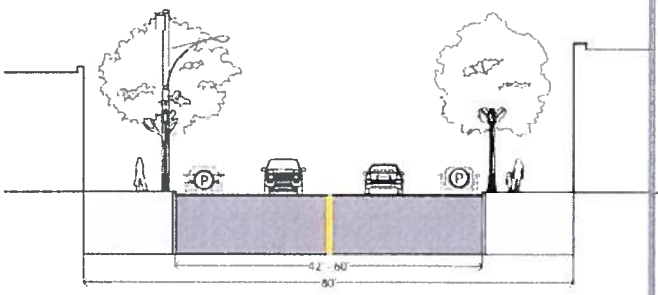



## Cross Section 6.1

Broad St

(Front St to Harding Rd)

Red Bank

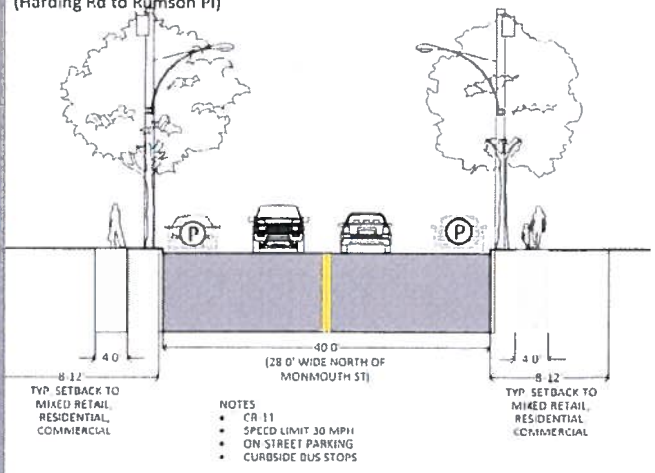



## Cross Section 6.2

Broad St

(Harding Rd to Rumson Pl)

Red Bank



# Municipal Meeting Record

Municipal Meeting: Red Bank Borough
90 Monmouth St, Red Bank NJ
March 28, 2018 – 10:00 AM

### Attendees

1. Red Bank – Glenn Carter
2. NJ TRANSIT – Jen Buison, Mike Viscardi
3. NJTPA – Keith Hamas
4. NV5 –Chris Lucas, Kevin Perry
5. 4WARD PLANNING – Todd Poole

### Purpose of meeting

The purpose of the meeting is to review our findings from the street audit and brainstorm recommendations. We will have concept starter ideas to review with you. The goal is to leave on the same page about recommendations for specific locations.

### Agenda

1. Review of Street Audit Findings
    - What we documented: pedestrian amenities such as pedestrian ramps and crosswalks; bicycle facilities

2. Concept Development Discussion
    - Pedestrian Improvements
    - Bicycle Improvements
    - Traffic Calming
    - Off-road
    - Other recommendations

3. Next Steps
    - Counts: MioVision and Manual
    - Public outreach event

## Meeting Notes

- Discussed parking lot entrance improvements

- Asked about changes to the bus lane circulation patterns. Stated that the bus depot area is very active location. NJ Transit stated it could be redesigned to handle higher capacity, but it would mean giving up more station property. Hard to get a capital improvement funding if there were

an increase in bus activity. Only if there is a safety hazard issue would NJ Transit be able to redesign the bus depot area.

- Need to have really obvious striping and signage, for pedestrian safety. If the buses are going faster than they should, NJ Transit should be alerted. Because of the bus turning movements, it's a very wide drive aisle.

**Oakland and West Street**

- There were some parking lines at some point – restripe
- High visibility cross walks
- What are the requirements for the speed limit on roadways that permit bicycles and what is the required width (asked by Glen from Red Bank)?
- Three bike symbols per block, according to NV5.
- NJ Transit: slower speed is the key to make the block safe for bicycles and pedestrians (bikes in particular). Posted speeds are adequate, but the actual speeds reached by autos are too fast. Need to enforce the 25MPH speed limit when heading through a residential neighborhood leading to the station.

**Monmouth and West**

- Pretty wide crossing with daylighted intersections. Epoxy markings would only affect a portion of the intersection.
- NV5: suggested a spot for creating epoxy marking areas for bike parking
- RB: are there any bike share examples in the area? Asbury Park, Princeton and Hoboken were mentioned. There are dockless and docked bike sharing programs. Dockless is a lower cost of entry and allows the program to be flexible, in terms of where bikes are picked up and dropped off.
- NJT: Fairhaven is fairly progressive bike share town. If you have nice bike associated amenities, the bike share program can work well.
- NJT: Happy to work with RB on assisting in the establishment in a local bike share program.
- NJTPA: Recommended petitioning NJTPA for funding to conduct a bike share study.
- NJT: Partner with organizations to get a bike share program up and running. The more bike boulevards and shaROWs the beneficial it is to creating and maintaining a bike share program.

**Shrewsbury Ave**

- NV5: Showing high visibility crosswalks with signage and bike parking at key intersections. Not suggesting to put bike lanes on Shrewsbury Ave.
- RB: County engineering is taking the lead and is calling for bump outs. This section of town has a lower income profile and wants to encourage bike use. County wasn't proposing bike share or lanes; they are doing a general improvement plan. It does make sense to simply have bike parking locations. Trying to identify the appropriate locations for crosswalks. Shrewsbury is becoming more congested, due to development activity.
- NV5: Hasn't looked at drainage.
- NJT: Shrewsbury is a cut through street to avoid traffic.

**Broad Street**

- NV5: Wide enough to put in bike lines. Have you considered bike lanes on Broad?
- RB: Haven't considered. Doesn't know how residents and the business community would react to bike lanes on Broad. Broad Street is viewed as the heart of the borough.
- Discussed drop-in open-house logistics. RB also asked if the team is able to present to the governing body.
- NV5 recommended the size tables which would be appropriate for the open house forum. April 25th is the proposed date.
- Lambs and Wools, a hair dressing business, across from the station, was proposed. If not there, the train station itself.

# Public Input Record

A Public Information Center for this study was hosted at 66 Bridge Ave C, Red Bank, NJ 07701 as well as on the sidewalk adjacent to Red Bank Train Station on Wednesday, April 25, 2018 from 5-7 PM.

## Comments Collected at Public Information Center

- Drivers paid attention to crosswalks
- NJT would take account of all the redevelopment that is occurring on NJCL i.e. Aberdeen, Matawan, Avalon, Old Bridge, Red Bank and others.
- Safer bike storage options

## Comments Collected via Email

### 5/3/18

- Red Bank Station access would improve for pedestrians if.there was a regular taxi stand. (The original one was demolished.)
- ...there were more ramps.
- ...the station hours were longer so more people could wait inside.
- ...the free parking hours were extended, especially starting before 11:00 on weekdays.
- ...printed bus schedules to Port Authority were available.

### 4/24/18

1) The bike lockers are awesome! Get more and site them anywhere within 100 yds of the train platforms. These are great for regular commuters that can lease lockers.

2) Two key bike parking elements are security and weather protection. RB train station has a lot of bike vandalism, so bike stands (even covered ones to protect from weather) is a poor solution; some kind of gated access is important.

3) Ad hoc bike parking users may not care as much about weather protection, but still need a gated space to prevent vandalism. Is there something akin to a parking meter based timed lock on a gated structure? A key thing would be low cost, e.g. Park Edison charges $1/day for bikes in lots that charge $20/day for cars.

4) Another option for leased bike parking is a bike room in a multi-use building with a locked door and interior bike stands. Allowing ad hoc users doesn't work well unless additional security was there, e.g. cameras with replay or a staffed space.
5) A couple of nits:

a) Can NJ Transit stop plowing snow onto the bike lockers? After every significant snow storm, I have to drive down and shovel out access to my locker - yes, I bike commute through the winter.

b) The bike locks themselves are secure, but thaw/freeze cycles cause the lock cylinders to ice up. A better design would prevent melting snow atop the locker from seeping into the lock.

Consider how other cities in the US and Europe manage bike parking. There are great solutions available

## Public Information Center Sign-In

| Name | Email |
|---|---|
| **Kevin Perry** | Kevin.Perry@NV5.com |
| **Kimberly Murray** | Kmurray@ostrad5ct.com |
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# SIGN-IN SHEET

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| Kimberley Murray | KMurray@njtransit.com |
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