# Existing Bicycle Routes (Map 1 of 2)

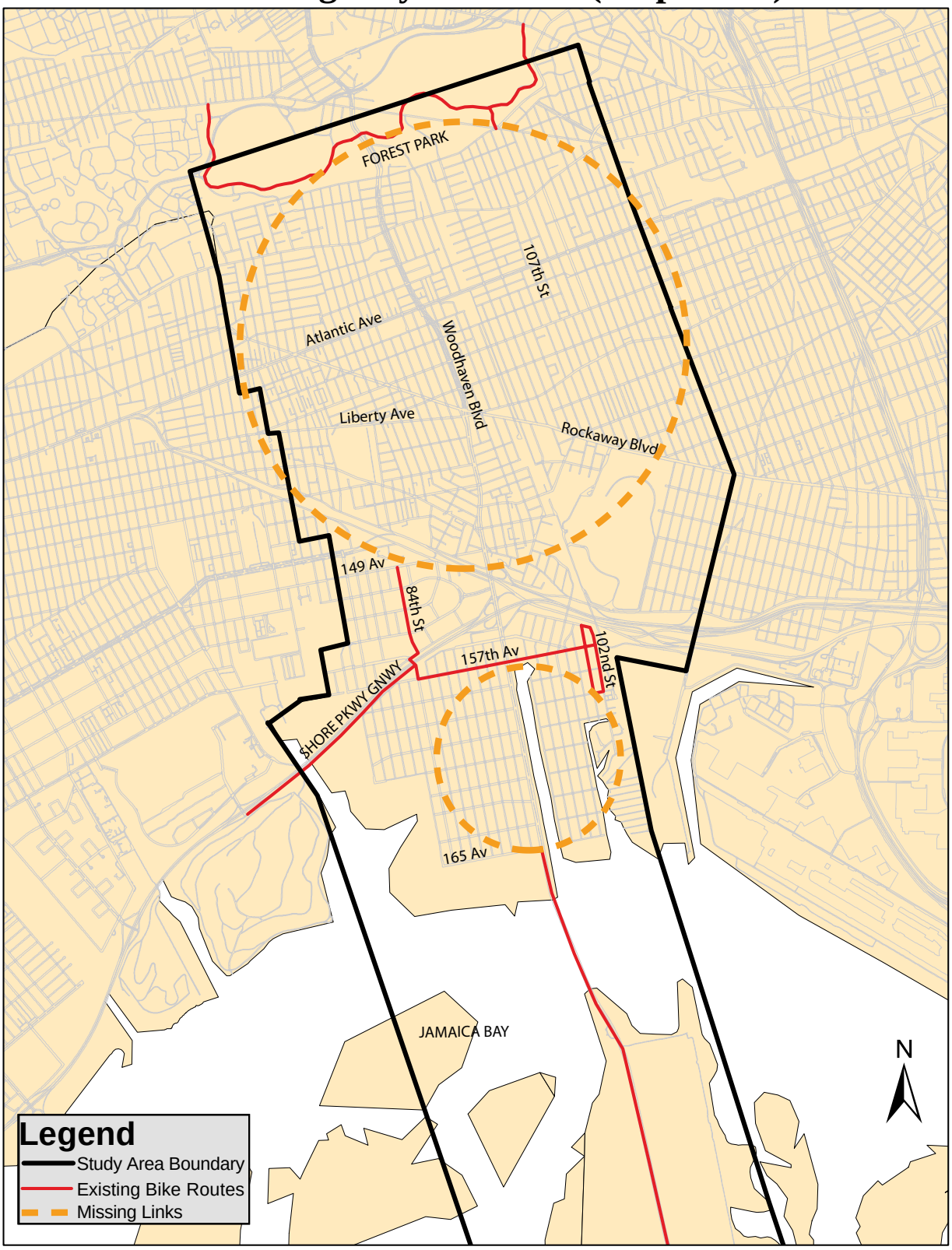


***Figure 10***

connectivity to the residential neighborhoods situated south of the park (includes Woodhaven).

The third on-street bicycle facility exists along Cross Bay Boulevard from 165th Avenue to the end of the Broad Channel area, leading cyclists across the Joseph P. Addabbo Bridge and the Veterans Memorial Bridge. In addition a two-way greenway path runs parallel to this bicycle lane in the Jamaica Bay wildlife area. The on-street bicycle lane switches from a 4-foot wide bicycle lane with a 2-foot buffer to a 6-foot wide bicycle lane. However there are segments particularly along the Joseph P. Addabbo Bridge, where the buffer disappears and the width of the bicycle lane is reduced to 4 feet which provides cyclists with little protection from motor vehicles along this busy arterial. When cyclists reach the Veterans Memorial Bridge they are forced to dismount and walk their bicycles across the bridge. Currently this bridge is under rehabilitation, including deck rehabilitation. It will have a dedicated bicycle path and a walkway when completed in 2010; this facility on Cross Bay Boulevard does not connect to the rest of the existing bicycle network and provides limited access to cyclists coming from the Rockaways.

The fourth and last on-street bicycle facility is located within the Rockaway Peninsula area on Shore Front Parkway from B 108th St to B 73rd St and extends into Far Rockaway using Beach Channel Drive. However the bicycle facility stops suddenly west of the bridge and does not continue towards the other end of the Rockaways (towards Jacob Riis Park). There is a multi-use path or a boardwalk along the beach that cyclists can use, but bicycle riding is permitted only from 5:00 AM to 10:00 AM.

Furthermore for the area of study there have been several proposals to transform the abandoned Rockaway Beach Branch rail line of the Long Island Railroad to a recreational green space (greenway path). It extends from Rego Park to the Rockaway Peninsula and runs mainly behind the properties on 98$^{th}$ Street in the Woodhaven area. However these proposals have resurfaced over the years, but have never been embraced.

# Existing Bicycle Routes (Map 2 of 2)

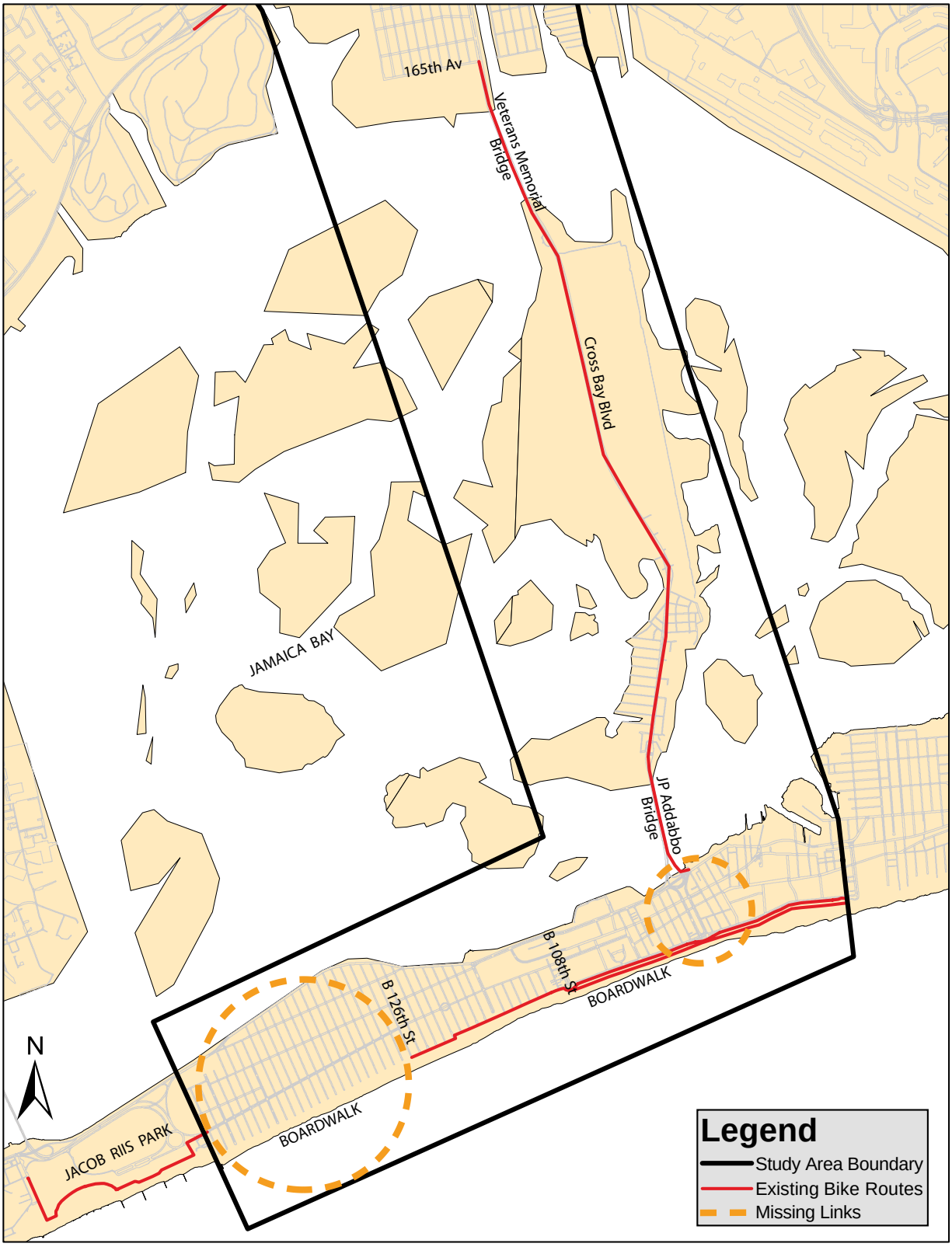


***Figure 11***

# Accident Data Analysis

## Bicycle Accident Data Analysis (Years 2005 - 2007)

A detailed analysis of bicycle accidents was conducted for the Woodhaven, Broad Channel and Rockaway Peninsula areas in order to identify and examine the bicycle accident history of the study area and see if there are any patterns. Bicycle, pedestrian and vehicular accident data for a three year period (2005, 2006 and 2007) were obtained from New York State Department of Transportation.

*Woodhaven Area*

According to the bicycle accident data provided, 138 bicycle accidents occurred in the Woodhaven area from the year 2005 through 2007. This number represents 92% of the total number of bicycle accidents that had taken place over the years within the entire study area.

The locations with the highest number of bicycle accidents over the last three years are situated at cross-streets that lead to one of the several entrances or exits to Forest Park. They are:

- Park Lane South and Woodhaven Boulevard (total = 3 bicycle accidents)
- 85th Road and 86th Street (total = 3 bicycle accidents)

There are no bicycle facilities available in the Woodhaven area and providing cyclists with dedicated on-street bicycle facilities could contribute towards reducing conflicts between motorists and cyclists that lead to accidents on the road.

*Broad Channel Area*

Based on the accident data available, there were no bicycle accidents in the Broad Channel Area during the period from 2005 through 2007. However one vehicular accident did occur in 2006 at Cross Bay Boulevard and 201st Avenue.

There is an on-street bicycle facility in each direction of traffic and an off-street greenway path on Cross Bay Boulevard. These facilities may have played a role as one of the contributing factors that lead to the low number of bicycle accidents on this stretch of the road.

*Rockaway Peninsula Area*

A total of 12 bicycle accidents took place from the year 2005 through 2007. Based on the data analyzed during that period close to half of the bicycle accidents occurred on Rockaway Beach Boulevard, which is a direct route to Jacob Riis Park. This supports the need for a bicycle facility on this road as proposed in the NYC Bicycle Master Plan.

An analysis of vehicular and pedestrian accident data was also done for this area from 2005 to 2007. The results revealed that 7 accidents, including 1 pedestrian accident, had occurred for the year 2005. The number of accidents nearly doubled the following year to 13 accidents (included 3 pedestrian accidents). However in 2007, the number of accidents went down dramatically to 2 and involved only vehicles.

See the following maps of study area shown in Figures 18 – 22 for an indication of the accident locations.

## Bicycle Accidents Year 2005 - 2007
## Woodhaven Area

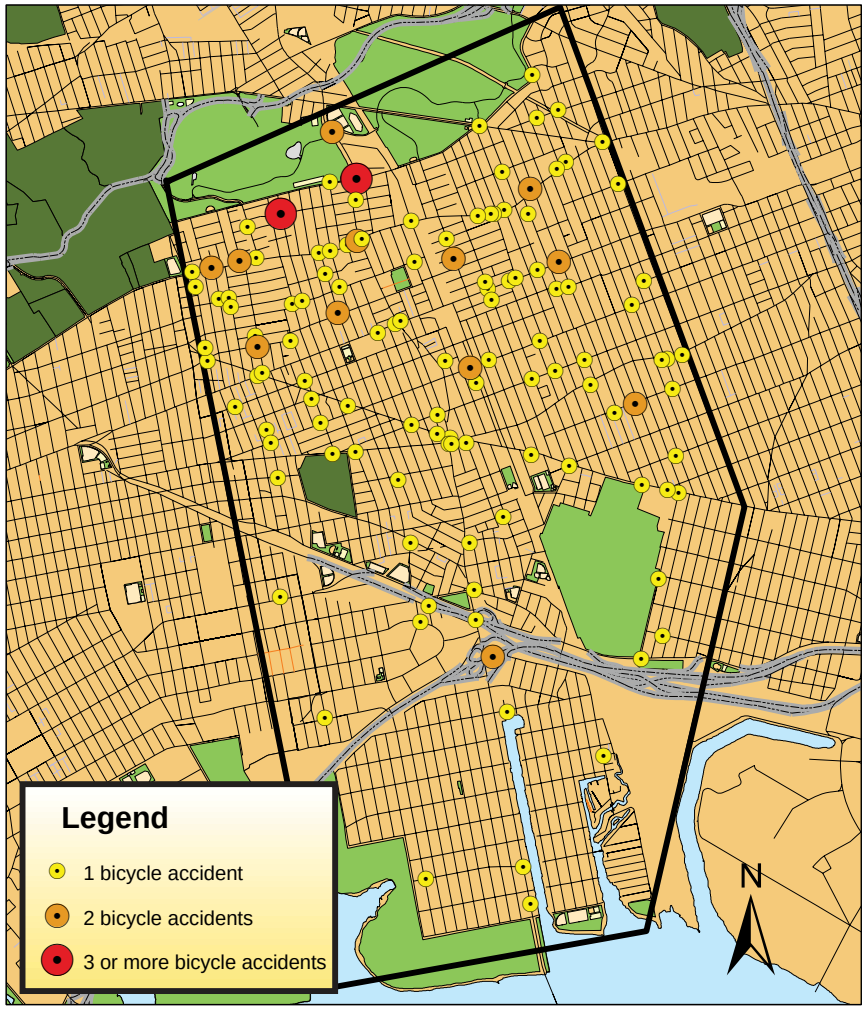


***Figure 12***

## Pedestrian/Vehicle Accidents 2005 - 2007
## Woodhaven Area

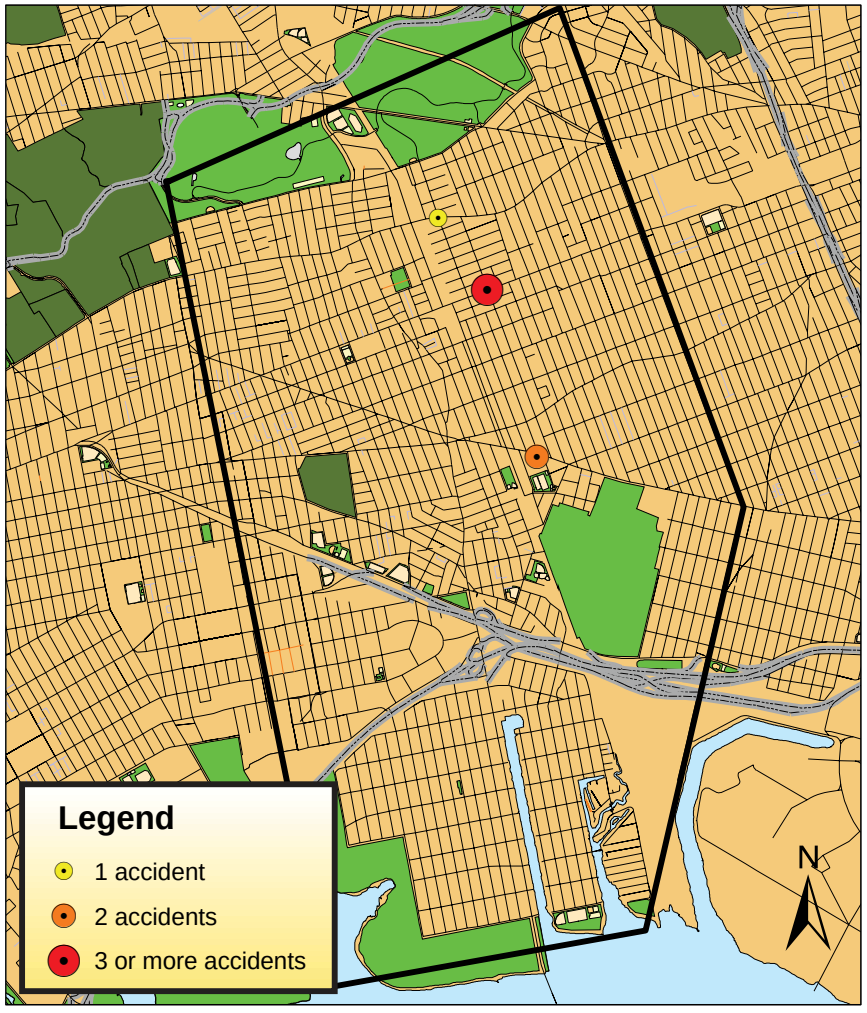


***Figure 13***

# Pedestrian/Vehicle Accidents 2005 - 2007
# Broad Channel Area

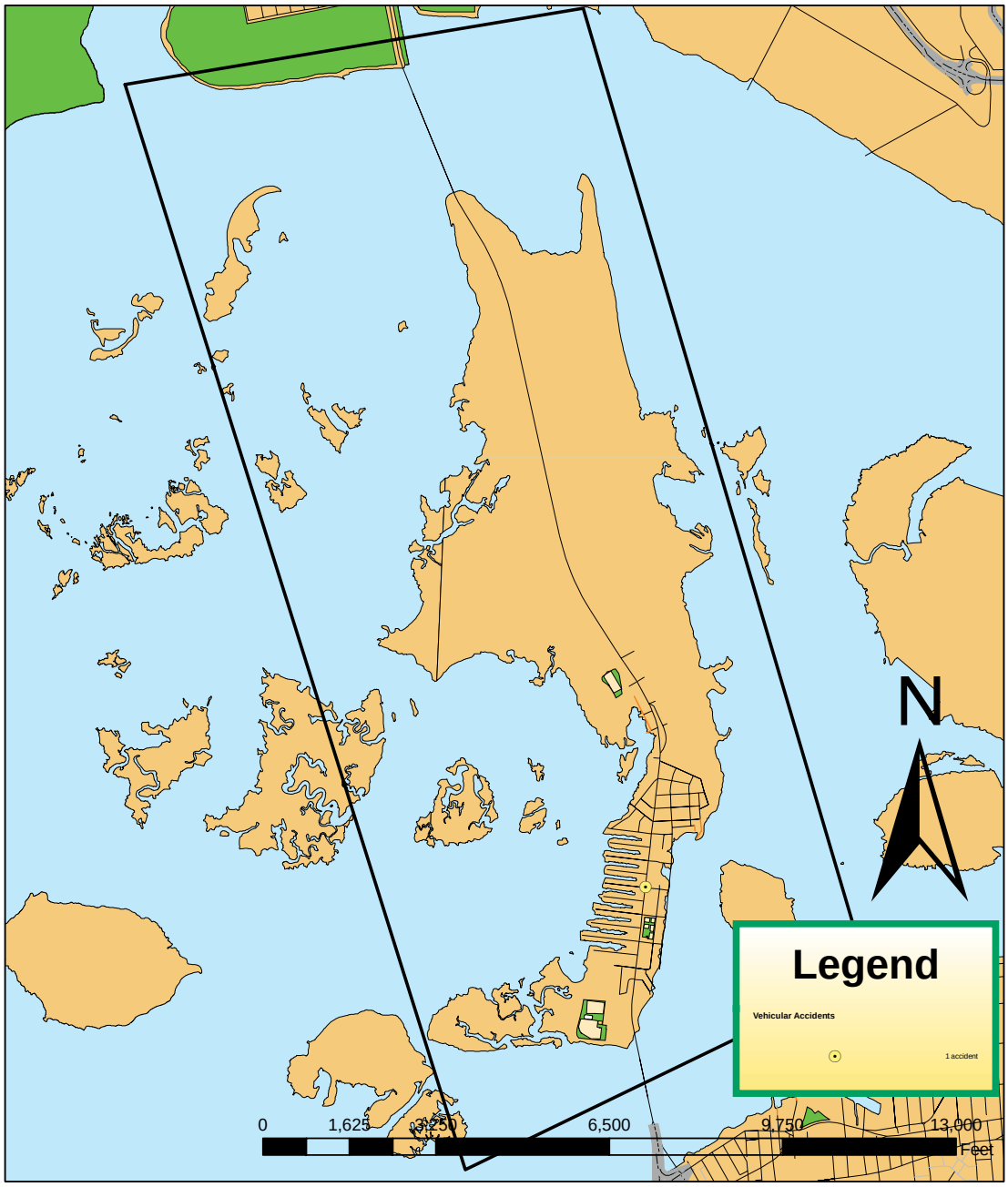


***Figure 14***

## Bicycle Accidents Year 2005 - 2007
## Rockaway Peninsula Area

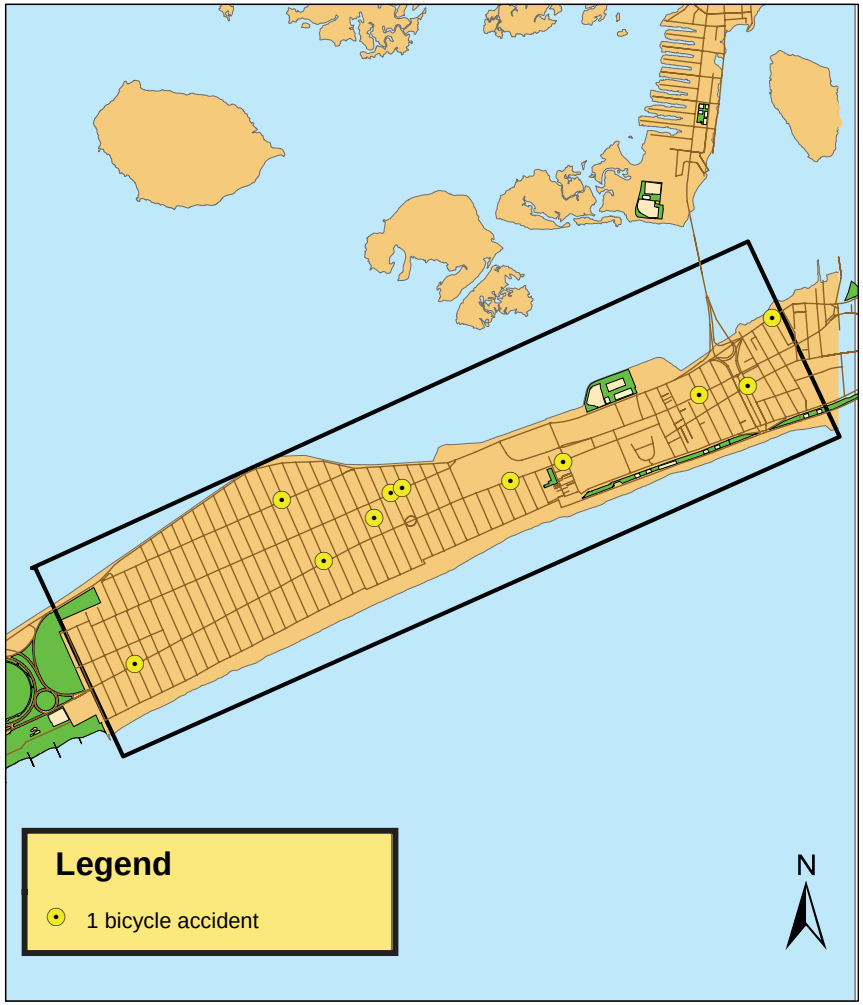


*Figure 15*

## Pedestrian/Vehicle Accidents Years 2005-2007
## Rockaway Peninsula Area

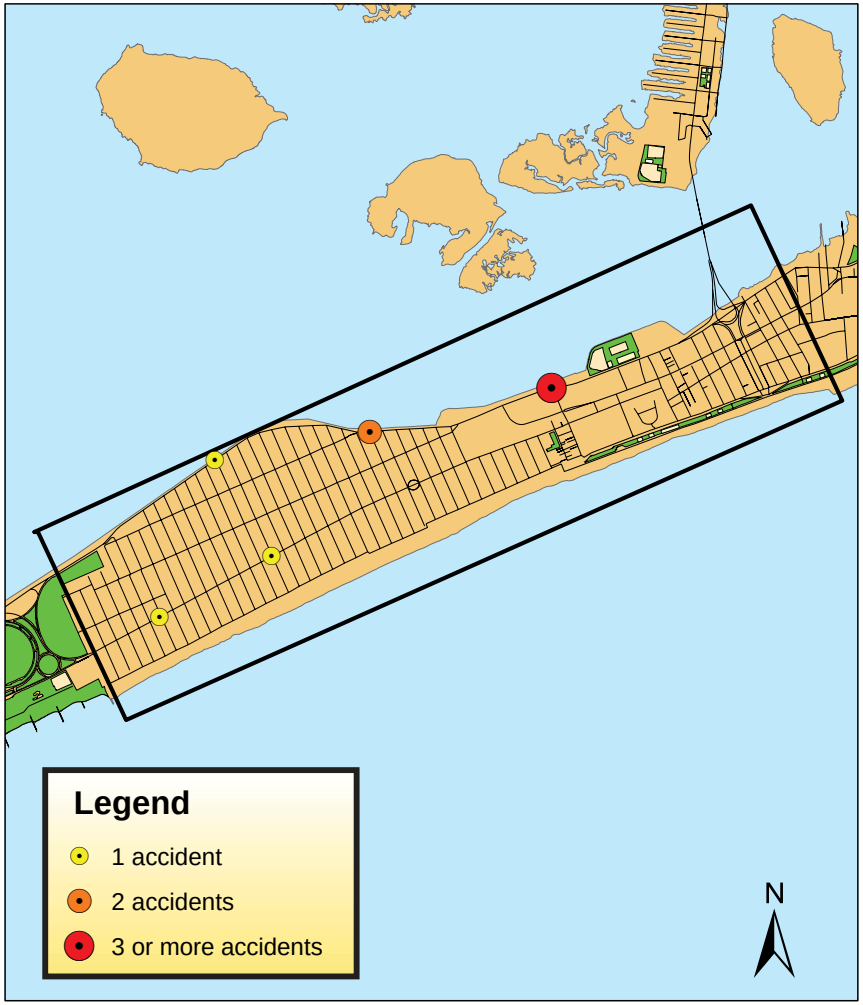


*Figure 16*

# Public Transportation

## Subway and Bus Services

*Subway Service*

The Metropolitan Transportation Authority New York City Transit (MTA) operate four (4) subway lines within the study area which are the "A", "J", "Z" lines and the Rockaway Park Shuttle (see Figures 23 – 25 for the subway lines within the study area).

The daily volumes for each subway station within the study area have been collected by the MTA New York City Transit. The average daily weekday volumes are provided below for 2008:

| Subway Station | Average Daily Volume |
|---|---|
| 80th Street ("A" line) | 4, 304 |
| 88th Street ("A" line) | 2,709 |
| Rockaway Boulevard ("A" line) | 7,422 |
| 104th Street ("A" line) | 1,827 |
| 111th Street ("A" line) | 2,771 |
| Lefferts Boulevard ("A" line) | 7,773 |
| Aqueduct Racetrack ("A" line) | 60 |
| North Conduit Avenue ("A" line) | 890 |
| Howard Beach ("A" line) | 2,966 |
| Broad Channel ("A" line) | 361 |
| Beach 90th Street ("A" line) | 1,114 |
| Beach 98th Street ("A" line) | 795 |
| Beach 105th Street ("A" line) | 282 |
| Rockaway Park ("A" line) | 844 |
| 75th Street ("J" line) | 3,758 |
| 85th Street-Forest Pkwy ("J" line) | 3,693 |
| Woodhaven Boulevard ("J" line) | 4,174 |
| 104th Street ("J" line) | 2,509 |
| 111th Street ("J" line) | 2,637 |

The Rockaway Boulevard station with 7,422 riders and the Lefferts Boulevard station with 7,773 riders are the busiest stations in the study area and have the highest volumes.

Cyclists at all times have the option to get to the study area by using the subway system. In this case the subway provides bicyclists with an alternate mode of transportation that can reduce the length of a trip for commuters and recreational riders coming from a distant location to the study area.

*Bus Service*

The study area is also served by fourteen local and four express bus routes. The local bus routes are: B15, Q7, Q8, Q10, Q11, Q21, Q22, Q24, Q35, Q37, Q41, Q53, Q56, and Q112. The express bus routes are: QM15, QM16, QM17, and QM23. Here are the average weekday volumes in 2008:

| Bus Route | Average Weekday Volume |
|---|---|
| B15 | 23,065 |
| Q7 | 5,672 |
| Q8 | 7,963 |
| Q10 | 23,385 |
| Q11 | 10,415 |
| Q21 | 1,658 |
| Q22 | 7,753 |
| Q24 | 11,387 |
| Q35 | 4,376 |
| Q37 | 6,768 |
| Q41 | 6,968 |
| Q53 | 10,684 |
| Q56 | 10,472 |
| Q112 | 5,765 |
| QM15 | 1,299 |
| QM16 | 320 |
| QM17 | 354 |
| QM23 | 24 |

Unlike the subway, bicycles may not be brought onto buses of the MTA and New York City Transit. See the following Figures 26 - 28 for an illustration of the bus routes in the study area. In addition, Appendix C gives a detailed description of the transit system.