

5. MANHATTAN TRUCK ROUTE NETWORK ANALYSIS

a. Land Use

The Local and Through Truck Route network in Manhattan serves the commercial, manufacturing transportation and utility needs of this Borough quite well. As was described in Section 2, in most cases the Through Truck Route network in each of the five Boroughs was deemed far enough removed from many residential areas of the City and is deemed a vital component of the truck route network. Therefore, the Through Truck Route network was not analyzed with respect to the land use data.

As shown in Figure 5-1, there are numerous Local Truck Route streets that are primarily residential in character (>75%). What makes Manhattan somewhat unique compared to the other Boroughs of New York City is the fact that there are a substantial number of neighborhood stores, restaurants and other commercial businesses located within it to service the densely populated residents and employees who live and work in this Borough.

These businesses rely on trucks to deliver goods to and from their establishments and it is the extensive network of Local Truck Routes that allows these goods to be delivered in a safe and efficient manner. Consequently, it may not be the most prudent measure to discontinue the use of many of the Local Truck Routes in the Borough of Manhattan, just based on the fact that they appear to traverse through areas that are largely residential.

The following segments of the Local Truck Route network, listed from north to south, traverse through primarily residential areas of the Borough of Manhattan:

Inwood neighborhood

- Nagle Avenue between Broadway and 10th Avenue / W. 207th Street

Washington Heights neighborhood

- West 179th Street from the Trans Manhattan Expressway to Amsterdam Avenue
- 145th Street between Broadway and 7th Avenue

Washington Heights, Hamilton Heights, Morningside Heights, Manhattan Valley, and Upper West Side neighborhoods

- Amsterdam Avenue from 179th Street to 79th Street

Manhattan Valley, and Upper West Side neighborhoods

- Columbus Avenue from Cathedral Parkway to W. 66th Street

Manhattan Valley, Morningside Heights and Central Harlem neighborhoods

- Cathedral Parkway from Broadway to 7th Avenue

Manhattan Valley neighborhood

- Park Avenue from 96th Street to 97th Street and 97th Street from Park Avenue to Broadway

Central Harlem

- 5th Avenue and Madison Avenue between 125th Street and 138th, connecting to the Madison Avenue Bridge and into the Bronx
- 7th Avenue from Cathedral Parkway to 155th Street

Morningside Heights neighborhood

- Broadway from Cathedral Parkway to 125th Street

East Harlem neighborhood

- 1st Avenue from 125th Street to 116th Street

Upper West Side, Upper East Side and Yorkville neighborhoods

- 86th Street from Broadway to 1st Avenue (includes 85th Street from Central Park West to Madison Avenue and over to 86th Street)

Upper West Side, Upper East Side and Yorkville neighborhoods

- 79th Street from Columbus Avenue to 1st Avenue

East Harlem, Yorkville, Carnegie Hill, Upper East Side, Lenox Hill, Sutton Place neighborhoods

- 1st Avenue from 96th Street to 57th Street
- 2nd Avenue from 125th Street to 57th Street
- 3rd Avenue from 96th Street to 60th Street
- Lexington Avenue from 96th Street to 60th Street

Lenox Hill neighborhood

- 66th Street from Central Park West to 1st Avenue
- 65th Street from 5th Avenue/Central Park to 1st Avenue

Sutton Place, Turtle Bay, Tudor City, Stuyvesant town neighborhoods

- 1st Avenue from 57th Street to 14th Street

Chelsea neighborhood

- 9th Avenue between 30th Street and 15th Street

Greenwich Village neighborhood

- Greenwich Avenue from 14th Street to 6th Avenue
- 8th Street between 6th Avenue and Broadway

- 7th Avenue between 14th Street and Houston Street
- 6th Avenue between 14th Street and Houston Street
- Hudson Street between 14th Street and Clarkson Street

Gramercy Park and East Village neighborhoods

- 3rd Avenue between 22nd Street and Cooper Square

Gramercy Park, Turtle Bay, Stuyvesant town and East Village neighborhoods

- 2nd Avenue from 34th Street to Houston Street
- 1st Avenue from 34th Street to Houston Street
- 3rd Avenue from 34th Street to Houston Street

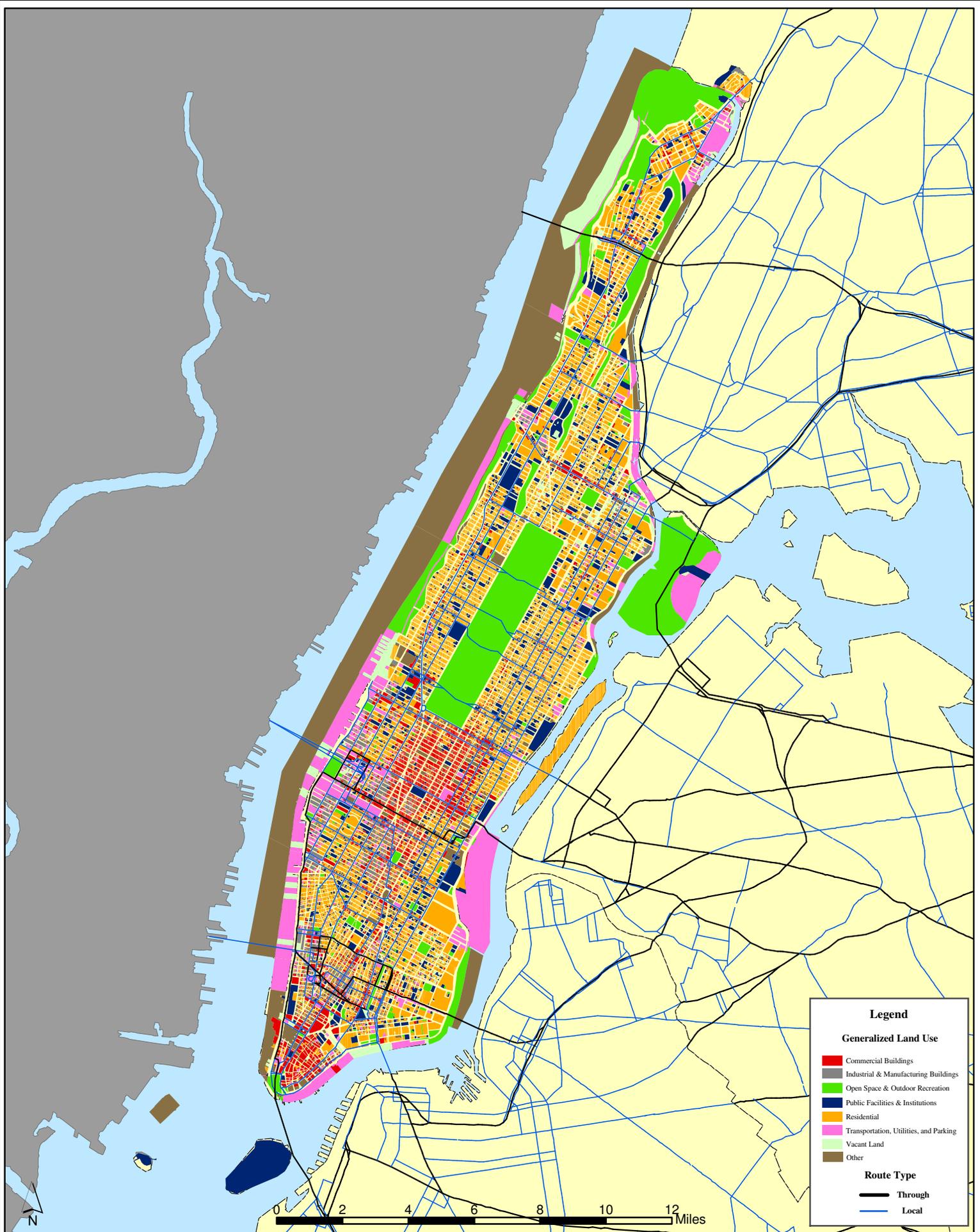


Figure 5-1: Manhattan Current Land Use

b. Mobility

Figure 5-2 shows the future forecasted volume to capacity (v/c) ratio, based on the New York Metropolitan Transportation Council's (NYMTC) Best Practices Model, for the year 2025 during the AM peak hour period and highlights those roadway segments which are forecast to experience severe traffic conditions (those areas with a v/c ratio greater than 1.0). Most of the roadways that are forecast to be severely congested in 2025 are already severely congested and will only continue to worsen over the next twenty years.

In contrast to the other Boroughs of the City, a far greater percentage of the Local Truck Route network in Manhattan is forecasted to be severely congested. This is not surprising given the lack of Through Truck Routes in Manhattan and also because of the sheer number of commercial businesses that are located in this densely populated Borough. In addition, the fact that two of the largest central business districts in the United States are located in this one physically constrained environment creates a certain level of congestion that is rather unique to this Borough.

The following is a list of those truck routes in Manhattan which are forecast to experience severe traffic conditions in 2025. Unless otherwise noted, the majority of the truck route's indicated are forecasted to be severely congested.

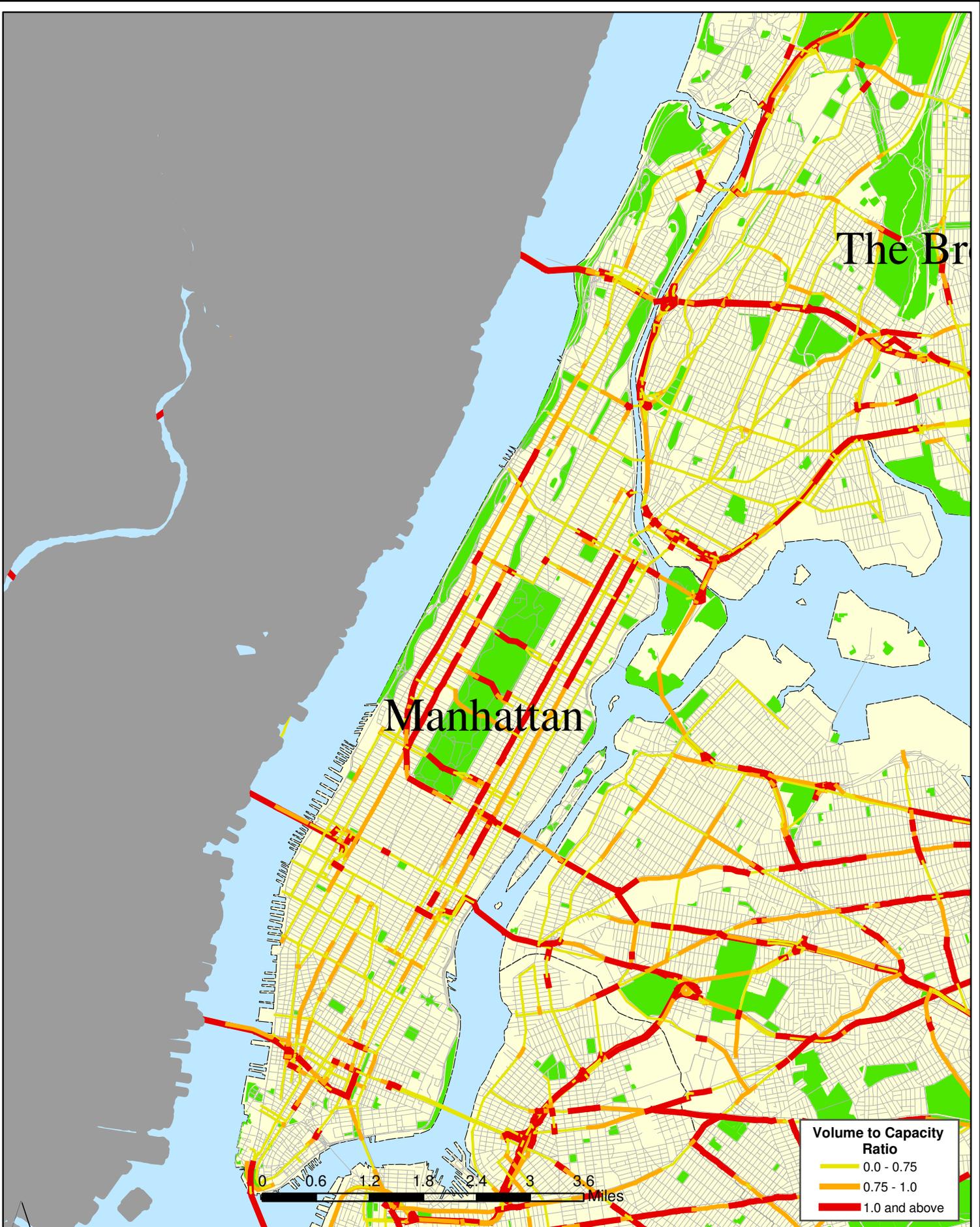
Through Truck Routes

- George Washington Bridge
- Trans Manhattan Expressway at Broadway and Amsterdam Avenue
- 34th Street at 9th Avenue, Lexington Avenue and 3rd Avenue
- 42nd Street between 6th and 7th Avenue
- Queens Midtown Tunnel
- Holland Tunnel
- Canal Street
- Houston Street between Broadway and Chrystie Street
- Brooklyn Battery Tunnel
- Walker Street at Varick Street
- Delancey Street at Clinton Street, Bowery Street and Lafayette Street

Local Truck Routes

- W. 207th Street at Nagel Avenue
- Nagel Avenue at W. 207th Street
- 155th Street at Harlem Drive/Adam Clayton Powell Jr. Boulevard
- Broadway at Dr. Martin L. King Jr. Boulevard, Cathedral Parkway, from 100th Street to 59th Street and at Worth Street
- 125th Street at 5th Avenue and Triborough Bridge
- 116th Street at 7th Avenue
- Columbus Avenue from about 96th Street to Broadway
- Lexington Avenue from 125th Street to about 42nd Street
- 2nd Avenue from 125th Street to 94th Street
- 97th Street through Central Park
- 86th Street through Central Park

- 66th Street through Central Park
- 59th Street from Broadway to Avenue of the Americas and from Park Avenue to the Queensboro Bridge
- 60th Street from Park Avenue to Queensboro Bridge
- 2nd Avenue from 59th Street to 49th Street
- 57th Street from Columbus Circle to Park Avenue
- Lincoln Tunnel
- 3rd Avenue between 36th Street and 38th Street
- Bowery Street from Delancey Street to Canal Street
- Water Street at Fulton Street



**Figure 5-2: Manhattan Truck Routes
Traffic Congestion 2025 AM**

c. Origin and Destination Forecast

Figure 5-3 shows the truck trip ends by Traffic Analysis Zone for Manhattan in relation to the Borough-wide truck route network. The three major truck Origin and Destination zones in the Borough are located within: Lower Manhattan south of Worth Street including Battery Park City; Canal Street corridor, and Midtown area bounded to the south by 14th Street, to the north by 60th Street, the west by 12th Avenue and to the east by Third Avenue.

Generally, through truck trips cross Manhattan in an east-west direction. There are only three Through Truck Routes to accommodate east-west traffic: Trans-Manhattan Expressway (I-95) at the north end, Canal Street at the southern end, and 34th Street through Midtown. It should be noted that through trucks are prohibited from using 34th Street between 11:00 AM and 6:00 PM. All three routes, totaling 17 miles, link directly to other Through Truck Routes in the Boroughs of the Bronx, Brooklyn and Queens: Trans-Manhattan Expressway to Cross Bronx Expressway (I-95); Canal Street to the Manhattan Bridge to Flatbush Avenue; and 34th Street to the Queens Midtown Tunnel to the Long Island Expressway (I-495). The only major north-south Through Truck Route is located from lower Manhattan to midtown Manhattan and runs along West Street from the Brooklyn Battery Tunnel to Gansevoort Street, then along 11th Avenue from Gansevoort Street to 22nd Street, along 12th Avenue from 22nd Street to 34th Street and along 11th Avenue from 34th Street to 42nd Street. As a result of the truck prohibition at the Holland Tunnel, commercial traffic from New Jersey will be inclined to use the Lincoln Tunnel and West Street to access Lower Manhattan, especially the Canal Street corridor.

Security measures have resulted in prohibiting trucks from using the Holland Tunnel to access Manhattan, although two and three-axle single-unit trucks are permitted in the outbound direction. Generally, local truck trips from the west side of the Hudson River will use the Lincoln Tunnel then proceed south down West Street to access the Canal Street corridor and Lower Manhattan. Through truck trips destined for Brooklyn have three alternate choices: 1) Lincoln Tunnel to West Street to Canal Street to the Manhattan Bridge; 2) Goethals Bridge through Staten Island to the Verrazano Narrows Bridge into Brooklyn; or 3) George Washington Bridge through the Bronx over the Triborough Bridge to the Brooklyn Queens Expressway into Brooklyn.

Other than West Street, seven north-south streets are designated as Local Truck Routes. The east side of Manhattan has four parallel Local Truck Routes: First, Second and Third Avenues and Lexington Avenue. The west side of Manhattan has three Local Truck Routes: Broadway, Amsterdam Avenue and Columbus Avenue. The zones along Fifth Avenue and Madison Avenue between 59th and 96th streets are expected to generate 150-300 truck trips during the weekday AM peak period. Neither avenue is designated as a Local Truck Route.

A major problem regarding truck traffic is caused by the mixed-use developments that include commercial and residential components. As with the conversion of commercial areas in Brooklyn, the conversion of office and lofts into residential uses is occurring in areas where office and light industrial/commercial uses still remain. While these uses will still require truck deliveries and pick-ups, their hours of operation are more limited.

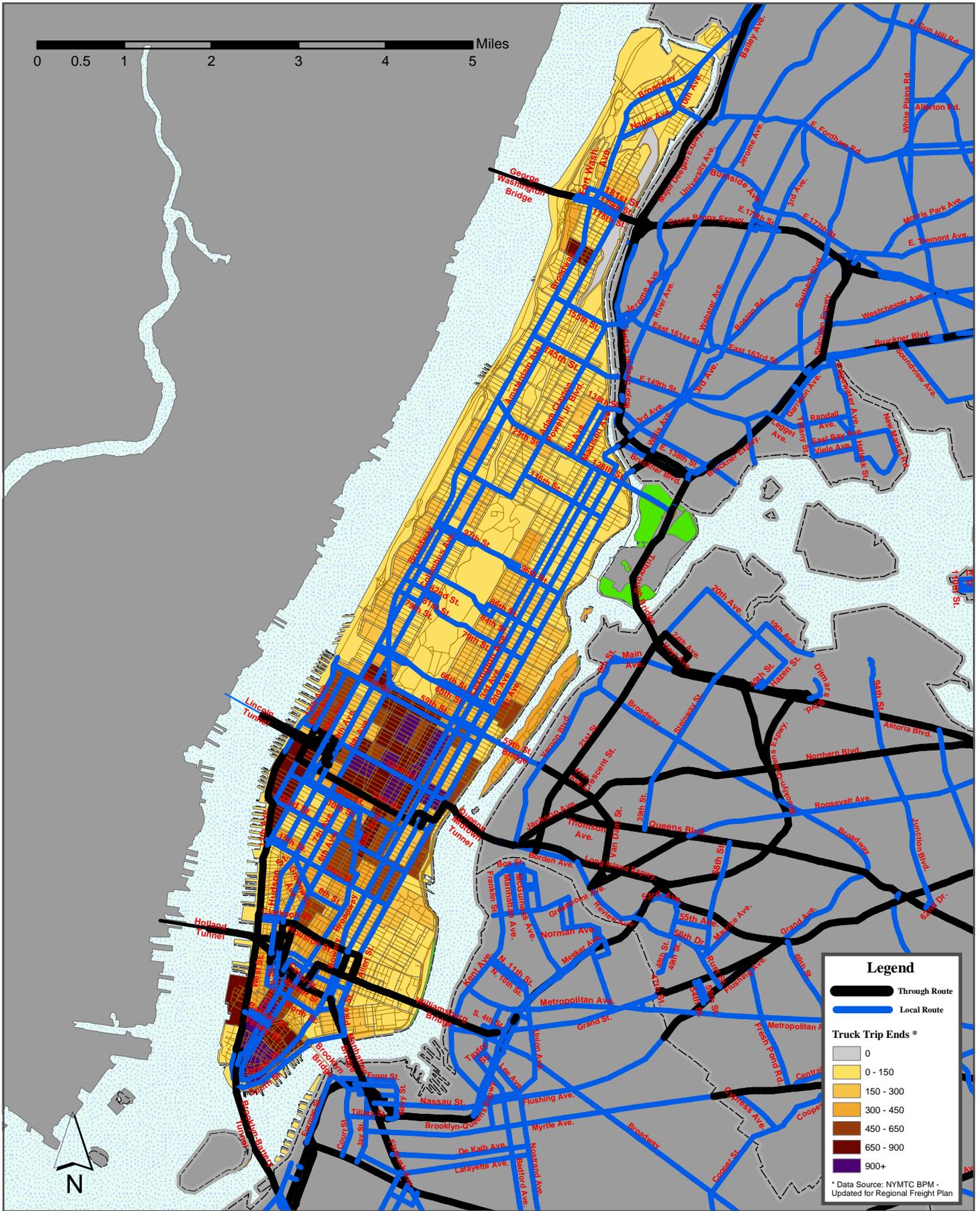


Figure 5-3
Manhattan Truck Trip Ends
2025 AM Peak Period

d. Accidents

The following is an analysis of the accident statistics information that was collected for two time periods, long term data from 1999 – 2001 and short term two month data from 2003.

Three Year Data (1999 – 2001)

- Of the eight intersections listed in the top 20, five are located along Canal Street and two are located along 2nd Avenue.
- Within the Borough of Manhattan, the intersection of 2nd Avenue and 128th Street has the most reported truck accidents with 29 over the three-year study period. The intersection of 2nd Avenue and Chrystie Street followed with 28 accidents, and the intersections of Broadway and Canal Street, 6th Avenue and Canal Street, and Bowery and Canal Street rounded out the top five with 26, 24, and 24 accidents, respectively.
- More than 40% of the 544 reported accidents representing Manhattan in the top 115 truck accident locations citywide occurred along Canal Street.
- 117 reported truck accidents or 22% occurred at five intersections along Canal Street.
- 57 reported truck accidents or 11% occurred at two intersections along Second Avenue.

Figures 5-4 and 5-5, respectively, show those locations in Manhattan where there were 10 or more accidents and the top 5 accident locations.

Two Month (October – November 2003) NYPD Accident Data

Most of the truck accidents in Manhattan occurred on designated truck routes. Heavy accident areas include:

- Canal Street between the Holland Tunnel and the Manhattan Bridge
- 1st Avenue, 2nd Avenue and the Bowery in Downtown
- Broadway, 1st Avenue through 11th Avenue in Midtown

The following provides more detail about truck accidents and accident locations in Manhattan.

Characteristics of All Accidents and Accident Locations

There were 940 truck accidents in Manhattan during the two-month period covered by the NYPD data. These accidents occurred at 687 different locations. At each location, there were between one and ten truck accidents. Similar to the Bronx and Brooklyn, there was greater variation in the number of accidents per location for on-route truck accident locations than for off-route truck accident locations. Furthermore, a greater percentage of truck accidents occurred at on-route locations than at off-route locations. The notes below reveal the characteristics of truck accidents and accident locations in Manhattan.

- 32% of Manhattan truck accidents occurred off the truck route
- 68% of Manhattan truck accidents occurred on designated truck route streets
- 35.2% of New York City truck accident locations were in Manhattan
- 39.4% of City truck accidents were in Manhattan

Characteristics of On-Route Accidents and Accident Locations

During the two-month period covered by the data, 661 on-route truck accidents occurred at 279 different locations in Manhattan. Between one and ten accidents occurred at the accident locations. In fact, Manhattan on-route accident locations were more likely to have experienced multiple accidents during the two-month period covered by the data than accident locations in the other Boroughs. The following numbers describe Manhattan's on-route truck accidents and their locations.

- At 352 of the 661 on-route accident locations, there was one truck accident
- 63 on-route accident locations experienced two truck accidents
- 29 on-route accident locations experienced three truck accidents
- One on-route accident location experienced seven accidents, and another had 10 accidents
- Manhattan's 661 on-route accidents represented 42.9% of New York City on-route accidents
- 39.2% of New York City on-route truck accident locations were in Manhattan

Table 5-1 identifies on-route truck accident corridors in Manhattan and their impact is provided at the end of this section.

Characteristics of Off-Route Accidents and Accident Locations

In Manhattan, 279 off-route truck accidents occurred during the two-month period covered by the NYPD data. These accidents occurred at 223 off-route locations. These locations experienced between one and four accidents during the two-months covered by the NYPD data. Manhattan's off-route locations were more likely to experience multiple accidents than off-route locations in the other Boroughs. The following numbers highlight the characteristics of off-route accidents and their locations in Manhattan.

- 185 Manhattan off-route locations experienced one truck accident
- 23 Manhattan off-route locations experienced two truck accidents
- 12 Manhattan off-route locations experienced three truck accidents
- Manhattan's 279 off-route accidents accounted for 32.9% of New York City off-route accidents
- 29% of New York City off-route truck accident locations were in Manhattan

Table 5-2 list off-route truck accident corridors in Manhattan and their impact is described at the end of this accident section.

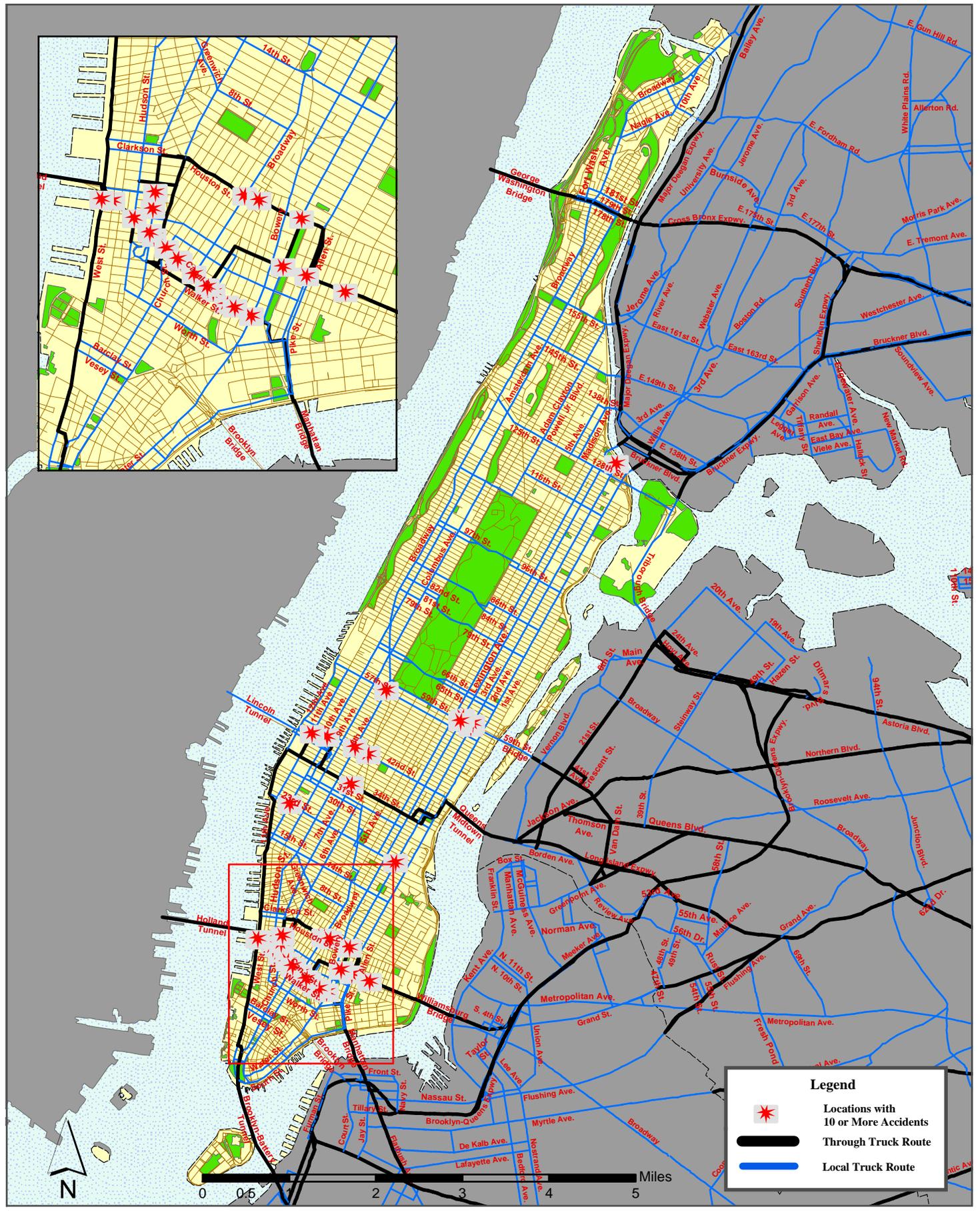


Figure 5-4
Manhattan 10 or More Truck Accident Locations Map

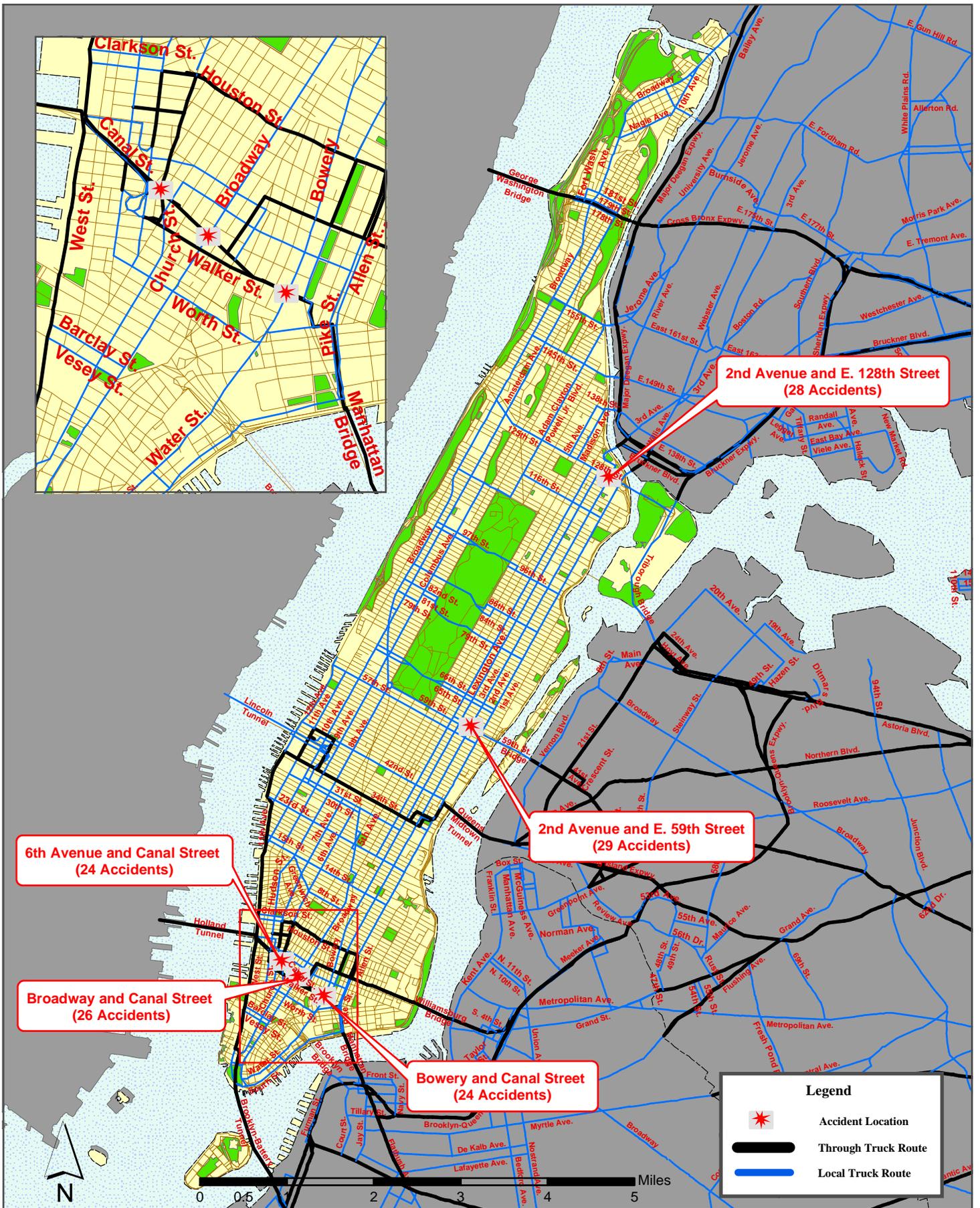


Figure 5-5
Manhattan Top 5 Truck Accident Locations

Table 5-1: Manhattan On-Route Truck Accident Corridors

Corridor	Location (Between)	Corridor Length (Miles)	Number of On-Route Accidents	Accidents Per Mile	% of On-Route Accidents Borough-wide	% of All Accidents Borough-wide	% of On-Route Accidents Citywide	% of All Accidents Citywide
2nd Avenue Corridor	23rd Street and 128th Street	5.3	64	12.1	9.7%	6.8%	4.2%	2.7%
Canal Street Corridor	West Street and Chrystie Street	1.1	54	49.1	8.2%	5.7%	3.5%	2.3%
10th Avenue Corridor*	14th Street and 181st Street	8.4	53	6.3	8.0%	5.6%	3.4%	2.2%
3rd Avenue Corridor	23rd Street and 125th Street	5.1	51	10.0	7.7%	5.4%	3.3%	2.1%
8th Avenue Corridor	14th Street and 57th Street	2.1	44	20.8	6.7%	4.7%	2.9%	1.8%
9th Avenue Corridor*	14th Street and 97th Street	4.1	44	10.7	6.7%	4.7%	2.9%	1.8%
Lexington Avenue Corridor	23rd Street and 118th Street	4.8	33	6.9	5.0%	3.5%	2.1%	1.4%
2nd Avenue/Chrystie Street Corridor	14th Street and Canal Street	1.2	32	26.7	4.8%	3.4%	2.1%	1.3%
1st Avenue Corridor	38th Street and 125th Street	4.4	26	5.9	3.9%	2.8%	1.7%	1.1%
42nd Street Corridor	1st Avenue and 12th Avenue	1.9	22	11.7	3.3%	2.3%	1.4%	0.9%
Broadway Corridor (Flatiron District)	12th Street and 34th Street	1.0	21	21.0	3.2%	2.3%	1.4%	0.9%
Bowery Corridor	3rd Street and Saint James Place	1.5	21	14.0	3.2%	2.2%	1.4%	0.9%
Broadway Corridor (Lower Manhattan)	8th Street and Maiden Lane	1.7	21	12.4	3.2%	2.2%	1.4%	0.9%
34th Street Corridor	2nd Avenue and 11th Avenue	1.6	20	12.7	3.0%	2.1%	1.3%	0.8%
7th Avenue Corridor	11th Street and 34th Street	1.4	18	12.9	2.7%	1.9%	1.2%	0.8%
Broadway Corridor (Lincoln Square District)	Columbus Circle and 86th Street	1.5	18	12.0	2.7%	1.9%	1.2%	0.8%
57th Street Corridor	1st Avenue and 11th Avenue	1.7	17	9.9	2.6%	1.8%	1.1%	0.7%
1st Avenue/Allen Street Corridor	14th Street and Henry Street	1.4	16	11.4	2.4%	1.7%	1.0%	0.7%
11th Avenue Corridor	23rd Street and 57th Street	1.7	16	9.4	2.4%	1.7%	1.0%	0.7%
14th Street Corridor	1st Avenue and 5th Avenue	0.7	15	22.4	2.3%	1.6%	1.0%	0.6%
96th/97th Street Corridor	1st Avenue and Broadway	1.6	14	8.5	2.1%	1.5%	0.9%	0.6%
23rd Street Corridor	1st Avenue and 11th Avenue	1.7	9	5.3	1.4%	1.0%	0.6%	0.4%
125th Street Corridor	1st Avenue and Broadway	1.8	7	4.0	1.1%	0.7%	0.5%	0.3%

*9th Avenue - Of the 44 total accidents reported along the 9th Avenue Corridor, 21 accidents occurred along the 0.6-mile span between 34th and 46th Streets.

*10th Avenue - Of the 53 total accidents reported along the 10th Avenue Corridor, 17 accidents occurred along the 0.8-mile span between 34th and 50th Streets.

Table 5-2: Manhattan Off-Route Truck Accident Corridors

Corridor	Location (Between)	Corridor Length (Miles)	Number of Off-Route Accidents	Accidents Per Mile	% of Off-Route Accidents Borough-wide	% of All Accidents Borough-wide	% of Off-Route Accidents Citywide	% of All Accidents Citywide
5th Avenue Corridor	14th Street and 91st Street	3.8	31	8.2	11.1%	3.3%	3.7%	1.3%
7th Avenue Corridor	31st Street and 57th Street	1.3	30	23.1	10.8%	3.2%	3.5%	1.3%
Broadway (Midtown)	31st Street and Columbus Circle	1.4	25	17.9	9.0%	2.7%	3.0%	1.0%
6th Avenue Corridor	31st Street and 57th Street	1.3	23	17.7	8.2%	2.4%	2.7%	1.0%
Park Avenue Corridor	23rd Street and 57th Street	1.7	19	11.2	6.8%	2.7%	2.2%	0.8%
Madison Avenue Corridor	23rd Street and 79th Street	2.8	19	6.8	6.8%	2.0%	2.2%	0.8%
Essex Street/Avenue A Corridor	Delancy Street and 14th Street	0.9	10	11.1	3.6%	2.0%	1.2%	0.4%
West End Avenue Corridor	57th Street and 90th Street	1.7	9	5.5	3.2%	1.0%	1.1%	0.4%
Prince Street Corridor	Bowery and 6th Avenue	0.6	6	10.0	2.2%	1.0%	0.7%	0.3%
Nassau Street Corridor	Water Street and Fulton Street	0.6	5	8.3	1.8%	0.5%	0.6%	0.2%
Lenox Avenue Corridor	116th Street and 145th Street	1.5	5	3.3	1.8%	0.5%	0.6%	0.2%

e. NYPD Truck Summonses

The NYPD data contained 274 violations for Manhattan. Yet again, the equipment violation category had the largest number of infractions with 149. This is approximately 54% of Manhattan truck violations in the dataset. Out of 274 violations, 59, or 22%, were in the off-truck route category. Another 42 violations, or 15% of the Borough total, were in the overweight category. Approximately 8% of Manhattan violations were in the over-dimension category. There were no violations in the posted limit category.

All of the off-route and over-height truck citations occurred on or near the non-designated parkways that line the periphery of the island, the FDR Drive, the Harlem River Drive, and the Henry Hudson Parkway. Unsurprisingly, most of the truck breaches happened near where these roadways intersect major cross-town streets that are included in the Local Truck Route. Truckers incurred violations on the FDR Drive and the Henry Hudson Parkway at 96th, 125th and 155th Streets.

In addition, off-route trucking citations seem to cluster in three different areas. The Midtown cluster covers the section of FDR Drive between 40th Street and 62nd Street. The Upper East Side cluster encompasses the segment of FDR Drive running from 80th Street to 96th Street. The Washington Heights cluster covers the area from 178th Street to 181st Street near the connection between the Henry Hudson Parkway and the Trans-Manhattan Expressway/George Washington Bridge.

f. NYCDOT “Hot Spot” Priority Areas

Figures 5-6 through 5-10 are located at the end of this subsection present a graphical depiction of the problem areas that were analyzed.

1. West End Avenue

Residents in the Upper West Side and Lincoln Square sections of the Borough have complained that trucks frequently use West End Avenue between West 65th and West 107th streets. This Avenue is not a truck route and community efforts to obtain increased police enforcement have had limited success.

West End Avenue is a two-way arterial street that runs from West 59th Street to West 107th Street where it merges with Broadway. At its southern end the street becomes 11th Avenue, which is a Local Truck Route between West 57th Street and Gansevoort Street. The travel way is four lanes wide with parking on both sides of the street. There is a considerable amount of commercial retail located on the Avenue.

Broadway is located one block east of West End Avenue and is a designated Local Truck Route in the community. “NO TRUCKS EXCEPT LOCAL DELIVERIES” signs are posted at several major intersections along West End Avenue; however, there are few if any wayfinding signs to direct trucks to Broadway. At the intersection of Broadway and West End Avenue, signs are posted instructing “ALL COMMERCIAL TRAFFIC” keep left and use Broadway. In addition two “PASSENGER CARS ONLY” signs are posted on the southbound approach at the intersection W. 107th Street.

Field observations confirmed that trucks travel along West End Avenue parked curbside or double-parked while making deliveries. The following actions are recommended to address the truck issue:

- Advise commercial businesses and truckers with truck route information and other materials recommended in *Technical Memorandum 4, Education Program*. Truck companies should be advised that the NYC Traffic Regulations require that trucks remain on the designated truck route streets until they reach the intersection closest to their destination, at which point they may leave the truck route to make the delivery/pick-up, as well as specialized information on the operation of arterials such as West End Avenue which limit commercial vehicle access.
- Post wayfinding signs on West End Avenue to Broadway.
- Post “LOCAL TRUCK ROUTE” and reinforcing truck signage along Broadway.
- Post “NO TRUCKS EXCEPT LOCAL DELIVERIES” on approaches to West End Avenue from Broadway, and investigate locations for additional “NO COMMERCIAL TRAFFIC” along West Broadway. Oversized signage should be placed on the southbound approach at the intersection of Broadway, W. 107th Street and West End Avenue and on the northbound eastbound approaches at the intersection of W.59th Street and West End Avenue.
- Conduct random enforcement efforts.

In addition, in the summer of 2006, the Department of Transportation began the Manhattan West Transportation study which will investigate overall traffic issues and concerns on the Upper West Side. This investigation should address some of the localized transportation issues regarding truck movements in the area.

2. 126th Street from 2nd Avenue to St. Nicholas Avenue

During the public meetings local residents had raised concerns about trucks on 126th Street which is not a Local Truck Route. West 126th Street handles westbound traffic and is 30 feet wide with parking on both sides of the street. Although the street is lined with residential buildings, trucks were observed using 126th Street between 2nd Avenue and Morningside Avenue. Trucks on 126th Street can be attributed to the following:

- Traffic congestion on 125th Street encourages trucks to seek alternate routes to traverse east and west across Harlem. 125th and 138th Streets are the designated Local Truck Routes in the area. The traffic congestion is caused by commercial retail uses on both sides of 125th Street with curbside deliveries and public parking; pedestrian volumes at the signalized intersections impede turning movements and reduce east-west street capacity, which result in trucks prevent multiple bus routes run along the street linking to the elevated rail station at Park Avenue and buses deadheading from the NYC bus garage at 2nd Avenue and 126th Street; and east end of 15th Street serves as an approach to the Triborough Bridge over the Harlem River.

- There are 13 blocks between the two designated Local Truck Route streets in the area. Local Truck Route signs are missing and there are no wayfinding signs to direct trucks to the Local Truck Routes.
- Several commercial uses occupy frontage on both W. 125th and 126th Streets. In such cases, trucks were spotted loading/unloading on the south side of W. 126th Street. (This action, however, is legal).

For all of these reasons, 126th Street has become an alternate westbound “truck route”. The following actions are proposed to address the truck use issue:

- Post “LOCAL TRUCK ROUTE” signs along 125th and 138th Street between First Avenue and Broadway.
- Post wayfinding signs to the Local Truck Route along 124th, 126th, 128th and 129th streets.
- Post “NO TRUCKS EXCEPT LOCAL DELIVERIES” signs on the westbound approach of 126th Street at the following cross streets: First Avenue, Second Avenue, Third Avenue Park Avenue and Madison Avenue.
- Advise commercial businesses and truckers with truck route information and other materials recommended in *Technical Memorandum 4, Education Program*. Truck companies should be advised that the NYC Traffic regulations require that trucks remain on the designated truck route streets until they reach the intersection closest to their destination, at which point they may leave the truck route to make the delivery/pick-up.

3. Canal Street and Broome Street

For many years, the majority of truck-related complaints that NYCDOT received citywide were focused on this area. The situation has been less problematic since the implementation of truck restrictions at the Holland Tunnel as a result of 9/11. Currently, the Port Authority of New York & New Jersey (PANYNJ) prohibits all trucks into Manhattan and permits only two and three axle trucks bound for New Jersey to use the Holland Tunnel. All other trucks are prohibited. Nevertheless, this location is included in the analysis because Holland Tunnel access restrictions may change in the future and the Canal Street corridor continues to carry a significant amount of traffic. .

Canal Street is a Through Truck Route that runs between West Street and the Manhattan Bridge. Local residents have complained that there are too many trucks on Canal Street. The area has been the focus of the NYMTC Canal Area Transportation Study (CATS) Phases I and II that has been analyzing traffic issues in this area. The proliferation of trucks on Canal Street is attributed to several factors:

- a. Canal Street is the designated Through Truck Route in lower Manhattan and the main approach roadway to the Manhattan Bridge.
- b. Restrictions on the Williamsburg Bridge have resulted in trucks destined for points east of lower Manhattan using the Manhattan Bridge.

- c. Canal Street is a high retail/commercial corridor that generates a significant amount of local truck traffic that delivers goods and services at curbside to businesses that are located along the street.

Traffic congestion on Canal Street is attributed to a series of factors:

- a. High percentage of trucks in the traffic stream.
- b. Delays caused by buses pulling in and out of bus stops.
- c. Double parked trucks making deliveries.
- d. Curbside parking maneuvers.
- e. Delays caused by accidents; accident statistics indicate that Canal Street has the highest number of accidents of any corridor in the City.
- f. Frequency of accidents at key intersections along the corridor⁷.
- g. Heavy pedestrian activity at the intersections which inhibits vehicular turning movements.
- h. Holland Tunnel truck restrictions impose another problem in having first-time truckers at the Tunnel unsure of alternate routing if they are barred access to the Tunnel, and for those who are familiar with the restrictions seeing those trucks use the Bowery and other alternate routes because of the lack of positive truck route signing displayed.

Residents have complained that trucks are using Broome Street as a Through Truck Route from Delancey Street to the Holland Tunnel. Signs are posted that prohibit trucks from making a southbound right turn from Lafayette Street onto Broome Street. Since trucks are not permitted on the Williamsburg Bridge, through trucks would not be traveling westbound on Delancey Street. While not verifiable, it is more likely that trucks on Lafayette Street have either picked up or delivered goods within Manhattan. If the trucks on Delancey Street are predominantly, if not entirely, making local deliveries then the trucks could make the turn from Lafayette Street to Broome Street.

The area contains a mixture of truck routing signs. The NYCDOT has posted three different types of truck route signs and Port Authority designed signs are posted in the Canal Street/Broome Street/Hudson Street area directing trucks to desired routes to access the Holland Tunnel. Existing signage on Broome Street and in the surrounding areas differs from the Department's own truck signage. This may seem to counteract NYCDOT's own signage but is a reference point for drivers going to the tunnel as to which approaches they should use. While four different types of signs with truck routing directions and information are used, the signs do not convey the restriction on New Jersey bound trucks until the truck is near the Tunnel approach. As discussed in *Technical Memorandum 3, Truck Signage Program*, uniformity is a key element to the new truck route sign program.

Another consideration is to address signage. While there is signage posted for Through Trucks, the existing truck signs are for all trucks, not the two and three axles single unit trucks that are allowed access. One recommendation is to post improve wayfinding and advisory signage routing vehicles to the Hudson River crossings farther uptown.

⁷ Canal Street had five of the top 20 intersections with the highest number of accidents in the period 2000-2002. NYCDOT accident statistics.

4. Walker Street and Worth Street

Walker Street is a narrow one-way eastbound street with parking on both sides that is used by trucks making local deliveries. The Walker Street Truck Route begins at the mouth of the Holland Tunnel Rotary (Varick Street) and continues eastbound until it intersects with Canal Street. Other than Walker Street, the only other east-west truck route south of this area is Worth Street, which runs from Hudson Street to the Bowery. The Worth Street Corridor is two-way. While a significant amount of eastbound truck traffic has been diverted from Walker Street with the access restrictions on the Holland Tunnel, there is still a significant amount of congestion resulting from local truck trips, the narrow roadway width and illegally parked vehicles, including double parked trucks.

Worth Street serves as the terminus of the southbound Varick Street/West Broadway Truck Route, as well as the beginning of the northbound Hudson Street Truck Route. Along the western end of Worth Street there are many buses during both the morning and evening peak hours. In addition, during the evening peak hours, there is heavy congestion and delays due to significant delays that originate from the Holland Tunnel Entrance. Overall, a significant number of the intersecting truck routes with Worth Street are missing appropriate truck route signage. Only certain approaches may be signed, and at locations such as West Broadway and Worth, no signage exists advising truckers that the Truck Route has ended.

Several recommendations are proposed for the area:

- Advise commercial businesses and truckers with truck route information and other materials recommended in *Technical Memorandum 4, Education Program*. Truck companies should be advised that the NYC Traffic regulations require that trucks remain on the designated truck route streets until they reach the intersection closest to their destination, at which point they may leave the truck route to make the delivery/pick-up.
- Post “LOCAL/THRU TRUCK ROUTE” signs along Canal Street, Hudson Street, Worth Street, Broome Street, Walker Street, West Street, and other LOCAL and THRU Truck Route streets used to traverse Lower Manhattan. Ensure every approach is properly signed. Post Negative and Wayfinding signage at applicable locations in the study area. This includes approaches to Greenwich Street.
- Coordinate with PANYNJ to make the wayfinding signs to the Holland Tunnel fit effectively into the City’s sign program.
- Conduct random enforcement efforts.
- Examine curbside regulations to improve opportunities for commercial deliveries, as well as eliminate congestion and traffic.

The Canal Area Traffic Studies (CATS I and II) have analyzed traffic issues in great detail and the truck related recommendations are consistent with this study. CATS II is ongoing and the recommended improvements resulting from this study should be evaluated to help address truck circulation issues in this area.



Figure 5-6: Manhattan Hot Spots

W. END AVE SOUTHBOUND



 Passenger Cars Only Signs
 Truck Traffic Signs



Legend

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Area
-  Manhattan Restricted Zones

**Figure 5-7: West End Avenue
(W. 62nd Street to W. 107th Street)**



Figure 5-8: 126th Street

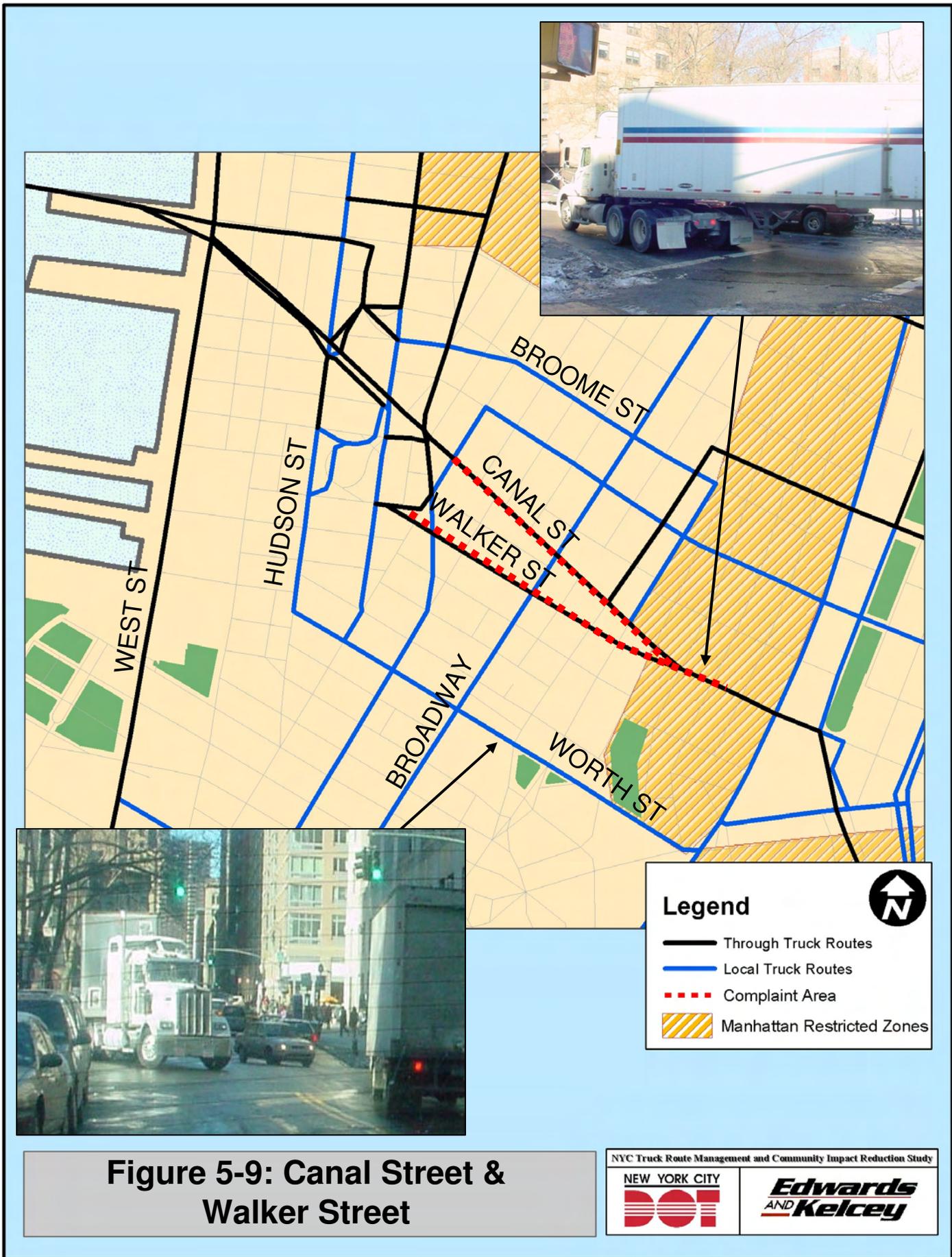


Figure 5-9: Canal Street & Walker Street



Figure 5-10: Broome Street