



New York City Truck Route Management
and Community Impact Reduction Study

Executive Summary

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New York City
Department of Transportation
Iris Weinshall, Commissioner



I. INTRODUCTION

The purpose of this Executive Summary of the *Truck Route Management and Community Impact Reduction Study* is to provide a synopsis of the study purpose; goals and objectives; methodology; organization; key issues raised in five distinct Technical Memorandums; and recommendations. These suggested actions address issues in the following categories: organizational management, regulations and policy, engineering and routing, signage, enforcement, and education and outreach. We encourage you to read each of the five distinct Technical Memorandums to obtain a greater level of detail which could not be provided in this Executive Summary.

a. Overview

Over the past four years, the New York City Department of Transportation (DOT) has undertaken the *Truck Route Management and Community Impact Reduction Study*. This consultant-led study, by the engineering firm Edwards and Kelcey Engineers, Inc., seeks to coordinate engineering, education, information and enforcement efforts to mitigate the negative impacts relating to truck traffic, as well as improve the overall truck management framework that exists in the City of New York. This study is part of an ongoing effort by DOT to address these issues. During the timeframe of the completion of this study other initiatives have been undertaken and various recommendations made. DOT has already begun to implement some of the proposed recommendations made in this study, as well as those from other recently completed goods movement and traffic safety projects it has undertaken.

The movement of trucks and commercial vehicles is governed by various City, State and Federal guidelines. Many of the truck routes and management techniques within New York City are a vestige of the last comprehensive truck study that DOT began in the late 1970s and formally completed in 1982. For the most part these guidelines and policies were instituted during the 1980s and early 1990s and have remained constant since. Today, the maximum vehicle dimensions allowed in New York City are 96 inches in width (except buses and fire vehicles); 13 feet 6 inches in height; 35 feet in length for single unit vehicles (except buses) and 55 feet for multi-unit vehicles (inclusive of load and bumpers); loaded weight of 22,400 lbs. on any one axle, 36,000 lbs. on any two consecutive axles less than 10-feet apart; 34,000 lbs. plus 1,000 lbs. per foot from the center of the rearmost axle for vehicles with 3 or more axles; and an overall maximum weight of 73,280 lbs.

However, the nature of goods movement, land use and the City's infrastructure has changed dramatically over the past twenty-five years. Three themes reflect the changes in land use and zoning conditions in industrial and manufacturing areas since the last comprehensive revision of the New York City truck route regulations between 1974 and 1981. The three themes are: 1) the changing nature of industrial and manufacturing uses; 2) the relaxation of zoning regulations governing industrial and manufacturing areas to allow greater residential and mixed use; and 3) the arrival of "big box" retailing establishments. This study seeks to identify and address some of the areas in the City where trucking and local quality of life and safety concerns come into conflict and look at methods to mitigate these conflicts and improve the overall management of trucks and commercial vehicles in New York City.

One of the greatest challenges in addressing truck traffic on New York City is the region's dependence on truck traffic to make the City function, with nearly 99% of the goods being delivered by trucks. In addition, New York City is faced with an arterial system that is more conducive to automobile traffic than trucks. Between the limited system of interstates and the

geometric constraints on the Parkway system, most of the City's truck traffic is relegated to the arterial street network, much of which is nearly a century old if not older.

The *Truck Route Management and Community Impact Reduction Study* is intended to allow relevant stakeholders the opportunity to highlight how truck traffic affects their communities, quality of life and daily operations. This study effort has involved substantial public outreach, field surveys, and an analysis of the operation of the existing Truck Route Network. Stakeholders participating in the process have included the general public, elected officials, other transportation agencies, and representatives from business, civic and industrial constituencies.

b. Study Goals and Objectives

The input received from all of the interested parties during the formulation of the *New York City Truck Route Management and Community Impact Reduction Study* was a crucial component in developing goals and objectively assessing the flow of truck traffic within and through New York City. The broad set of study goals are:

- Ensure that trucks do not inappropriately utilize residential streets;
- Improve the quality of life for residents and workers in New York City;
- Reduce traffic congestion;
- Increase logistics options that will benefit businesses, transportation providers and consumers;
- Improve the economic competitiveness of New York City by enhancing the attractiveness of industrial sites at major distribution points in the City.

The more specific set of study objectives include:

- Coordinate engineering, educational, informational and enforcement efforts so that trucks remain on designated truck routes;
- Identify key bottlenecks in several industrial areas of the City that are major generators of commercial vehicle trips;
- Establish recommendations to mitigate the negative impacts of truck traffic and improve the overall operation of the Truck Route Network;
- Reflect, incorporate and address the various needs of New York City's residential, trucking and business interest.

c. Study Methodology

The information that was utilized as part of this study effort was composed of existing and new sources of data. Information was gathered to evaluate the viability of the existing Truck Route Network. The data collected represents the best information available at the time that the analysis was performed. The various sources of information utilized include: truck vehicle counts and classifications, vehicle volume to capacity ratios, accident statistics, truck summonses, existing zoning and land use data, and truck trip forecasts by Traffic Analysis Zone (TAZ). The analysis focused on problem areas made known by DOT staff, the study's Technical Advisory Committee and the general public.

Given the data, resource limitations and complex nature of conducting this study, it was not possible to assess each and every truck route, in every neighborhood, in each of the five boroughs of New York City. Rather, the approach taken focused on those areas that were

identified as problem areas by the vested parties that participated in this study effort. These problem areas were screened down through the following three-pronged method:

1. Stakeholders (public, trucking and business communities) were canvassed to identify areas of concern by responding to our surveys, sending us e-mails and attending over two dozen outreach meetings that were held in the five boroughs during a five-year time period from 2001 through 2006.
2. Based on DOT's experience in dealing with truck-related issues, a list of truck generator "Hot Spots" in each of the five boroughs was developed to address those areas that warrant specific attention.
3. A list of seventy-one truck generator sites was compiled through the comments received from stakeholders and DOT. This list was whittled down to ten sites based on several criteria developed by Edwards and Kelcey. The Case Studies were performed at a greater level of detail and analysis than any other areas of the City and were developed to provide a prototype of the kind of analysis to be performed when evaluating other truck generating sites.

d. Study Organization

Detailed findings and recommendations that were developed as a result of this study are presented in the following five Technical Memorandums:

Technical Memorandum 1 – Traffic Policies and Regulations presents an overview of the City's current policies related to truck routing on the City's streets. This document reviews the existing policies, regulations and enforcement strategies as they relate to current and future goods movement needs in the City; provides a series of recommendations to meet these needs; and also proposes actions to minimize quality of life impacts in those neighborhoods that border truck routes.

Technical Memorandum 2 – Truck Routing Analysis presents a compilation of data and the analysis performed of the Truck Route Network. It contains an assessment of localized issues and truck routing concerns on an individual Borough basis.

Technical Memorandum 3 – Truck Signage Program contains a comprehensive assessment of the City's truck sign program and recommended improvements for signage. The plan includes new standards for signage and improved signage and demarcation along the Truck Route Network.

Technical Memorandum 4 – Education Program provides a comprehensive program of initiatives to develop a self-enforcing truck route program. The results of the public outreach efforts have indicated that the identified stakeholder groups have varying levels of knowledge concerning existing regulations and policies. An education program is outlined to: elevate this level of understanding, provide for a higher level of voluntary adherence to the regulations and policies.

Technical Memorandum 5 – Public Involvement is a compilation of all outreach initiatives with stakeholders including the general public, local businesses, trucking associations, freight carriers and City and State transportation agencies. It includes: results of the survey responses from the various stakeholder groups (public, businesses and transportation freight industry); minutes of the Borough meetings and technical advisory committee meetings; and

correspondence received on truck route issues. This document will be updated to reflect the final round of community meetings.

II. OVERVIEW AND KEY FINDINGS OF TECHNICAL MEMORANDUMS

a. Technical Memorandum 1 – Traffic Policies and Regulations

Overview

In comparison to other large American cities, the City of New York has one of the most complex truck route systems in the nation. For over 80 years, the City has been at the forefront of regulating the movement of trucks and commercial vehicles. The current regulatory framework which governs the movement of trucks is a vestige of the last comprehensive Truck Route Study that was completed in the early 1980s. For the most part, the regulations that were adopted during the previous study are still applicable today. This includes the actual route system, the maximum dimension of vehicles and other regulations by which trucks and commercial vehicles must abide. While the City's regulations are complex in their own right, there are a number of State and Federal regulations which impact the movement of trucks through New York City. These regulations primarily govern the maximum dimensions of vehicles and the routes which these larger vehicles must travel on.

One of the primary factors that has shaped these regulations is the existing infrastructure in New York City. Much of the Interstate system in New York City was built out by the mid 1950s and is considered substandard by today's standards. Compounding accessibility issues is the layout of the City streets, which are generally unable to accommodate the turning movements of larger vehicles and tractor trailers. Finally, the profile of truck traffic has changed considerably over the past 20 years, with truck size growing substantially.

Key Findings

- While the City has experienced a 35% increase in truck volumes during the past 20 years, there has been no comprehensive change to the regulations or policies that govern truck access in New York City, as well as no change in the number of truck route miles (street capacity) to meet this demand.
- The current regulatory framework which governs truck traffic in New York City is based upon standards that were in place over twenty years ago. During the last comprehensive truck route study, completed in the early 1980s, the 55-foot vehicle design profile was the design standard at the time. While national trends have increased the limit to 65-feet, most streets in New York City are not able to accommodate these larger vehicles and many are not able to be reconstructed to accommodate these types of vehicles
- Under New York State law, New York City is empowered to implement restrictions on the dimensions of vehicles on its streets and highways. These powers allow the City to maintain its restriction on the maximum length and weight of vehicles.
- New York City is unique in its definition of a "truck." Depending upon the actual activity of a truck, there are different definitions that are used. For the purpose of the Truck Route Network, a truck is defined as any vehicle with two axles and six tires or three or more axles. Compared to other municipalities, trucks in New York City are defined by the number of axles rather than weight or intended use. These differences in definitions have led to driver confusion.
- The applicability of Federal and State regulations governing the size and weight of vehicles is confusing to many drivers. While the City maintains a restriction of 55-feet in

total length, 96-inches in width and weight of 73,280 pounds, there are portions of the arterial network that allow Surface Transportation Assistance Act of 1982 (STAA) vehicles of unlimited length to utilize these designate roadways (National Network Highways), as well as “reasonable” access one mile from the exit. The designated National Network only makes up a small portion of the Interstate system in New York City and the limits of the STAA network are not easily understood.

- There are four agencies with different size and weight rules and regulations that affect the use of trucks on City arterials: New York City Department of Transportation, New York State Department of Transportation, Port Authority of New York & New Jersey and the Metropolitan Transportation Authority Bridges and Tunnels. The latter two agencies allow tractor-trailers with containers that are 53-feet long, 102-inches wide and 80,000 pounds. However, DOT limits all tractor trailers to a maximum length of 55-feet, width of 96-inches and weight of 73,280 pounds without a permit. The different vehicle size and weight restrictions among these agencies often cause confusion to truckers, particularly those who are unaware of the differences between the more stringent standards that exist in New York City.
- Accessibility to information on regulations and policies on the City and State levels, as well as from other transportation providers is a challenge. There is no single resource that provides a comprehensive listing of all the regulations governing truck traffic in and through New York City. As a result, it is difficult for drivers to fully understand the myriad of rules that are in place.
- Truck access is hampered by a roadway system that is not always conducive to the efficient movement of trucks. This constraint is largely a result of an older highway system that was built to outdated standards and a split highway system consisting of mixed traffic expressways (some of which have truck restrictions) and parkways that are used exclusively by automobiles.
- Enforcement efforts are impacted by the limited understanding of the complicated regulations and policies that govern truck movements in New York City. This includes the knowledge base of both the Police Department and the Law judges who adjudicate these summonses.

b. Technical Memorandum 2 – Truck Routing Analysis

Overview

Technical Memorandum 2 – Truck Routing Analysis provides an assessment of the performance of the City's Truck Route Network on a Borough by Borough basis. The objective was to focus the analysis on problem areas and issues identified by the local officials, the public, and the experience and history of truck route issues on file with DOT. Some of the major elements undertaken in the preparation of this document include:

- Examining accident data to identify cluster locations of on- and off- truck route streets within the five Boroughs.
- Conducting case studies to assess specific traffic operational issues associated with specific types of truck generator sites. The case study locations included:

- Port Morris – Bronx
 - East New York – Brooklyn
 - East Williamsburg – Brooklyn
 - Sunset Park – Brooklyn
 - United Parcel Service (UPS) / Federal Express (FEDEX) Plants- Midtown Manhattan
 - College Point – Queens
 - Maspeth Industrial Park – Queens
 - Springfield Gardens / JFK Airport – Queens
 - Howland Hook – Staten Island
 - Hylan Plaza – Staten Island
- Examining public comments on problem areas, as well as input from DOT, with the abovementioned data to validate local concerns and formulate solutions.
 - Studying and comparing the findings of other recent freight studies with the problem areas and issues examined in this study.

Key Findings

- Only 5% of the City's streets are designated as truck route streets. Most of these truck route streets operate at or near capacity. Commercial deliveries are essential to the City's economy; thus, a further reduction in the number of streets in the Truck Route Network is not practical.
- The City's streets were designed and built to accommodate the trucks and commercial vehicles of twenty to thirty years ago. While street segments may be rebuilt adjacent to the construction of redevelopment projects to meet the today's design standards for large trucks, similar improvements can not be made to all of the streets comprising the City's designated Truck Route Network.
- Heavy truck traffic has caused damage to residences and roads and contributed to traffic congestion and safety concerns for pedestrians and motorists. While there is an urgent need to alleviate these problems, the economic survival of commercial and industrial areas in the City depends on maintaining a significant level of daily truck activity.
- Redevelopment areas designated in the Boroughs have produced transitional neighborhoods that create competing interests between the residential population and the trucks that need access to the roadways in these areas.
- There are several streets within New York City where the street is initially signed as a Through Truck Route in one Borough but changes to a Local Truck Route when crossing into an adjacent Borough (e.g. Grand Avenue, Flushing Avenue and Greenpoint Avenue in Queens and Brooklyn, and the Queensboro Bridge between Queens and Manhattan).
- There is no direct east-west truck route connecting southern Brooklyn with Queens (especially JFK International Airport) and Long Island. Eastbound truck traffic from the Verrazano Narrows Bridge must continue along the Gowanus Expressway, and either exit to Local Truck Route streets for deliveries to Brooklyn, or continue on the Brooklyn-

Queens Expressway to the Long Island Expressway for access to Queens and Long Island.

- The major portion of the City's Through Truck Routes consists of segments of the Interstate Highway System. Many of the major truck routes lack parallel service roads that would be able to handle some of the traffic overflow under congested highway conditions. This includes the major sections of the Staten Island Expressway (I-278), Cross Bronx Expressway (I-95), Major Deegan Expressway (I-87); Brooklyn-Queens Expressway (I-278) and Van Wyck Expressway (I-678).
- There are many locations in all five Boroughs where new positive signage or negative signage is needed to help keep trucks off of residential streets or to improve the movement of truck traffic. In other locations, engineering improvements can be made to address mobility and safety concerns.

c. Technical Memorandum 3 – Truck Signage Program

Overview

Technical Memorandum 3 – Truck Signage Program provides an assessment of the City's truck signage program. It gives an overview of Federal, State and City standards related to signing including the five fundamental requirements of a sign. It provides a brief history of the development of truck signs over the years to regulate commercial traffic on the City streets.

The document sets forth recommendations for the development of a comprehensive signage program that will improve the identified issues and deficiencies that characterize the Truck Route Network, including the conceptual design of the various sign elements. It presents a strategy for a signage system that provides the maximum amount of information to the truck driver, improves signage recognition, ensures the reliability of the information conveyed, provides drivers with adequate time to respond and demands the driver's attention.

Central to the program is a sign that is designed for easy recognition and consistency to convey information with a single standardized design, size, shape, color, and content. Placement is also essential so that truckers know where to look for the information at decision points in the Truck Route Network. Although these signs are not as critical to drivers as traffic control signs, designating a typical placement for the truck signs at intersections and setting a typical spacing between signs along a corridor will cultivate awareness and reinforce driver expectations for the Truck Route Network and help serve as a self-enforcing mechanism to regulate truck traffic. In addition, a new criteria for the application of negative signage is recommended.

Key Findings

- The City of New York is one of only a few cities in the United States with a comprehensive network of truck route streets – and the truck route signs used to delineate the truck routes are unique to New York City.
- Signage is one of the most critical tools for management of the Truck Route Network; however, there are several underlying problems that characterize the current signage program.

- The City has multiple designs for truck route signs. While the differences are subtle, the lack of consistency in use can foster confusion or a lack of confidence among truck drivers.
- There is inconsistency in the placement of truck route directional signs at intersections and the specific placement of the sign(s) at the intersection or decision point (mounting height, corner placement, etc). This in turn affects driver recognition and reaction time to take the proper action at decision points. The City has also used different standards for the placement of negative signs.
- Sign panels are not always visible. The message on some panels is not clear due to the weather, sun exposure, or graffiti. In other cases the sign panel may be blocked from view by another sign.

d. Technical Memorandum 4 – Education Program

Overview

Key to a successful self-enforcing Truck Route Network is the development and dissemination of a comprehensive education program. The results of public outreach efforts have indicated that the identified stakeholder groups have varying levels of knowledge concerning existing regulations and policies. In order to elevate this level of understanding, provide for a higher level of adherence to the regulations and policies, and improve the overall quality of life for City residents, Technical Memorandum 4 – Educational Program was developed as part of this study effort.

The education program revolves around a multi-leveled approach that is custom tailored to the needs of the general public, business community, trucking industry, law enforcement and other New York City Agencies. The proposed program allows for an iterative process between New York City and the stakeholder groups to enable a constant updating of the policies and program, as well as the ability to quickly respond to changes in goods movement, land use and/or other changes taking place within the City. In some components of the education program very detailed information will be presented, while in other instances the information transmitted will be more general in nature.

The education program provides the tools and techniques that allow for different types of communication in a manner that is clear, concise and efficient, getting the greatest impact for the least effort. In developing this comprehensive education program, DOT will create a mechanism which fosters public awareness and, in effect, increases the opportunities for the successful operation of the truck route system.

Key Findings

- The survey results revealed that most stakeholders have a limited knowledge or do not understand the City's truck route regulations. The improved compilation, distribution and clarification of information regarding New York City's truck route rules and regulations has to be presented in several user-friendly formats to all of those whose livelihood depends on the safe and efficient movement of goods into and out of the City.
- When the New York Police Department (NYPD) recruits are trained at the Police Academy, they are responsible for retaining a great deal of information on New York City

rules and regulations. The traffic rules are just one small component of this information. As a result, most officers on the street may only have a limited working knowledge of the Truck Route Network. The Highway Patrol Unit and the Borough Task Forces perform more targeted enforcement of trucks and truck routes.

- The NYPD faces resource constraints – as the Department must balance truck route enforcement with its many other public safety and community responsibilities.
- The level of understanding of truck route policies among the court judges is inconsistent, and it is apparent that the court is dismissing a high number of truck route violations. Analysis of this issue is made more challenging by the fact that truck route violations are not tracked by the courts.
- Citizens frequently request negative signage on streets in the neighborhoods where they live. While it is debatable whether a “No Trucks” sign is going to solve a neighborhood’s truck problems, negative signage is not required to enforce the City’s truck route rules and regulations. The New York City Truck Route Network is positively signed, meaning that truck routes are required to have signs, directing truckers where to go. This misunderstanding is a primary source of confusion for the public, as well as the law enforcement community and private interests.
- Many truck drivers have the misconception that all streets labeled as principal arterials in road maps such as Hagstrom or Rand McNally can be used by trucks. In addition, with the proliferation of online mapping programs, drivers are increasingly using software platforms to obtain exact point-to-point directions. The City’s official Truck Route Network maps are not represented on other resources outside of the DOT material.
- Many businesses that want or need truck route information can consult the DOT website or send an e-mail to the DOT, but there is a large population of businesses who do not have access to the Internet. This includes small businesses and trucking companies that may not know how to retrieve the necessary information about the truck route regulations. While information is available via phone or regular mail request, there is often a delay until the information is received.
- It may difficult for those seeking information about truck routes and regulations on the DOT website to find and comprehend the relevant materials. Understanding the various regulations affecting truck operations in New York City involves surfing several web sites and “paging” through the document to find the relevant information. If the user is not familiar with New York City, it becomes more difficult as there are no indexes to locate City streets, and if required to travel through one Borough to get to another, each Borough must be printed separately.
- Currently, the following information related to commercial vehicles using New York City roads can be found on a number of additional websites, including (but not limited to) the following: New York State Department of Transportation, MTA Bridges and Tunnels, Port Authority of New York and New Jersey, TransCom and Metrocommute. Once a user reaches these separate websites, the advisory information is easy to locate, but it is time-consuming to navigate each site separately.
- The Truck Route Network is not currently represented on materials maintained by the City of New York except those produced by DOT. Many City agencies maintain large

truck fleets that are used in performing various City services. The project team has heard on several occasions that City trucks have been observed traveling off route. All drivers of City trucks should be well aware of the Truck Route Network and be accountable for their travel decisions made behind the wheel of a municipal truck.

e. Technical Memorandum 5 – Public Involvement Program

Overview

The *Truck Route Management and Community Impact Reduction Study* was begun in the spring of 2003. As a community-based study, public input was deemed crucial to its success as was the process we undertook which is described in Technical Memorandum 5 – Community Outreach. The project team developed the program for public involvement in an effort to reach the widest possible audience of members of the public, the business community, the trucking industry, and public agencies. The public outreach effort, which began in April 2003 with the Community Survey, has included numerous agency (Technical Advisory Committee) and public meetings at the City and Borough level, publication of a fact sheet, and development of presentation materials including tailored PowerPoint presentations and printed graphics.

In addition to the community meetings held across the City, the project team was very active in its outreach to private enterprise, including the business community and trucking industry. A survey was developed with the assistance of the New York City Department of Small Business Services. This survey was mailed to all New York City Business Improvement Districts (BIDs) and Local Development Corporations (LDCs). The BIDs and LDCs were asked to distribute the surveys to their membership. As these groups are the primary users of the network, their input was critical to the study efforts.

Key Findings

- Many of the comments received from the public during the first two rounds of public meetings were related to the following: enforcement of truck route signage, education efforts regarding truck routes, illegal use of local truck routes by through trucks, environmental hazards of pollution, possibilities for improving and modifying the truck route system and the way it is signed, health issues in the community related to the truck traffic, truck route violations and why they are not being upheld, overnight truck parking on residential streets, truck enforcement in high crime areas, trucks using residential streets as shortcuts, areas of concern to be added to the truck route study, poor substructure on many roads frequently used by trucks, recommendations for trucker education efforts, enforcement and manpower issues at the NYPD and loading docks on many businesses that cannot accommodate semi-trailers which end up blocking entire streets.
- Overall, the businesses surveyed do not possess a great deal of knowledge about the truck routes or regulations. Furthermore, the majority of respondents do not know, nor do they seem to be concerned, with how the deliveries get to them as long as they arrive. By not specifying a trucking company, the businesses have no way of knowing how the goods are being delivered or what routes the trucks are taking to reach them.
- Trucking industry survey respondents said that their trucks are routed via the following methods: 61% rely on the knowledge of the dispatcher, 42% use Hagstrom road maps,

28% use MapQuest, 32% use some other routing software, 4% have in-vehicle navigation systems and 75% rely upon the knowledge of the driver.

- Thirty-two percent of trucking industry respondents indicated that they were familiar with the New York City Truck Route Network.
- Most of the trucking survey firms did not have a dedicated New York City dispatcher.
- When asked during what hours their trucks are making deliveries to New York City, 26% of the trucking industry survey respondents indicated that their operating hours were from 8:00AM to 5:00 PM, 11% said 6:00 AM to 6:00 PM, with 43% operating at least 4 hours on each of the weekend days and 46% indicating that they would be willing to make deliveries at other times of the day if their customers were willing to accept them.
- Nearly two-thirds of the trucking company survey respondents replied that signs identifying truck routes are improperly located, truck route signs are confusing, truck route signs should be larger, truck route signs should be a different color and that the truck routes are not clearly designated by signs
- Ninety-six percent of trucking industry respondents agree that the following issues impacted them negatively: traffic congestion on the streets, pavement conditions of roads, height, and weight restrictions, insufficient curb space to load, police summons for trucks (weight + dimensions), regulations for curb loading areas, and regulations for restricting trucks on certain streets.
- Residents' concerns are often confined to their own block, or their immediate neighborhood, rather than their Borough, or the City as a whole. In addition, the issue of trucks is very often a quality of life concern for residents, with many comments addressing off-route trucks, air quality hazards, and noise.
- Survey responses from the Bronx were related to a lack of enforcement of truck route laws, increased traffic due to trucks, parking of commercial vehicles in residential areas overnight and utility wires being knocked down by trucks.
- Survey responses from Brooklyn noted a lack of enforcement of truck route laws, vibrations from trucks moving on streets at high speeds having a negative impact on nearby buildings, air/noise pollution from engine idling, trucks taking shortcuts through residential neighborhoods, trucks causing damage to roadways and the double-parking of trucks.
- Survey responses from Manhattan and Queens noted a lack of enforcement of truck route laws, vibrations from trucks moving on streets at high speeds having a negative impact on nearby buildings, air/noise pollution from engine idling, trucks taking shortcuts through residential neighborhoods, trucks causing damage to roadways, damage to parked vehicles, pedestrians put in harm's way and the double-parking of trucks.
- Survey responses from Staten Island residents were related to the movement of delivery vehicles, tractor-trailers, sanitation trucks, as well as construction equipment, landscaping trucks and trucks carrying construction debris.

III. RECOMMENDATIONS

Among the recommendations in the draft Technical Memoranda are:

a. Overall Management

NYCDOT Office of Freight Mobility

Central to its outreach efforts, it is recommended that DOT establish an *Office of Freight Mobility*. This office will serve as the primary conduit through which education, enforcement and goods management issues are coordinated and serve as the point of contact for most truck-related concerns brought by residents, truckers and businesses. Specific activities include “Train the Trainer” sessions with law enforcement personnel, outreach to all stakeholders and coordination activities with agencies undertaking other local and regional projects. In addition, this office will be empowered to explore policy and regulatory issues to improve the management of freight in New York City, while developing new ideas and programs for the future. The Office of Freight Mobility will be expected to work closely with other agencies including the Port Authority of New York and New Jersey, the New York State Department of Transportation, the New York City Police Department, the New York City Economic Development Corporation, the Department of Small Business Services and the Department of City Planning.

b. Regulatory and Policy Issues

Over time, truck route policies and regulations have evolved based upon the unique constraints affecting New York City’s arterial network. The City developed stringent restrictions on the size, weight and operation of trucks and commercial vehicles within its boundaries due to the age and geometry of these roadways. Based upon a review of the existing regulatory framework, Edwards and Kelcey has identified a number of issues for the Department of Transportation and other City, State and Federal agencies to consider, including:

Time Restrictions on the Use of Local Truck Routes that Traverse Residential Neighborhoods

Typically, late night and evening truck trips are not as localized and/or concentrated as trips made during the daytime. Accordingly, the entire Truck Route Network is not fully utilized during these times. A nighttime restriction would minimize truck traffic on select Local Truck Routes between the hours of 10pm and 6am only to trucks with local deliveries. Edwards and Kelcey has recommended a number of potential corridors and DOT will be evaluating potential pilot locations in Staten Island. Corridors under consideration include select portions of roadways in Staten Island including Woodrow Road, Clove Road, Castleton Avenue, Todt Hill Road, Broadway and Richmond Hill Road. Additional components of this program would include distinct signage, enforcement, and public education.

Removal of the Limited Restriction Zones in Manhattan

As part of the previous Truck Route Study, the DOT established a set of limited Truck Restriction Zones in Manhattan. These zones include Chelsea, Chinatown, the Greenwich Village, Little Italy and the Lower East Side. Under this system, no truck was permitted to operate, enter, stop, stand or park his/her vehicle on any of the streets within the zone except

for the purpose of making a delivery, loading or servicing within said zone. In addition, many of these areas have an extensive network of prohibitive or negative signage.

Over the past twenty years, changing land uses and the expanded residential nature of many of these zones has distorted the boundaries for these limited restriction zones. In addition, the existing truck route regulations for Local and Through Truck Routes mirror the routing restrictions in place in each of the zones.

The DOT should remove language relating to Limited Truck Restriction Zones from the Traffic Rules and rescind this rule. Trucks would still be required to remain on the designated truck routes in each area (whether local or through) and leave these routes only at the intersection closest to their destination. Under the expanded signage program, both positive and negative signage would also be installed to ensure compliance with the Truck Route Network.

Eliminate the Limited Local Truck Routes in Staten Island

Limited local truck routes only apply to Staten Island. These routes are restricted to vehicles with two axles and no more than 6 tires, and prohibit vehicles with three or more axles. There were no public complaints about the misuse of these streets by trucks with three or more axles or a historical record of summonses issued for such violations. There is apparently no need for this truck route category. The elimination of the limited local truck route would prohibit all trucks from traveling along these roadways, except for making local deliveries and would further simplify the Truck Route Network to Local and Through Truck Routes.

Expansion of Off-Peak Deliveries in the Central Business District (CBD) through Incentives and Curbside Regulations

The results of the business and truckers surveys identified a mutual interest in extending business hours in the morning for the pick-up and delivery of goods. The DOT should implement a pilot program to test the effectiveness of such a program. The suggested time period would be from 5 AM to 7 AM. This time period would allow truckers to get into and out of the City before the start of the normal morning commuter rush hours.

Explore Opportunities to Allow Small Commercial Vehicles on Selected Parkways

At various times of the day, the City's network of parkways is underutilized. Approximately 50% of the truck traffic traversing the Boroughs consists of delivery vans. Diverting small delivery trucks or vans to portions of the parkway system would provide for improved mobility and the removal of truck traffic from local streets. Identified segments include portions of the Henry Hudson Parkway in Manhattan, Grand Central Parkway in Queens, and the Belt Parkway in Brooklyn. There are significant geometric, safety and regulatory issues that would have to be addressed to allow access on any of these corridors.

c. Truck Routing and Engineering Improvements

Another major goal of this study was the reassessment of the City's truck route regulations and networks throughout the five Boroughs. A comparison of the locations of commercial and industrial development in relation to the designated truck routes indicated that, with minor adjustments, the existing Truck Route Network is capable of serving the truck access needs in the City of New York.

After completing an analysis of the City's Through and Local Truck Routes, three general categories of recommendations emerged: route changes in the Truck Route Network, nighttime Local Truck Route restrictions, as well as localized engineering, signage, and compliance improvements.

Route Changes

While the existing Truck Route Network provides reasonable access throughout the City, increases in truck traffic volumes, land use changes, and the changing economy of the City have put some pressures on the existing route system. As a result, DOT has already pursued and/or completed the following route changes:

- At Hunts Point in the Bronx, DOT removed Garrison Avenue and Hunts Point Avenue, streets in the residential core of the community, from the Truck Route System and rerouted these trucks onto wider, less residential streets that were added to the network. This has been successful in reducing accidents as well as moving truck traffic away from residential corridors.
- In Red Hook, Brooklyn, routing changes were implemented that improved access into the area and reduced truck traffic on residential streets.

Edwards and Kelcey recommends several additional routing changes citywide. Examples include:

- In East Williamsburg and Greenpoint, Brooklyn, DOT should consider additional truck routes in industrial areas to relieve the burden on residential streets. This includes portions of Varick and/or Morgan Avenues to improve north-south connectivity.
- In Maspeth, Queens, DOT should pursue implementing the Maspeth Bypass, a community driven initiative to remove trucks from a portion of Grand Avenue (the residential core of the Maspeth community) and route them onto more appropriate roadways.
- In Tottenville, Staten Island, in order to improve overall vehicle circulation, DOT should replace Main Street as a truck route with Craig Avenue or Carteret Street, which are located two and six blocks west of Main Street. While truck activity should be minimal, both alternate streets are 60 feet wide and thus better suited to accommodate trucks than Main Street.
- In Sunset Park, Brooklyn, DOT should consider providing additional access to the industrial areas, based on the transitional nature of the land uses on the adjacent

streets. One corridor to be considered for addition is a small segment of 44th Street, which is industrial and commercial in character.

- Legalize access for 53-foot long trailers with widths up to 102-inches on additional portions of the Interstate systems -- the I-95/Cross Bronx Expressway corridor and the I-678/Van Wyck/Whitestone Expressway -- with increased enforcement of 53-foot trailer travel on all other streets.
- Eliminate the discontinuities of designated truck routes as they cross from Borough to Borough. There are several streets where the street is initially signed as a Through Truck Route in one Borough but changes to a Local Truck Route when crossing into an adjacent Borough (e.g. Grand Avenue, Flushing Avenue and Greenpoint Avenue in Queens and Brooklyn, and the Queensboro Bridge between Queens and Manhattan). The City should adopt changes to the Truck Route Network to eliminate these problems.

Nighttime Local Truck Route Restrictions

DOT should prohibit trucks from using certain Local Truck Route streets between 10 PM and 6 AM. These streets are typically located in areas with parallel Local Truck Route streets that can accommodate additional anticipated truck activity or are along routes that are primarily residential in nature. Proposed segments include:

- Bronx: Morris Park Avenue between E. Tremont Avenue and Williamsbridge Road
- Brooklyn: segments along Church and Metropolitan Avenues and Empire Boulevard
- Manhattan: segments along 3rd, Lexington, Columbus, 6th, and 7th Avenues
- Queens: segments along Farmers, Parsons, and Ditmars Boulevards and Dunkirk and Main Streets
- Staten Island: segments along Woodrow, Clove, and Richmond Hill Roads, Castleton Avenue, Broadway, and Steuben Street.

Engineering, Signage, and Compliance Improvements

Intersections have been identified where 15 or more truck-related accidents occurred over a thirty-six month period and DOT should consider strategies to improve safety at these locations:

- Bronx: 5 intersections, all located along Bruckner Boulevard.
- Brooklyn: 4 intersections, including multiple intersections along Flatbush Avenue, Metropolitan Avenue, and Hamilton Avenue.
- Manhattan: 13 intersections, including 8 along Canal Street.
- Queens: 6 intersections, including 2 along Queens Boulevard.
- Staten Island: 1 intersection that met the criterion, Victory Boulevard and the West Service Road of the West Shore Expressway - Pearl Harbor Memorial Expressway.

The DOT's existing proactive approach to addressing high accident locations has already led to safety mitigation measures at a number of these intersections. However, additional strategies should be investigated at a number of these locations, beginning with the intersections at 138th Street and Bruckner Boulevard in the Bronx and 2nd Avenue and E. 128th Street in Manhattan.

Additional recommendations include:

- Off-peak adjustments to the signal timings on E. 138th Street in the Bronx
- Geometric improvements in the vicinity of Linden Place and 28th Avenue in Queens, which includes the New York Times Printing Plant gate, to eliminate the stop-controlled approach at 28th Avenue eastbound and consider a traffic signal with increased green time during the peak periods.
- Turning radius improvements on the southeast corner of the intersection of Clove Road and Castleton Avenue in Staten Island.
- Signal timing improvements at 2nd Avenue and 58th Street in Sunset Park, Brooklyn, allowing more green time for movement northbound on 2nd Avenue.
- Geometric improvements, signal timing modifications, the installation of stop controls, and the reconstruction of 4 intersections are recommended in Maspeth, Queens.
- Additional signage at E. 138th Street in the Bronx; E 138th Street is the only designated truck route between Bruckner Boulevard and Port Morris, yet there is currently no signage at key intersections. Signage is recommended at E.138th Street at Bruckner Boulevard, E. 138th Street at Locust Street, E. 132nd Street at Locust Street, and E. 132nd Street at Bruckner Boulevard.
- On Schenectady Avenue in Brooklyn, the placement of Local Truck Route signs at the intersections of Schenectady Avenue with Atlantic Avenue, Empire Boulevard, Linden Boulevard, and Church Avenue, improved signing at all approaches to the intersection of East New York Avenue, Empire Boulevard, Remsen Avenue and Utica Avenue, the placement of truck Wayfinding signage on Schenectady Avenue and negative truck signs at the intersection of Atlantic Avenue and Schenectady Avenue
- The installation of 14 new truck route designation signs along 2nd and 3rd Avenues in Sunset Park in Brooklyn.
- “Local Truck Route” signs and directional signs posted along Adam Clayton Powell Boulevard and 110th Avenue in Manhattan.

Technical Memorandum #2 includes the complete inventory of recommended improvements, broken down by Borough.

d. Signage Improvements

One of the most significant recommendations is an update of the City's Truck Route signage. Based on this recommendation, and pending approval by the NYSDOT and Federal Highway Administration, DOT should implement a comprehensive signage program that easily identifies designated truck routes, facilitates the safe and efficient movement of trucks, and minimizes illegal truck traffic. In addition, the signage program would help facilitate enforcement. This revised truck route signage program would feature new truck route identification signs, systematic placement of truck-related signs on truck routes, a revised system for negative sign placement, and improved height clearance, way finding, and directional signage to assist truck drivers. The overall intent is to provide truckers with a series of signs that have consistent messages and placement and will thereby increase their confidence and reliance on the information posted throughout the City.

Positive Signage

The new signage program should employ a single design which is clear in its meaning and intention and is consistent with MUTCD standards. This new sign features a green circle around a truck silhouette and would be placed uniformly along the streetscape at "decision points" for drivers and where truck routes intersect.

Negative Signage

Although the focus of the recommended signage program is to provide truck drivers with positive reinforcement to drivers, it is recommended that DOT revise its negative signage policy, as requests for negative signage were among the most frequently raised issue by community stakeholders. Under the revised policy, a greater emphasis would be placed on understanding the contributing factors that lead to illegal truck traffic on particular roadway segments, which are often in residential areas. Factors such as land use, residential development, roadway characteristics, volumes, and traffic circulation for the general area would be evaluated to determine suitability of a location for negative signage. Combining appropriately placed signage with increased enforcement activities at problem areas should decrease illegal truck traffic through residential areas.

Overheight Signage

Vertical restrictions – such as bridges and overpasses – exist on many of the City's truck Routes. Because overhead obstructions are a significant problem for trucks moving throughout the City, it is recommended that DOT improve signage associated with these obstructions and provide adequate advance notice to allow drivers to make intelligent bypass decisions. In addition, it should work to ensure that signage is posted on structures outside of the City and State jurisdictions such as subways and railroad conduits.

Gateway Signage

For some drivers, knowledge of the Truck Route System may be minimal. Given the regional nature of trucking in New York City, it is recommended the City install gateway signage at critical entry points to New York City, as well as at other high truck volume locations such as bridge crossings and the Interstates. This signage would call attention to the route system as well as the regulations governing truck movements to all drivers unfamiliar with the system.

Variable Message Signs

In order to minimize wayward or illegal truck traffic, while helping drivers bypass delays, it is recommended that DOT work with regional transportation partners to improve truck related information on Variable Message Signs. This would include real-time truck route advisories, routing restrictions or messages, and other information that will direct truck traffic through the region and allow drivers to make advanced decisions.

e. Improved Enforcement

NYPD Information and Training

As most truck route enforcement by the NYPD takes place at the precinct level, it is recommended that DOT and NYPD partner to provide truck route information to all officers as well as improve targeted enforcement efforts. The central component of this effort is a laminated placard that would be distributed to all officers, containing a precinct-level truck route map, an abbreviated list of truck route regulations and additional truck-related enforcement information. These placards could be inserted directly into the officer's summons book for easy reference and utilization.

A supplemental education program, developed jointly by DOT and NYPD, should be utilized by the NYPD at the precinct command level to further expand officer knowledge. It is envisioned that the Borough commander and Traffic Officers would disseminate the material to all precincts and officers. The specific content of this training module would include the following:

- a. Truck Route Network Facts and Maps
- b. History
- c. Definitions and Regulations
- d. Signage
- e. Details on Issuing Violations
- f. New Policies

Additional resources to be used by the NYPD include poster-sized and pocket-sized maps.

Improved Accountability and Summons Tracking

Given that the bulk of truck route enforcement is conducted by local precincts, it is also recommended that these enforcement efforts become a part of the quality of life initiatives that are monitored as part of NYPD's TrafficStat program. Analysis of truck related accidents should also play a part in this effort. This measure would improve the accountability of each precinct to maintain enforcement efforts, as well as provide for improved tracking of problem areas. These efforts could assist in development of additional management techniques such as future route designation and/or the posting of improved signage.

More specifically the following set of items should be undertaken:

- 1. Set up procedures for logging public complaints.** In terms of agency responsiveness, it is recommended that DOT and NYPD effectively share the information relating to complaints and enforcement. The compilation and tracking of truck complaints and problem locations into a universal database will allow both agencies to maximize their resources and develop appropriate mitigation programs. This information should also be mapped through GIS programs
- 2. Set up a procedure for deploying police officers at high-complaint locations.** It is recommended that DOT work with the NYPD to review high complaint areas. Locations for enforcement should be generated from agency experience and the 311 complaint log.
- 3. Monitor Summonses.** It is recommended that the relevant agencies develop a program to monitor the disposition of summonses issues to truck operators for various violations.

DOT should also work closely with the NYPD to encourage best practices for enforcement. Different precincts have used different strategies from dissemination of materials to truckers to strategies to minimize illegal commercial parking that could be expanded to other areas of the city.

Administrative Law Judges

A disproportionate number of truck route summonses are dismissed once they reach the Administrative Law Court. While the reasons are varied, at times there is a lack of clarity and understanding between the NYPD and Administrative Law Judges (ALJs) regarding what determines if a summons is upheld. The regulations and criteria for issuing a summons must be clearly communicated to ALJs in order to limit the flexibility during adjudication and increase the percentage of summonses that are upheld. Edwards and Kelcey recommends specific steps to ensure consistency in ALJ rulings:

- Development of a Truck Route Manual detailing all relevant city, state and federal guidelines governing the movement of trucks in New York City. This manual would include explanations of signage, enforcement policies, rules and regulations;
- Regular communication with NYPD and DOT personnel regarding outstanding trends and issues; and
- An improved summons tracking program and court monitoring program.

f. Improved Education and Outreach

One of the most challenging aspects of the current Truck Route system is the inadequacy of the existing materials to meet the needs of the system users and impacted communities. Available routing information is difficult to access or understand. Access to the regulations and rules governing truck traffic and commercial vehicles is scattered on various websites and varies depending upon transportation agencies. While the City's 311 system has addressed some of the inadequacies of the information system, there are more resources and information that the Department of Transportation and other entities could provide to the stakeholders – the general public, the business and industrial sectors, truck drivers, and the public agencies involved in goods movement and its regulation.

Revised Citywide Truck Route Map

The City previously posted five individual Borough Truck Route Maps on its website. It is recommended that the City produce a single Truck Route Map that provides the detailed street network and routes in all five Boroughs. In addition, information pertaining to the rules and regulations governing trucks and commercial vehicles should be included, as well as resources for additional information. It is recommended that the map be made available online and in hard copy, distributed to all relevant stakeholders and trucker associations in the region, and updated on a regular basis, as well as distributed through requests from the 311 hotline.

Web Resources

It is recommended that DOT develop a “one-stop shop” online for all commercial vehicle and truck information pertaining to New York City. This website portal should serve as a comprehensive resource for all stakeholders to obtain information on the Truck Route System, along with digital resources such as maps, rules and regulations and traffic information.

311

It is recommended that DOT improve the way truck route and related information is provided, truck route complaints are processed and information is received and acted upon by the agencies. By organizing and streamlining the Truck Route content, 311 representatives will be better able to find information on Truck Routes, such as rules and regulations and other related topics and wither respond to caller’s question or direct the caller to the appropriate government entity. These activities will also allow the NYPD and DOT to effectively share information on Truck Route complaints and maximize their resources.

Improved Coordination with Map Companies

While signage is the primary tool for providing routing information, many drivers use mapping resources such as Hagstrom maps, online mapping programs and other print-based maps. However, these sources often lack the level of detail needed to effectively understand the Truck Route system and existing regulations in New York City. Accordingly, it is recommended that DOT continue to work with Hagstrom and other map makers so their resources contain information relating to trucks. Long term, it is recommended that DOT also work to develop an online mapping application.

As part of the overall emphasis on safety, DOT should expand its educational efforts to advise motorists and pedestrians regarding safety issues associated with the operation of trucks on city streets. The *Safety City Program* should expand its curriculum and truck issues should play a greater role in the program.

Additional Outreach

It is recommended that DOT work with external partners such as Business Improvement Districts, Local Development Corporations, Motor Truck Associations, industry associations, and community newspapers to expand the City’s ongoing outreach through the distribution of maps and truck route information. DOT should also pursue increased dialogue and interaction with these groups to understand the distinct needs of individual users. The primary resource for this

effort would be the Office of Freight Mobility. The Office should also coordinate workshops for both truckers and the public and disseminate regular e-letters and newsletters.