

# DSNY Feasibility Study of Routing Alternatives For Commercial Waste Trucks

Community Review Meeting of  
Potential Improvement Measures

**November 13<sup>th</sup>, 2007**



*DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks*



# Agenda

- **Welcome and Introductions**
- **Progress to Date**
- **Objectives of the Study and Meeting**
- **Review Existing Conditions**
- **Potential Improvement Measures for Consideration**
- **Open Discussion**



## Introductions – Study Team

- **NYC Department of Sanitation (DSNY)**
- **NYC Department of Transportation (DOT)**
- **Urbitrans Associates, Inc.**



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***



## Progress To Date

- **DSNY Comprehensive Solid Waste Management Plan (SWMP)**
- **New DSNY Transfer Station Operating Rules**
- **New DSNY Transfer Station Siting Rules**
- **NYC DOT Truck Route Management & Community Impact Reduction Study**
- **Federal regulations for ultra-low sulfur diesel fuel and clean diesel technologies**
- **DSNY Feasibility Study of Routing Alternatives for Commercial Waste Trucks**



## Objectives

### **DSNY Truck Study Objective**

**Investigate alternative routing of commercial waste transfer stations trucks to reduce impacts.**

### **Meeting Objective**

**Obtain feedback from community members regarding potential improvement measures.**



## Study Areas

- **Brooklyn CD 1**
  - East Williamsburg/Bushwick/Greenpoint
  - 14 transfer station facilities with 15 permits for Putrescible (PSW), Non-Putrescible (NPSW) and Clean Fill Material solid waste
- **Bronx CD 1 – Port Morris**
- **Bronx CD 2 – Hunts Point Peninsula**
- **Queens CD 12 – Jamaica**



# Existing Conditions Brooklyn CD 1

## Waste Transfer Stations



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***



# Existing Conditions

## Brooklyn Community District 1

- **Highest concentration of Waste Transfer Station facilities in the City**
- **Waste Transfer Stations primarily located within two areas**
  - Northern Concentration: BQE / Meeker Ave (7 facilities)
  - Southern Concentration: Metropolitan Ave / Scholes St / Varick Ave (7 facilities)
- **Waste Transfer Stations generate trucks along access routes to/from waste facilities**





# Types of Waste Transfer Station Trucks

## Container “Roll-Off” Truck



**Packer Truck**



**“Long Haul” Export Truck**

# Truck Routes: Local and Through

## Local Truck Routes

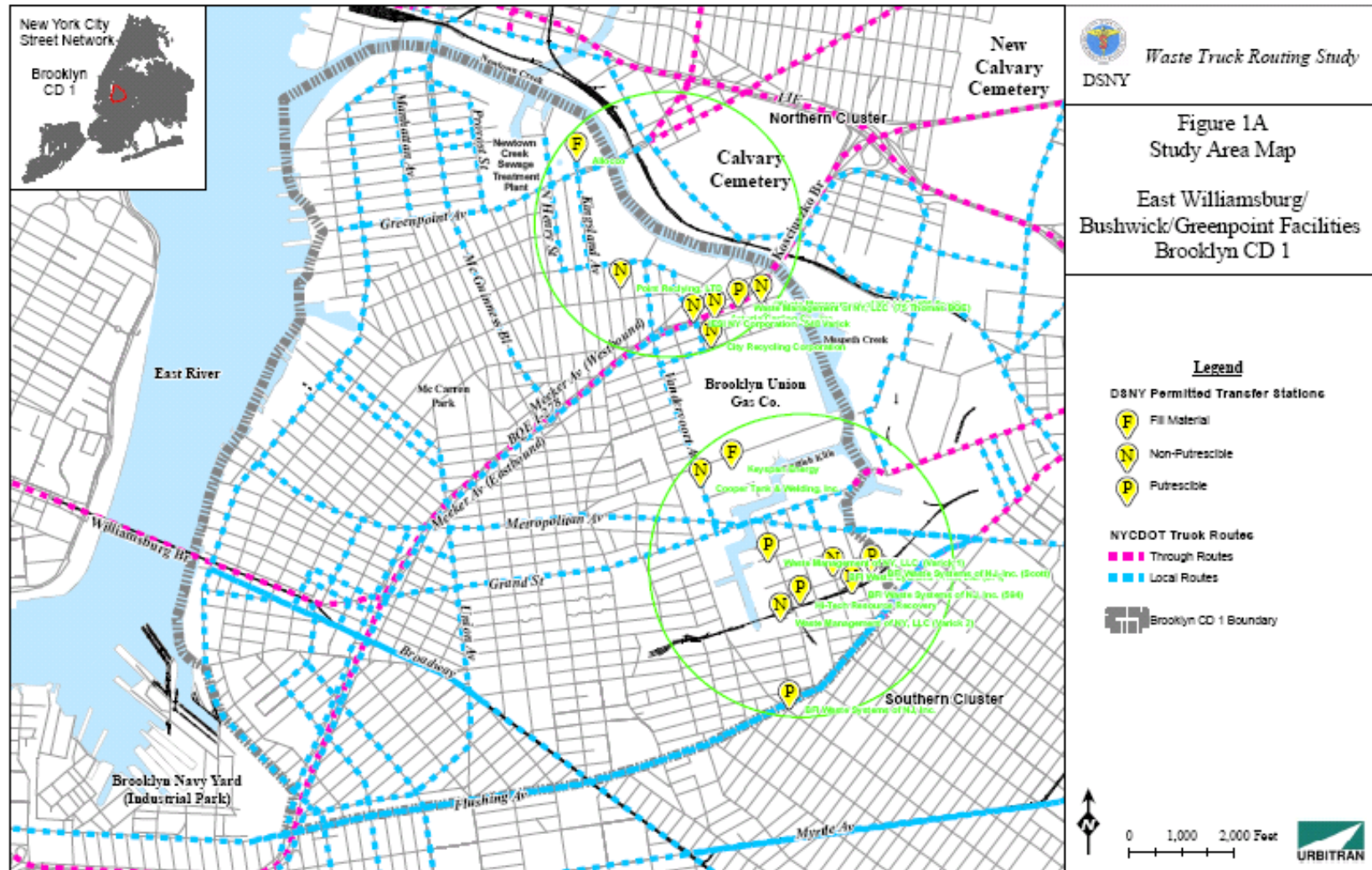
- Designated for trucks with an origin or destination for the purpose of delivery, loading or servicing within a borough
- Trucks may not use Local Truck Routes between boroughs (i.e. must use a Through Truck Route)
- Local Truck Routes in Brooklyn CD 1 include Metropolitan Avenue, Grand Street, Meeker Avenue, Broadway, Flushing Avenue, Union Avenue and Vandervoort Avenue

## Through Truck Routes

- Major urban arterials/highways
- Must be used by trucks that have neither an origin or destination within the borough
- Designated Through Truck Routes in Brooklyn CD 1 include the Brooklyn-Queens Expressway (BQE) and the Williamsburg Bridge



## Waste Transfer Facilities – Brooklyn CD 1



## DSNY Feasibility Study of Routing Alternatives For Commercial Waste Trucks



# Major Transportation Routes for Waste Trucks

- **BQE/I-278**

- Major divided expressway serving this area of Brooklyn
- Limited access highway
- Provides regional connections within NYC and to Long Island and New Jersey

- **Meeker Avenue**

- Divided east/west-bound service roads along either side of the BQE
- Each side contains two travel lanes and select parallel parking on the right-hand curb side



# Major Transportation Routes for Waste Trucks

- **Metropolitan Avenue and Grand Street**

Both roadways:

- Two-way east/west roadways with one travel lane in each direction
- On-street parallel parking on both sides of the street
- Provide connections through north Brooklyn and Queens
- Roadways developed with sensitive receptors (residences, public schools)

- **Vandervoort Avenue**

- Two-way, north/south roadway with two travel lanes in each direction
- On-street parallel parking on both sides of the street
- Extends between Grand Avenue to the south past Metropolitan Avenue to Meeker Avenue to the north (roadway continues north of Meeker Avenue as Apollo Street)





## Observed Waste Truck Routing Patterns

- **Origin-Destination (O-D) Survey was performed in July 2007 for 18 hour period (6:00 a.m. to midnight)**
- **Waste trucks (including dump trucks) were followed inbound from the BQE and Waste Transfer Stations**
- **Waste trucks were followed outbound from Waste Transfer Stations to the BQE, district borders or until truck stopped**
- **65 waste trucks (32 inbound, 33 outbound) were followed**
- **28 trucks (43%) were observed using some portion of Metropolitan Avenue and/or Grand Street (both inbound and outbound)**
- **Most waste trucks travel along designated local truck routes to/from the BQE**
- **A few waste trucks were noted to travel along other routes**



## Inbound Waste Truck Routes– O-D Survey



**Only primary routing patterns are shown. Therefore, percentages do not total 100%**

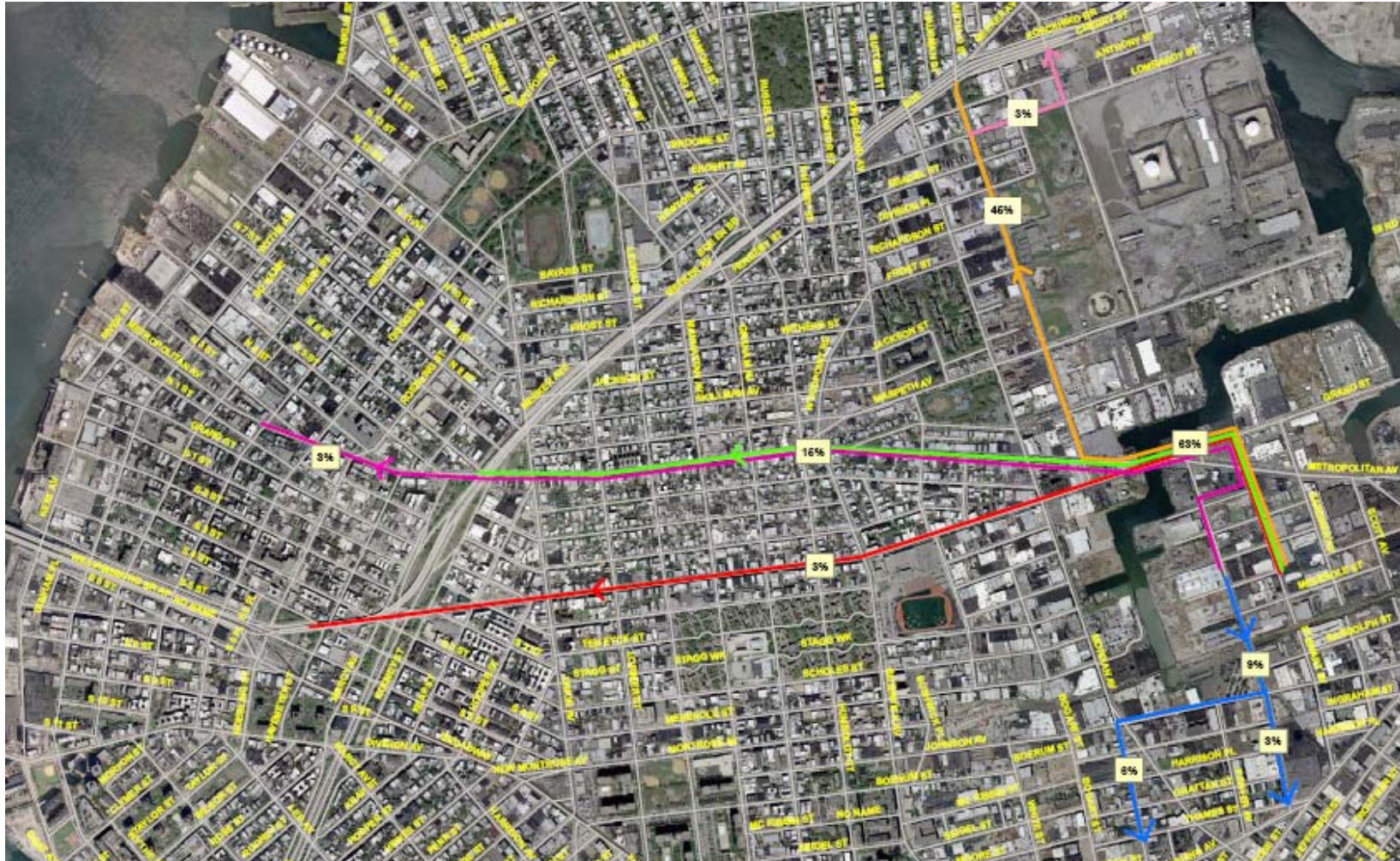


## ***DSNY Feasibility Study of Routing Alternatives For Commercial Waste Trucks***





## Outbound Waste Truck Routes– O-D Survey



Only primary routing patterns are shown. Therefore, percentages do not total 100%



## *DSNY Feasibility Study of Routing Alternatives For Commercial Waste Trucks*





## Waste Truck Percentage of Total Trucks along these Routes

- **Counts performed to determine the number of waste trucks (Packer, “Roll-Off” and “Long Haul” waste trucks)**
- **Conducted in August 2007 during:**
  - Weekday mornings between 7:00-9:00 a.m.
  - Weekday midday between 12:00-2:00 p.m.
  - Weekday evenings between 4:00-6:00 p.m.



## Waste Truck Percentage of Total Trucks along these Routes

<u>Route</u>	<u>AM</u> 7:00 - 9:00 a.m.				<u>MD</u> 12:00 - 2:00 p.m.				<u>PM</u> 4:00 - 6:00 p.m.			
	# of waste trucks	# of total trucks	% of waste trucks vs total trucks	% of waste trucks vs total vehicle	# of waste trucks	# of total trucks	% of waste trucks vs total trucks	% of waste trucks vs total vehicle	# of waste trucks	# of total trucks	% of waste trucks vs total trucks	% of waste trucks vs total vehicle
<b>Metro Ave.</b>	<b>123</b>	<b>394</b>	<b>31%</b>	<b>8%</b>	<b>111</b>	<b>348</b>	<b>32%</b>	<b>7%</b>	<b>73</b>	<b>293</b>	<b>25%</b>	<b>3%</b>
<b>Grand St.</b>	<b>32</b>	<b>245</b>	<b>13%</b>	<b>2%</b>	<b>21</b>	<b>236</b>	<b>9%</b>	<b>2%</b>	<b>6</b>	<b>121</b>	<b>5%</b>	<b>1%</b>
<b>Vand. Ave</b>	<b>133</b>	<b>520</b>	<b>26%</b>	<b>8%</b>	<b>145</b>	<b>520</b>	<b>28%</b>	<b>9%</b>	<b>96</b>	<b>274</b>	<b>35%</b>	<b>6%</b>
<b>Meek. Ave.</b>	<b>163</b>	<b>590</b>	<b>28%</b>	<b>7%</b>	<b>129</b>	<b>513</b>	<b>25%</b>	<b>5%</b>	<b>64</b>	<b>240</b>	<b>27%</b>	<b>2%</b>

**Notes:** Waste trucks include Packer, Roll-Off and Long Haul trucks  
Total vehicles includes cars, buses and all truck types



# Potential Improvement Measures for Consideration



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***



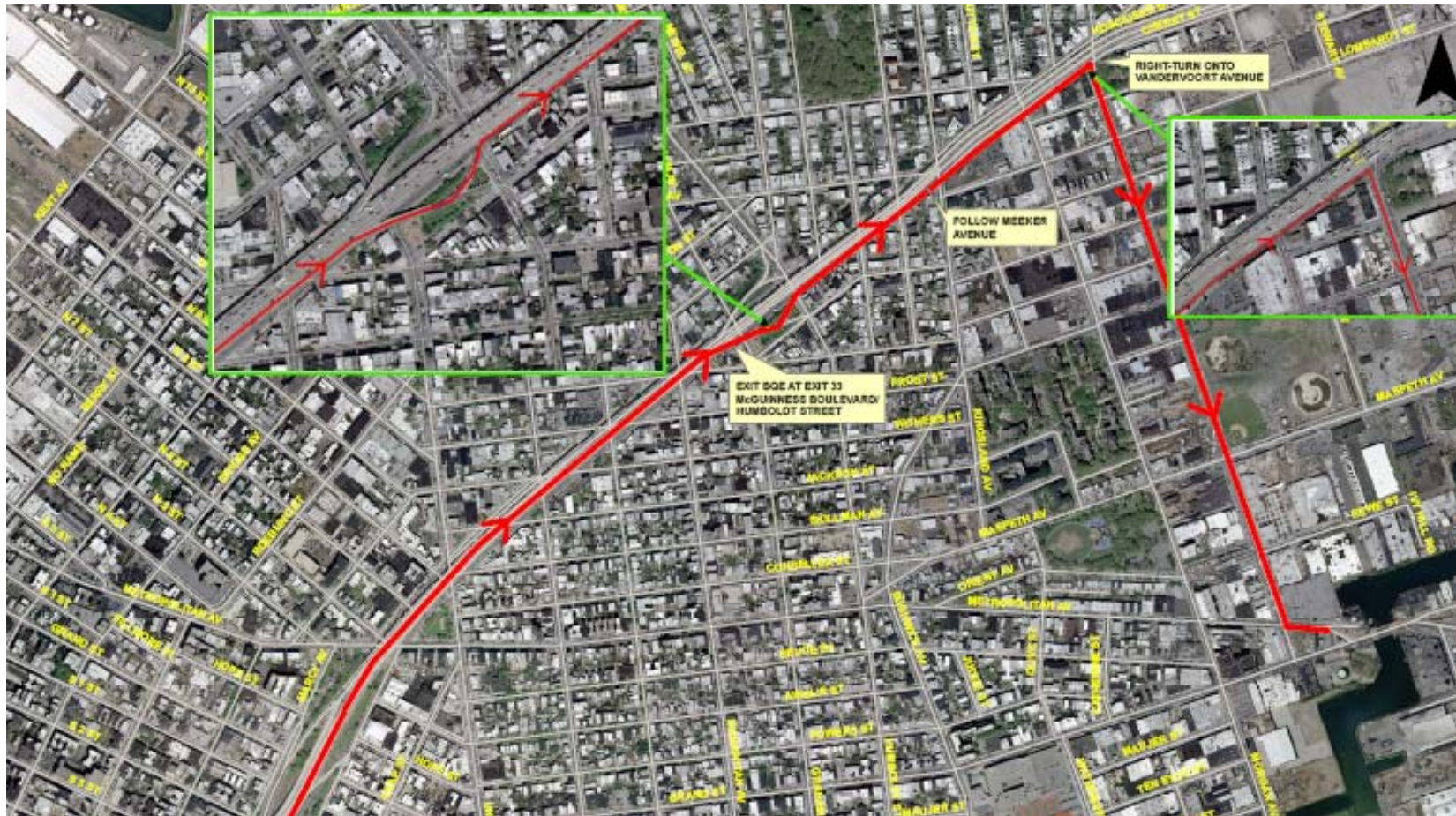
## Potential Routes for Waste Trucks

- Alleviate burdening of key corridors
- Direct waste trucks away from sensitive receptors along Metropolitan Avenue and Grand Street
- Redirect waste truck travel to/from the BQE and the Williamsburg Bridge via Meeker and Vandervoort Avenues





## Potential Waste Truck Routes– Inbound from BQE





## Potential Waste Truck Routes– Inbound from Williamsburg Bridge





## Potential Waste Truck Routes– Outbound to BQE



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***





## Potential Waste Truck Routes– Outbound to Williamsburg Bridge



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***





## Routing Redistribution of Waste Trucks

- Redistribution would **reduce overall truck traffic along Metropolitan Avenue and Grand Street**
- Conversely, rerouting of waste trucks would **increase truck traffic traveling along Vandervoort Avenue and Meeker Avenue**



# Routing Redistribution of Waste Trucks

- **Vandervoort Avenue**

- Two travel lanes in each direction
- Already designated as a Local Truck Route
- Primarily developed with industrial uses

Suitable transportation route for the redistribution of waste trucks

- **Meeker Avenue**

- Two travel lanes in each direction
- Serves as a service road for the BQE accommodating a significant volume of truck traffic

Suitable transportation route for the redistribution of waste trucks



## Potential Improvement Measures

### **Potential Waste Truck “Trailblazing” Signs**



- Trailblazing (i.e. Wayfinding) signage placed to/from the Waste Transfer Stations and Through Truck Routes (i.e., BQE and the Williamsburg Bridge)
- Waste truck route signs could be situated in addition to NYC DOT's new truck route signs
- Waste truck trailblazing signs would require City and State DOT review and approval



## Potential Improvement Measures

# **Traffic Intersection Geometries**

**Circulation routes require waste trucks to make three critical turning movements:**

- 1. Left-turn from eastbound South 5<sup>th</sup> Street onto northbound Rodney Street
- 2. Right-turn from eastbound Meeker Avenue onto southbound Vandervoort Avenue
- 3. Left-turn from northbound Vandervoort Avenue onto westbound Meeker Avenue



## Truck Turning Path – South 5<sup>th</sup> and Rodney Streets



- Large waste trucks (55-feet long) making an EB left-turn from South 5<sup>th</sup> Street onto NB Rodney Avenue clear the northwest corner of the intersection



## Truck Turning Path – Meeker and Vandervoort Avenues (Right-Hand Turn)



- EB right-turns from Meeker Avenue onto SB Vandervoort Avenue clear the southwest corner of this intersection
- Feasibility of movement was verified in the field
- Turn requires slow speed maneuvering

- Turn does not interfere with vehicles queued on the NB approach
- Right-turn movement initiated after curb on the south side of this roadway due to lane alignment on Meeker Avenue



## Truck Turning Path – Meeker and Vandervoort Avenues (Left-Hand Turn)



- Most tractor-trailer trucks making a NB left-turn from Vandervoort Avenue onto WB Meeker Avenue (traveling underneath the elevated BQE) clears the southwest corner of this intersection.
- Some of the largest tractor-trailers may over-track the curb on the southwest corner
- Turn requires slow speed maneuvering
- Interference sometimes occurs between vehicles queued on the SB approach to the Vandervoort Avenue/Meeker Avenue (EB service road) intersection with large trucks

## Potential Improvement Measures

### **Meeker and Vandervoort Avenues Improvements:**

- **Enforce existing parking prohibitions along the north side of Meeker Avenue (west of Vandervoort Avenue) to eliminate potential conflicts between parked vehicles and truck turns**
- **Consider enlarging the curb return radius on the southwest corner of the intersection (westbound), to eliminate the potential for truck over-tracking**
- **Consider installing standard NYCDOT “Don’t Block The Box” signs and striping at the intersection**
- **Review signal timings for vehicles traveling SB along Vandervoort Avenue (a.k.a. Apollo Street) through the intersection with westbound Meeker Avenue**
  - **Allow enough time for vehicles to clear the space underneath the elevated expressway, to prevent queuing of vehicles underneath expressway**





# Open Discussion



***DSNY Feasibility Study of Routing Alternatives  
For Commercial Waste Trucks***

