

ALL TRAFFIC MUST TURN RIGHT  
AT NEXT INTERSECTION EXCEPT  
MTA BUSES & LOCAL DELIVERIES

# FLUSHING TRAFFIC MANAGEMENT

Prioritizing Buses & Local Deliveries on Main Street

5/31/2018



1. Downtown Flushing and the Importance of Buses
2. Project Background and Implementation
3. Post-Implementation Conditions & Analysis
4. Conclusion & Potential Improvements

---

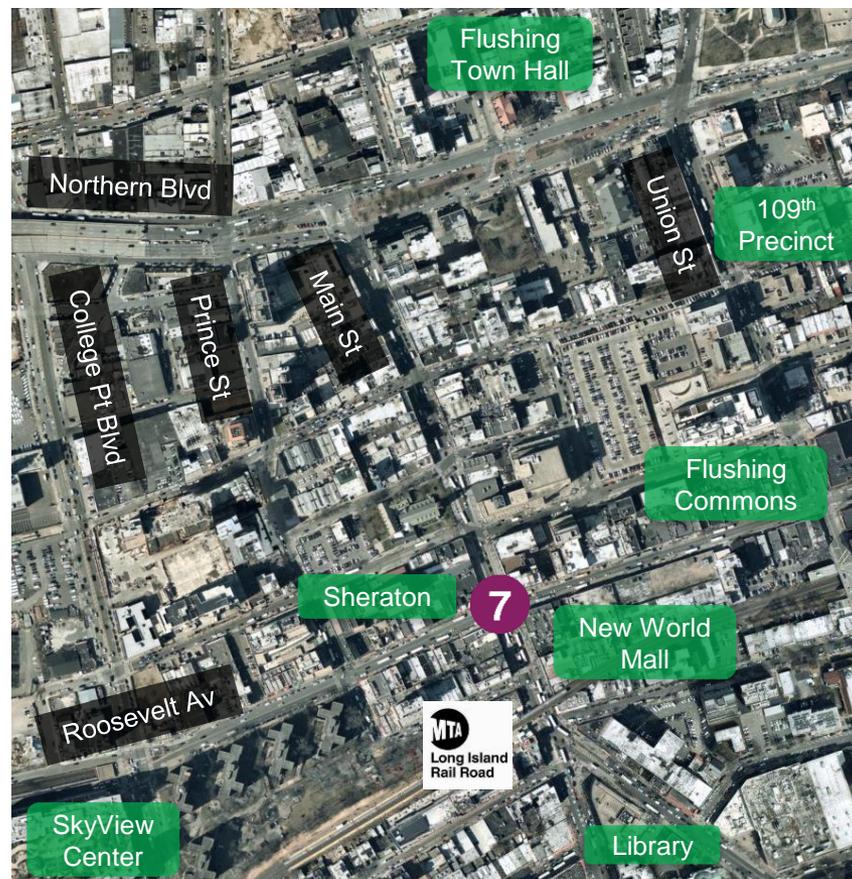
# Downtown Flushing and the Importance of Buses



# PROJECT AREA CONTEXT

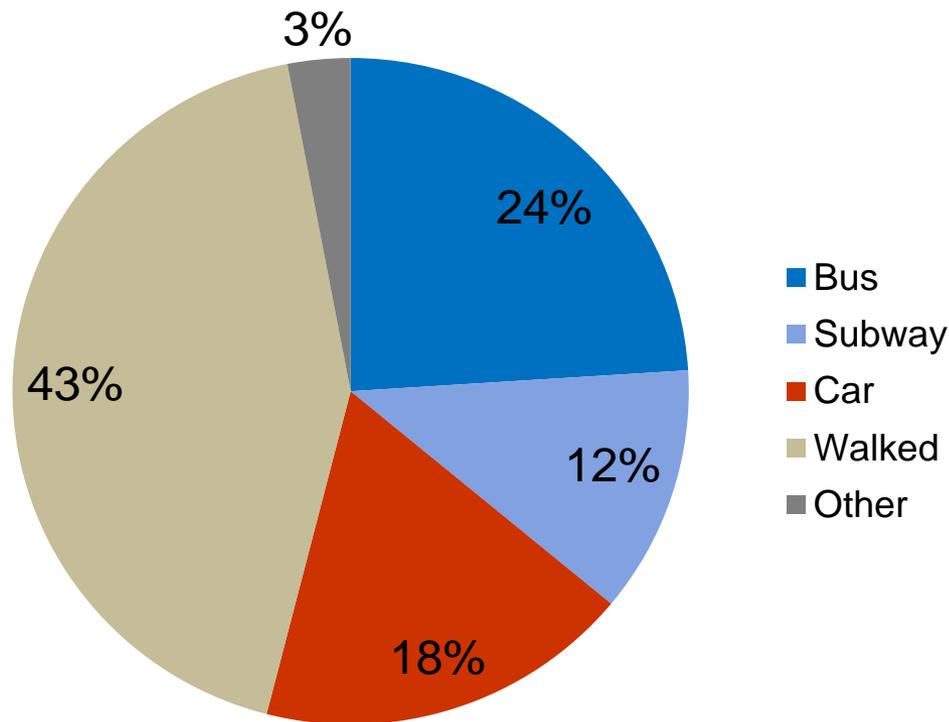
## Downtown Flushing

- ~69,000 people live in greater downtown area
- Dense commercial and residential development with strong transit connections
- 3<sup>rd</sup> highest pedestrian volume recorded anywhere in the city (at Main St & Roosevelt Av)



# FLUSHING SHOPPERS SURVEY

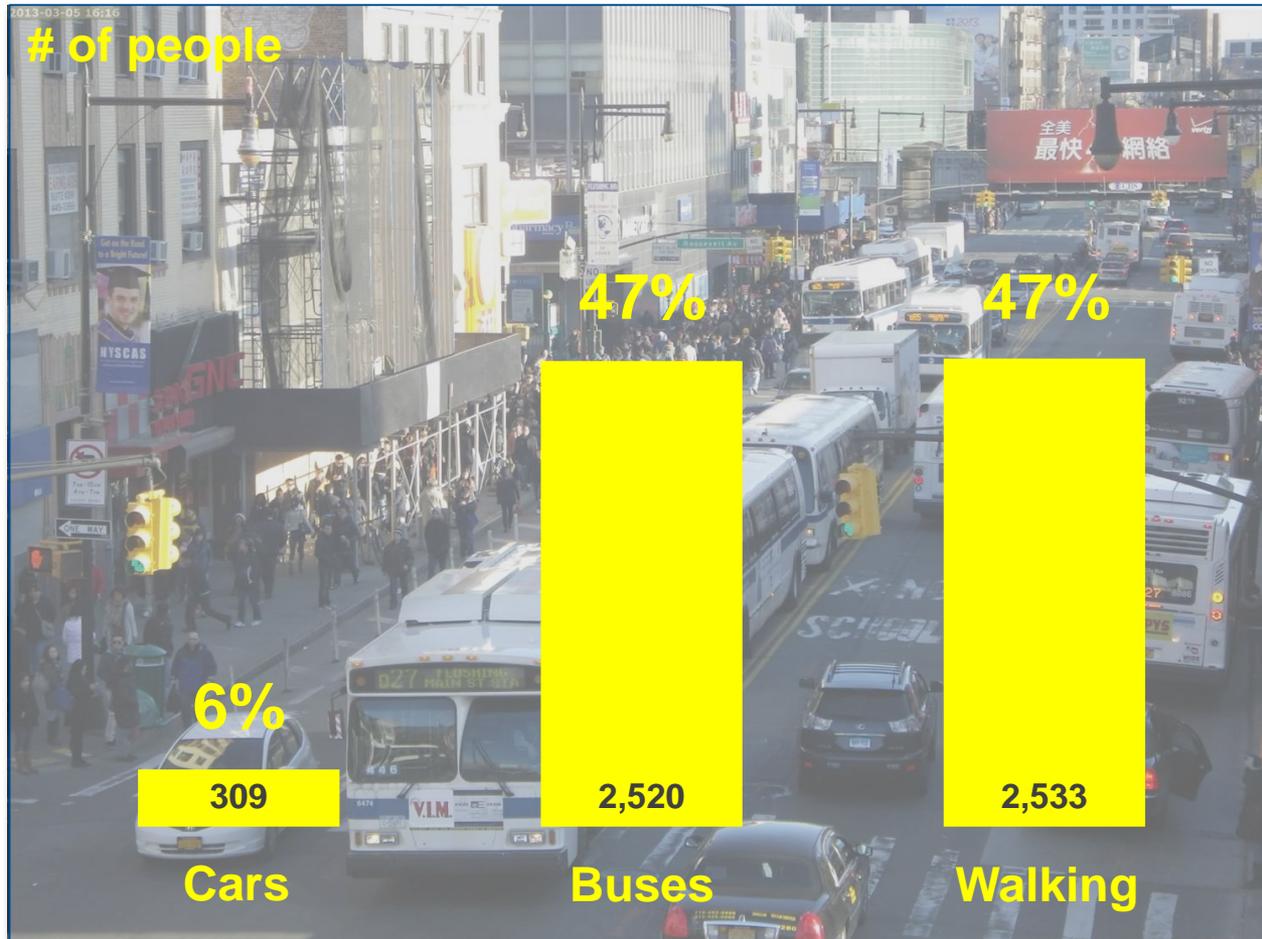
## How did you get to Downtown Flushing?



- Survey conducted in 2014
- 79% of shoppers use transit or walk
- Less than 1 in 5 drive
- Only 27% of drivers park on Main Street
  - 60% parked in a garage or a lot

2,876 people surveyed

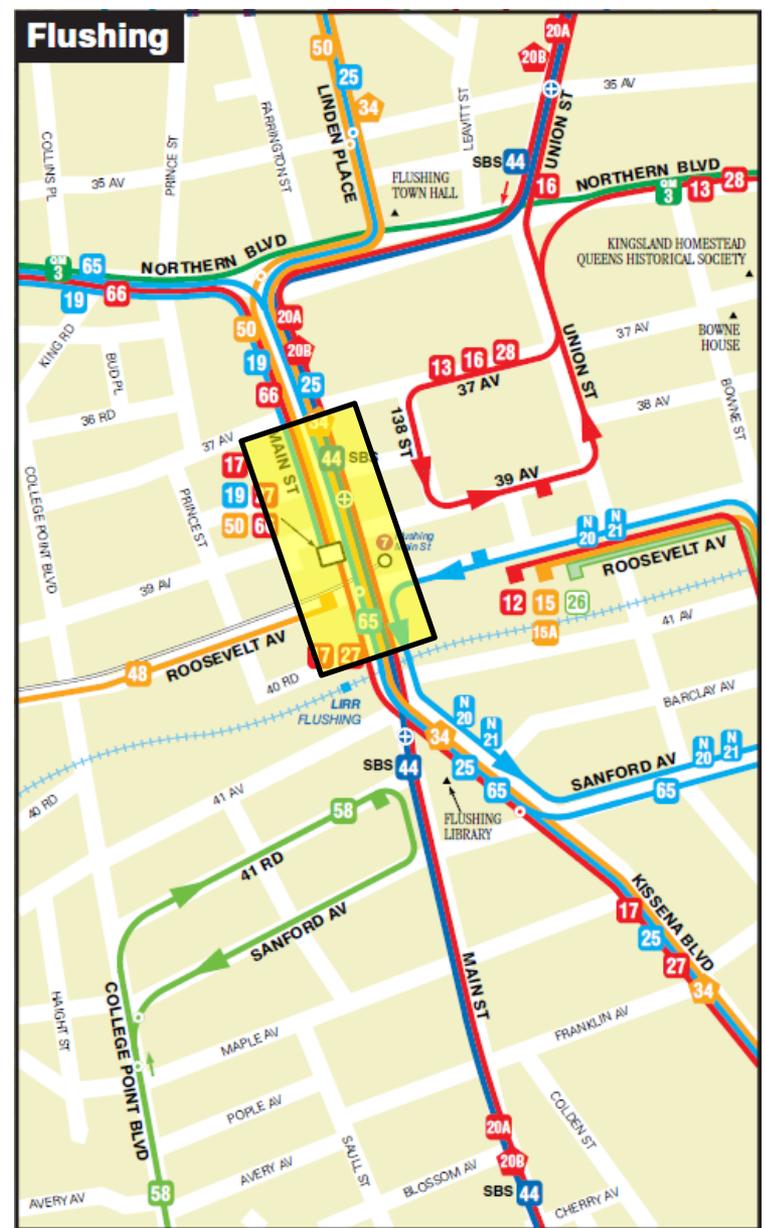
# MAIN ST MODE SPLIT



**PM Southbound screen-line on Main St @ Roosevelt Av  
(pre-Southbound Bus & Truck Only implementation)**

# BUS ROUTES THROUGH DOWNTOWN FLUSHING

- Nearly 200,000 daily bus passengers on the 19 MTA bus routes that use this stretch of southbound Main Street.
- More than 35,000 bus to subway transfers from 19 MTA bus routes to 7 train – largest volume of bus to subway transfers of any station in the city
- 250 buses passing through Main St & Roosevelt Av intersection in the peak hour (8-9 AM), with 80-90 going southbound on Main St



Map of MTA Bus Routes

# IMPORTANCE TO BUS NETWORK



- 21 different bus routes from 3 counties use this portion of Main Street
  - 17 Queens Routes
  - 2 Bronx Routes
  - 2 Nassau County Routes
- Delays in DT Flushing impact reliability throughout Queens & beyond

# BUS STOPS IN DOWNTOWN FLUSHING

## Daily Boardings



- At 41 stops in the DT area, more than 62,000 daily boardings. ~1,500 boardings per stop.
- The stop above (Kissena Blvd at Main St SB) alone has nearly 10,000 daily boardings, more than the majority of subway stations

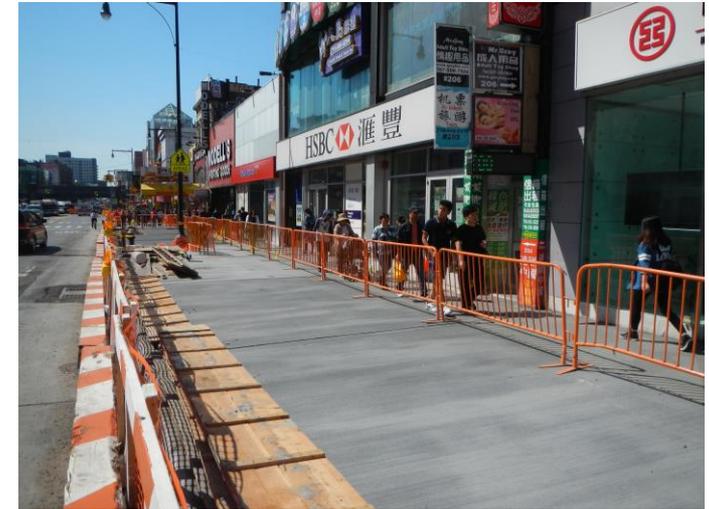
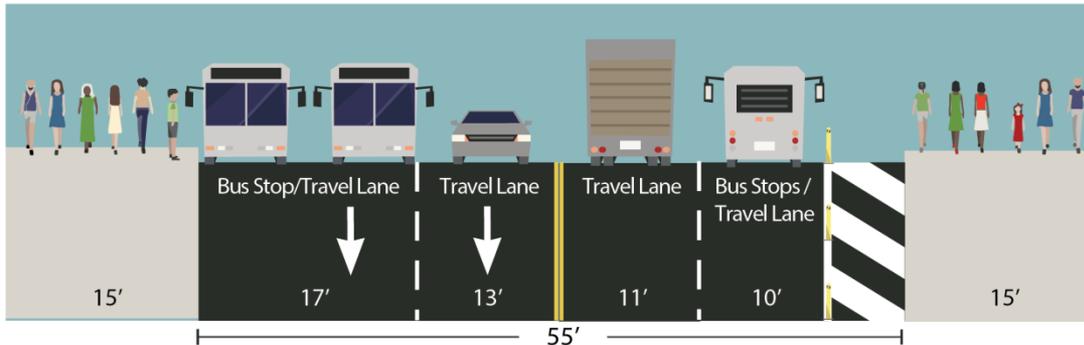
---

# Project Background and Implementation

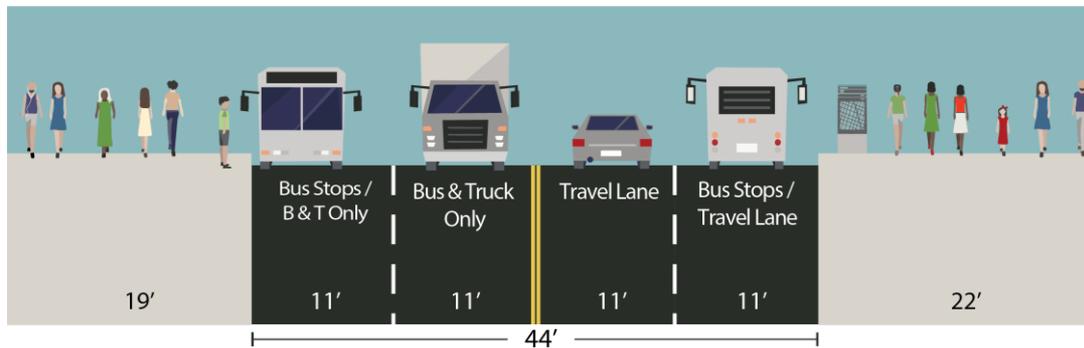
# 2

# A NEW MAIN ST CROSS SECTION

Main St- Pre-Sidewalk Widening (Facing North)



Main St- Now



- Expanded crosswalks to reduce pedestrian crowding and improve safety
- Uniform street cross-section, with more consistent markings

# CONSTRUCTION TIMELINE

#	Stage	Date
1	Installation of Bus Lane Markings, Fare Machines	10/2015
2	Q44 Select Bus Service Launch	11/29/2015
3	Start of Utility Work (Night-time Only)	7/25/2016
4	Conversion of 39th Avenue to Two-way	11/3/2016
5	Start of Southbound Bus & Truck Only (SBTO)	3/7/2017
6	Bus Stops Moved Out of Construction Zone	4/14/2017
7	Start of Capital Construction (Day-time Staging)	5/1/2017
8	End of Capital Construction	11/9/2017
9	Bus Stops Moved Back to Original Locations	11/30/2017

Pre-Implementation  
Count Data Collection  
(6/2014)

Pre-Implementation  
Bus & General Traffic  
Speed Data (1/2017)

Post-Implementation  
Count Data Collection  
(6/2017)

Post-Implementation  
Bus & General Traffic  
Speed Data (1/2018)



# OUTREACH TIMELINE

---

#	Meeting	Date
1	Council Member Koo Meeting (DOT only)	6/17/2016
2	Council Member Koo Meeting (DOT + MTA)	6/30/2016
3	State Senator Stavisky Meeting (DOT only)	7/7/2016
4	CB7 Meeting (DDC + DOT)	7/13/2016
5	Council Member Koo Meeting (DDC + DOT)	7/13/2016
6	CB 7 Meeting with NYPD, FDNY (DOT only)	7/29/2016
7	Business Roundtable at Chamber of Commerce with BID + Merchants + CM Koo (DOT only)	7/29/2016
8	Business Forum at Sheraton with Merchants + Press (DDC + DOT)	10/18/2016
9	Northern Blvd and Prince St Safety Field Meeting with CM Koo, CB7 (DDC + DOT)	12/19/2016
10	NYPD Enforcement Strategy Meeting (DOT Only)	3/20/2017
11	Flushing Walk-Through w DOT Commissioner & Council Member Koo	9/14/2017

- More than 11 meetings over a 15 month period
- 6 months of data collection and analysis since end of construction

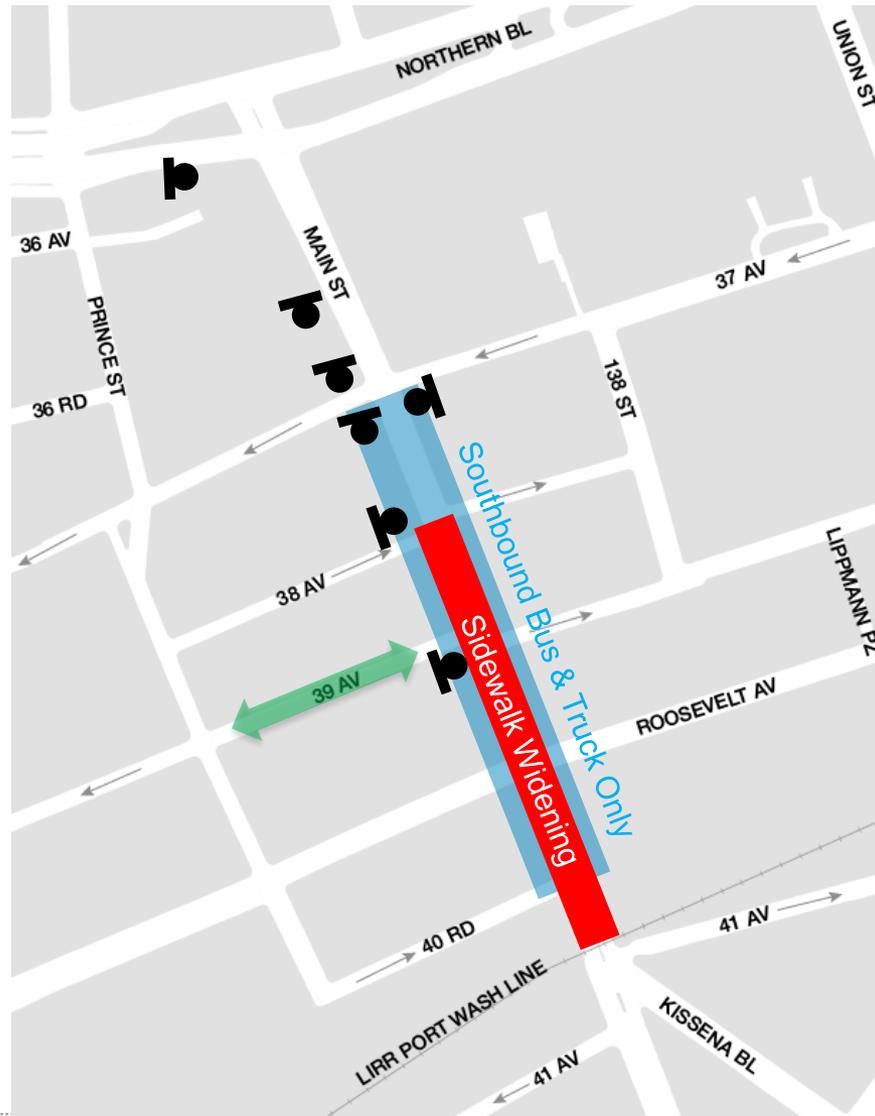
# KEEPING BUSES MOVING DURING CONSTRUCTION



- Maintenance & Protection of Traffic Plan
- Traffic Enforcement Agents
- VMS Signs
- Southbound bus & truck only (SBTO)



# SBTO WORK COMPLETED



# SBTO OPERATIONS

Main St b/w 37<sup>th</sup> Av & 40<sup>th</sup> Rd



- Regular & gantry-style signs
- Enforcement by NYPD & 109<sup>th</sup> Precinct

# 39<sup>TH</sup> AVENUE TWO-WAY CONVERSION

## Between Main Street and Prince St

- Requested by CB7 & Sheraton before start of construction
- Converted on 11/3/2016
- Provides access to Sheraton & parking from Prince St
- Since SBTO was implemented, eastbound volume has roughly equaled westbound volume
  - EB: 76 AM / 76 PM
  - WB: 70 AM / 71 PM



---

# Post-Implementation Conditions & Analysis

# 3

# DATA COLLECTION METHODOLOGY



## Green Taxi GPS

- Taxi ping/ breadcrumb data



## MTA Bus Time

- Bus ping/ breadcrumb data

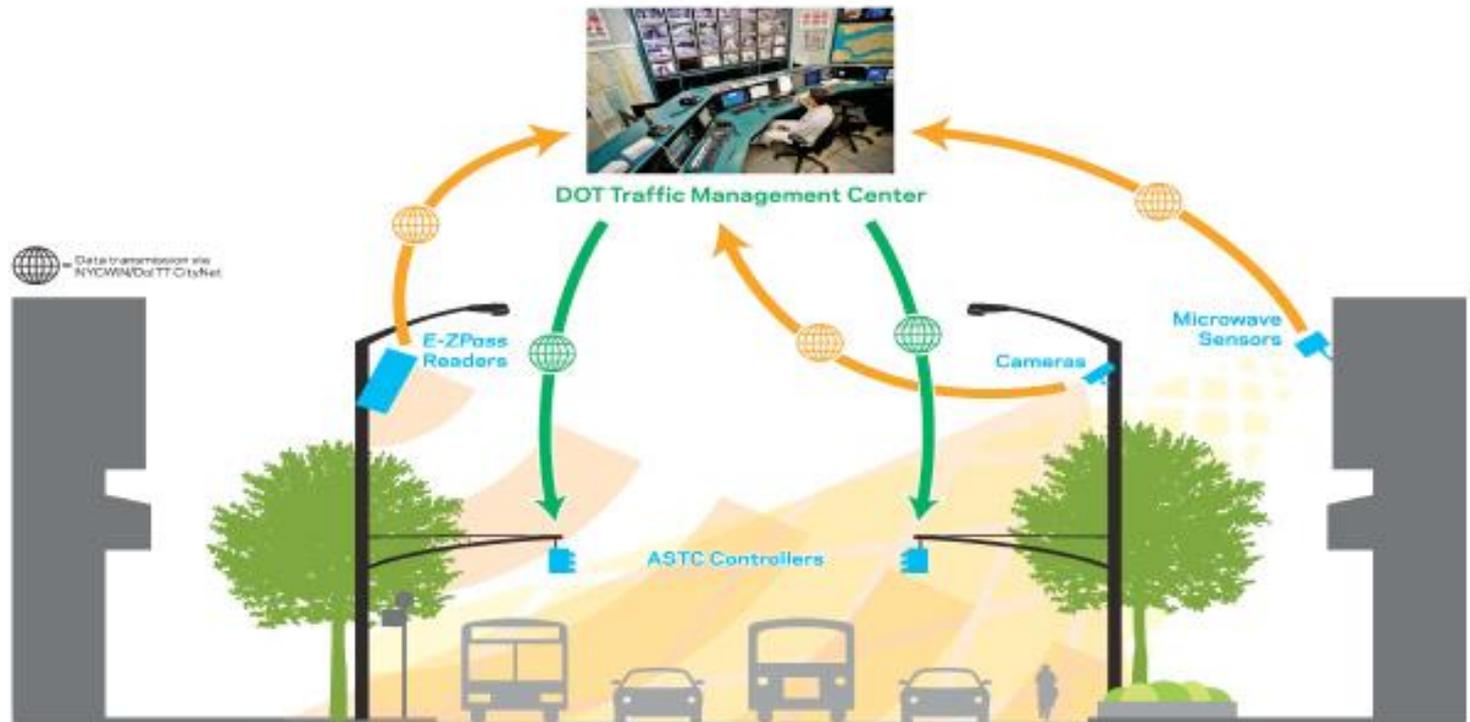


## Traffic Counts

- Manually collected traffic volumes

# DATA COLLECTION METHODOLOGY

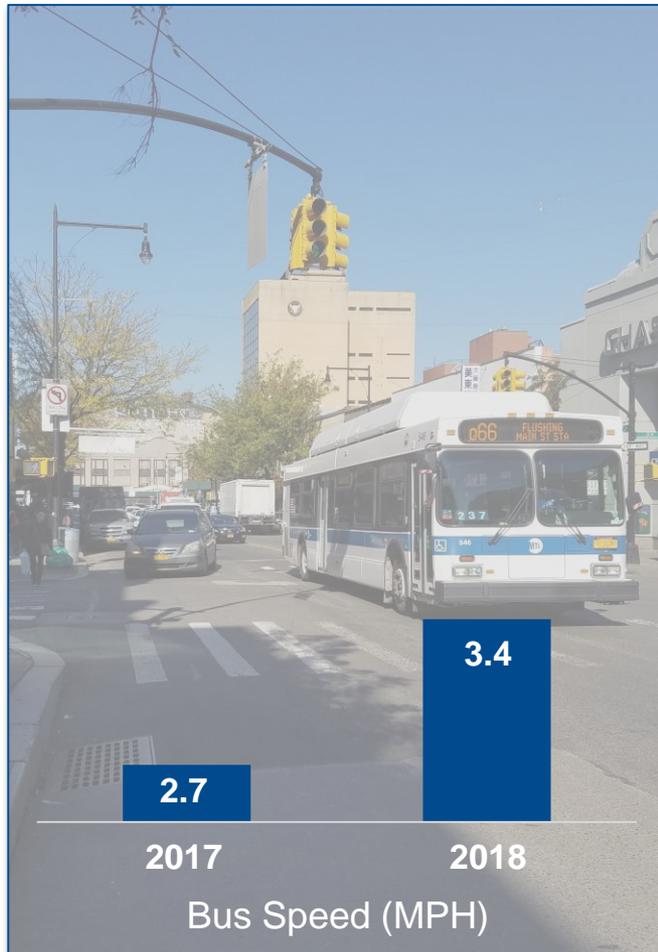
## Adaptive Traffic Signal Control



- Reports travel time from one sensor to the next.
- Same method is also used for ATSC, which can change signal timings dynamically to adapt to traffic conditions

# BUS SPEEDS- SOUTHBOUND

## Northern Blvd to 40<sup>th</sup> Rd

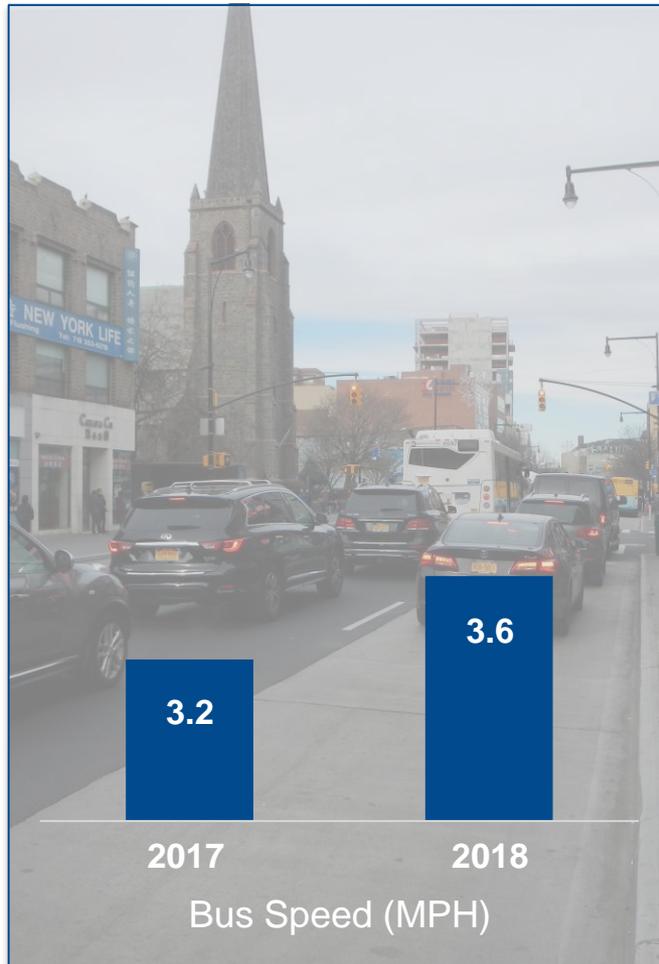


23% faster from 2017 to 2018

- Southbound buses on Main Street are considerably faster since implementation
- Thousands of riders saving more than a minute off their daily commutes

# BUS SPEEDS- NORTHBOUND

## 40<sup>th</sup> Rd to Northern Boulevard

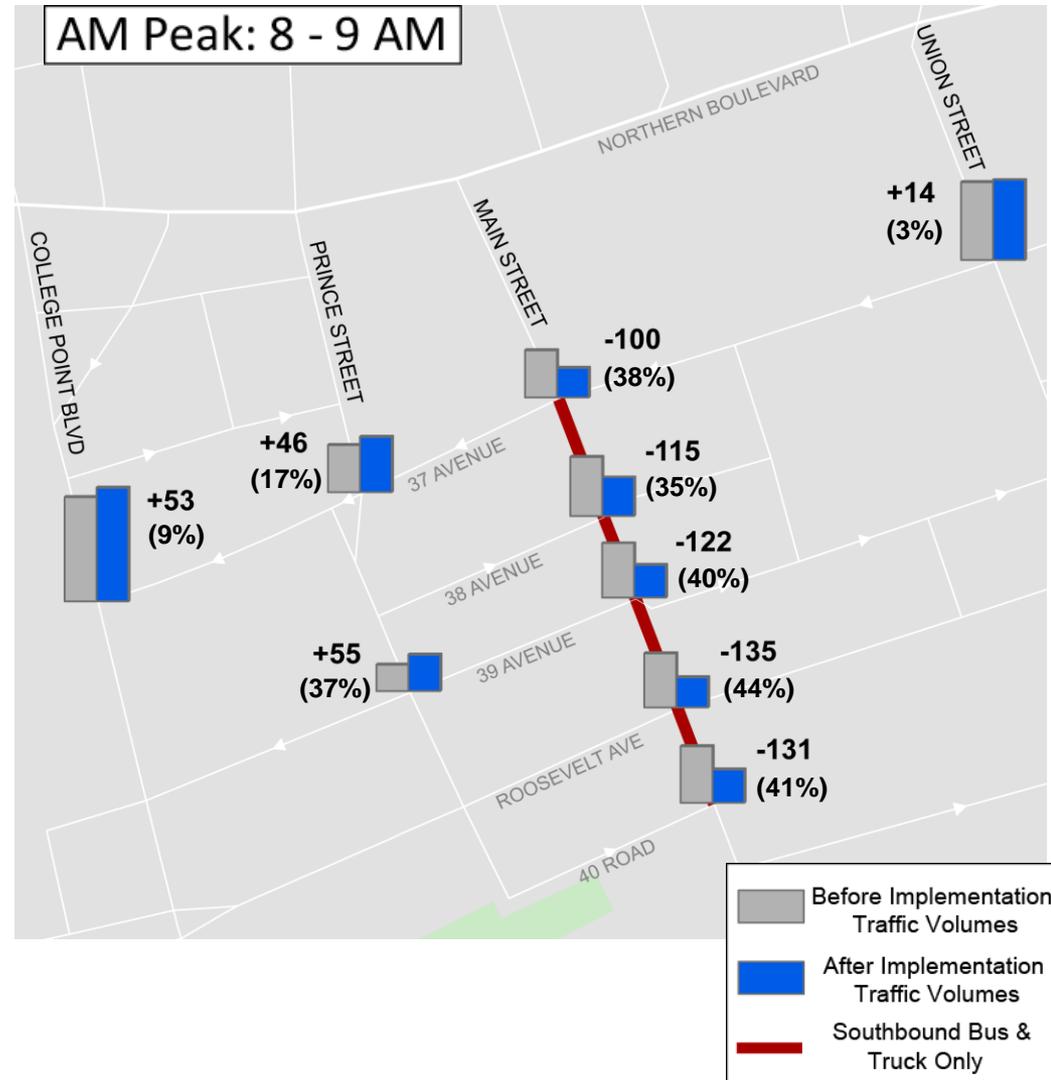


11% faster from 2017 to 2018

- Northbound bus speeds are faster now than in 2017, but are slower than they were in 2016.
- Southbound bus and truck only restriction reduced northbound congestion by reducing turning conflicts

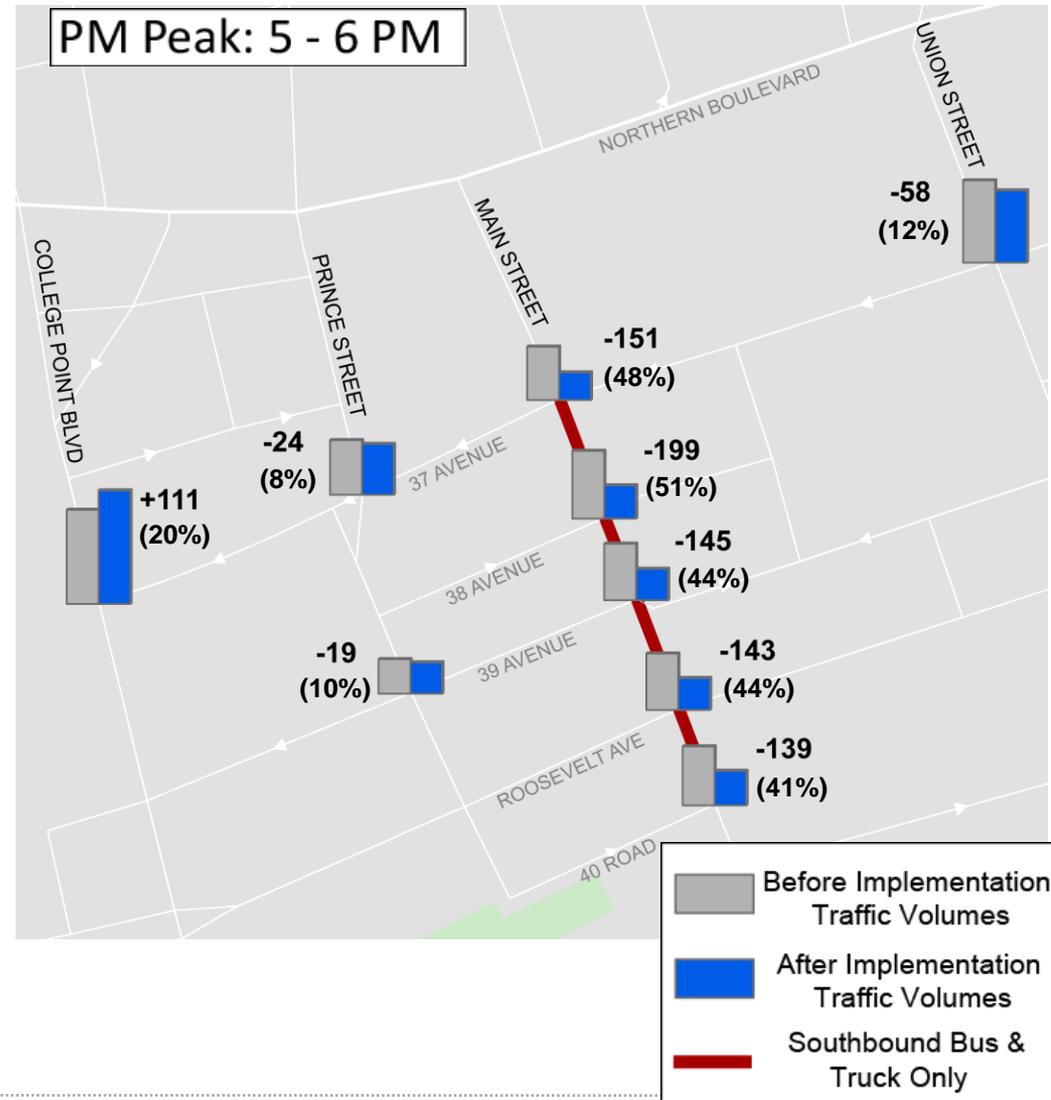
# AM TRAFFIC VOLUME EFFECTS

- ~100-150 fewer southbound vehicles on Main St during AM peak
- During the AM, those vehicles were primarily absorbed by College Point Blvd & Prince St.



# PM TRAFFIC VOLUME EFFECTS

- ~100-200 fewer southbound vehicles on Main St during PM peak
- During the PM, those vehicles were primarily absorbed by College Point Blvd



# GENERAL TRAFFIC SPEED 1

## Travel Time Changes

- Mixed traffic story
- Main Street southbound is far faster for buses
- Northbound movements on College Pt Blvd, Prince St, and Union Street are all slightly faster.
- Southbound movements on College Pt Blvd, Prince St, and Union Street are all slightly slower.
- East-west movements showed varied results



# GENERAL TRAFFIC SPEED 2

## Travel Time Changes

Segment		Direction	2017	2018	2018 v. 2017 DELTA
Main Street	Northern Boulevard to 40th Rd (Buses Only)	SB	385.0	317.0	-68.0
	Roosevelt Ave to Northern Blvd	NB	182.0	186.0	4.0
	Sanford Ave to Roosevelt Ave	NB	156.0	151.0	-5.0
College Point Blvd	35 Ave to Roosevelt Ave	SB	146.0	161.0	15.0
	Roosevelt Ave to 35 Ave	NB	109.0	104.0	-5.0
	Roosevelt Ave to Sanford Ave	SB	110.0	110.0	0.0
	Sanford Ave to Roosevelt Ave	NB	106.0	120.0	14.0
Prince St	Northern Blvd to 40th Rd	SB	233.0	252.0	19.0
	40th Rd to Northern Blvd	NB	224.0	218.0	-6.0
Union St	Northern Blvd to Roosevelt Av	SB	217.0	226.0	9.0
	Roosevelt Av to Northern Blvd	NB	205.0	197.0	-8.0
40th Rd	Prince St to Main St	EB	107.0	129.0	22.0
Northern Blvd	Main St to Union St	EB	106.0	109.0	3.0
	Union St to Main St	WB	101.0	110.0	9.0
Roosevelt Av	College Point Blvd to Main St	EB	216.0	189.0	-27.0
	Main St to College Point Blvd	WB	160.0	184.0	24.0

# TRAVEL TIME CHANGES COMPARED

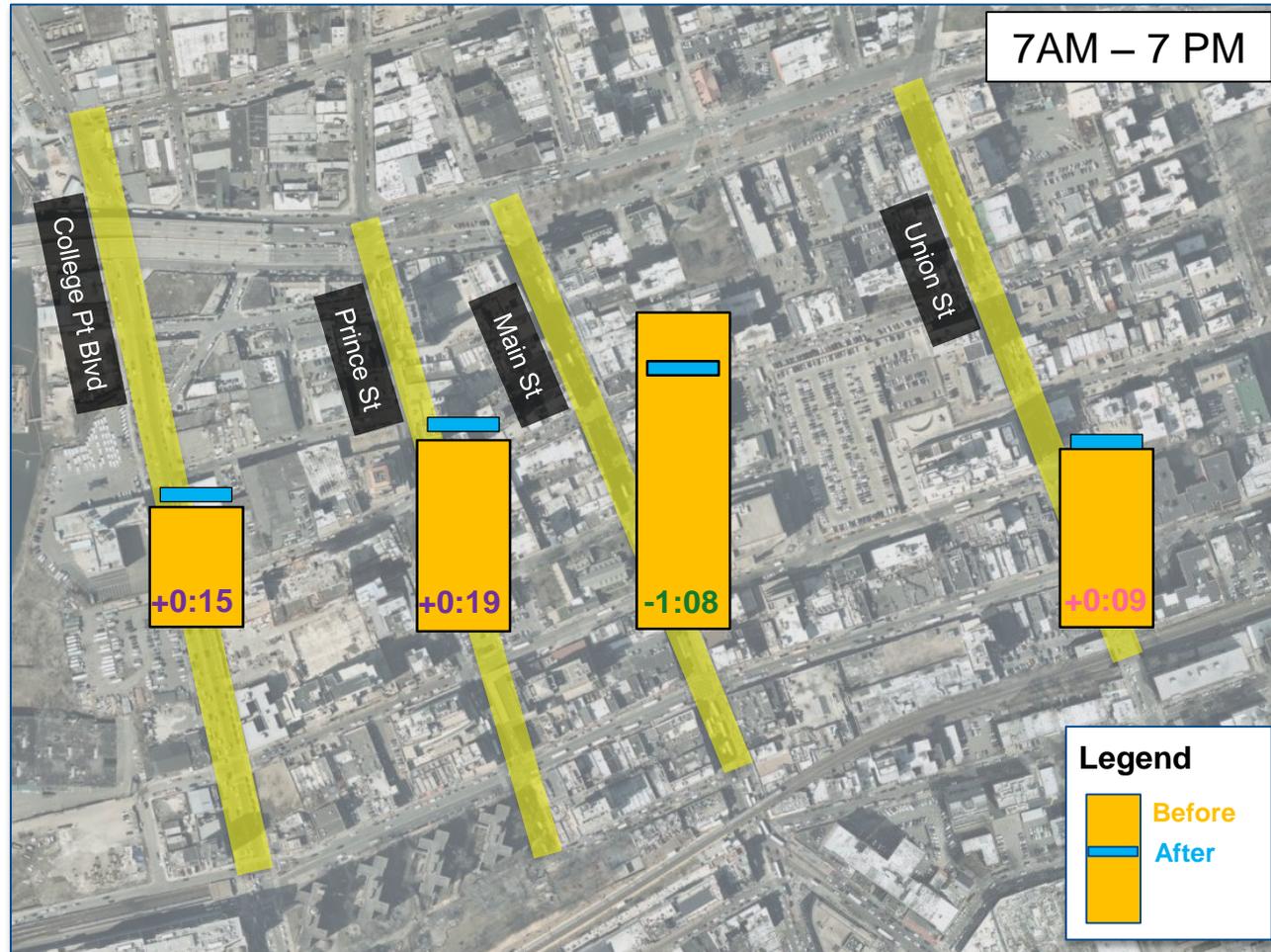
Main St SB buses  
6:25 to 5:17 (-1:08)

College Pt Blvd SB traffic  
2:26 to 2:41 (+:15)

Prince St SB traffic  
3:53 to 4:12 (+:19)

Union St SB traffic  
3:37 to 3:46 (+:09)

Main Street bus travel times improved more than the combined increase on the southbound alternatives (-68 sec v. +43 sec)



- Cars still travel much faster than buses through Flushing, but now roughly 100,000 bus riders reach their destinations up to a minute and eight seconds faster.

---

## Conclusion & Potential Improvements

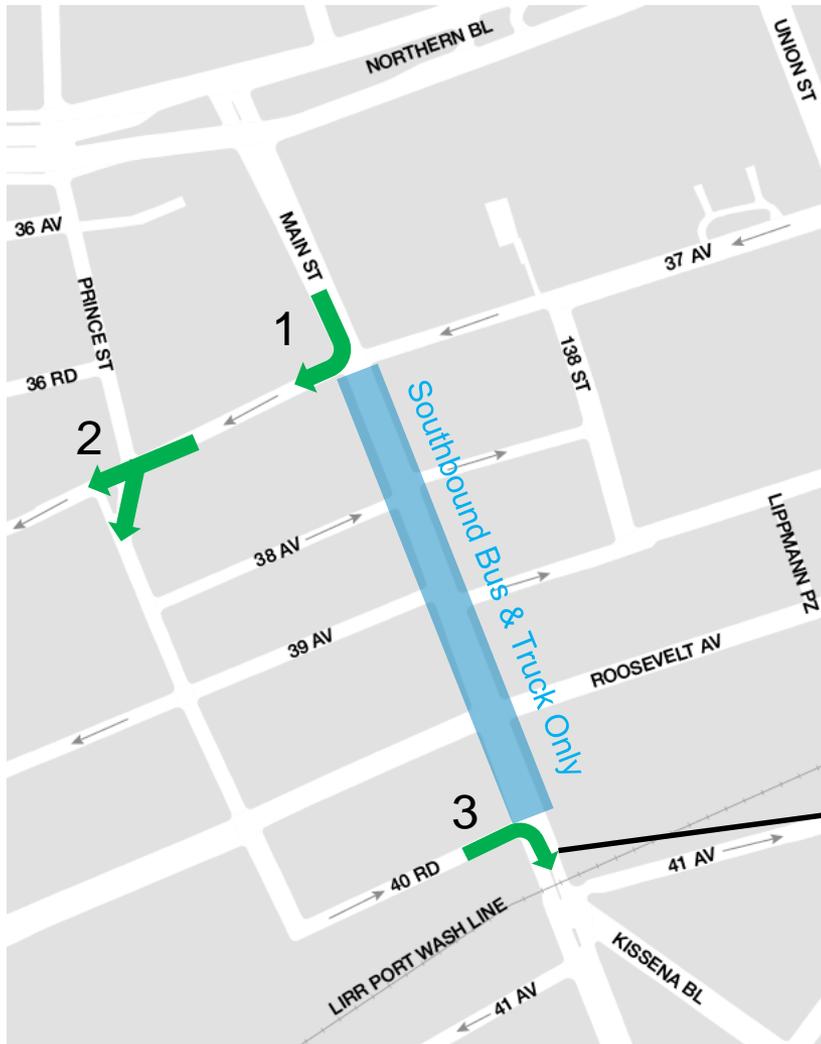
# 4

# CONCLUSION

---

- The original goal of the southbound bus and truck only was to maintain bus speeds during the sidewalk widening construction. Based on the bus speed improvements we've seen since construction ended, DOT proposes maintaining Main Street southbound (between 37<sup>th</sup> Avenue and 40<sup>th</sup> Rd) as a bus and truck only street.
- Pursue additional improvements to travel time on southbound alternatives including better advanced signage.
- Improve turns onto and off Main Street and Prince Street for vehicles using the Prince St alternative.

# POTENTIAL IMPROVEMENTS



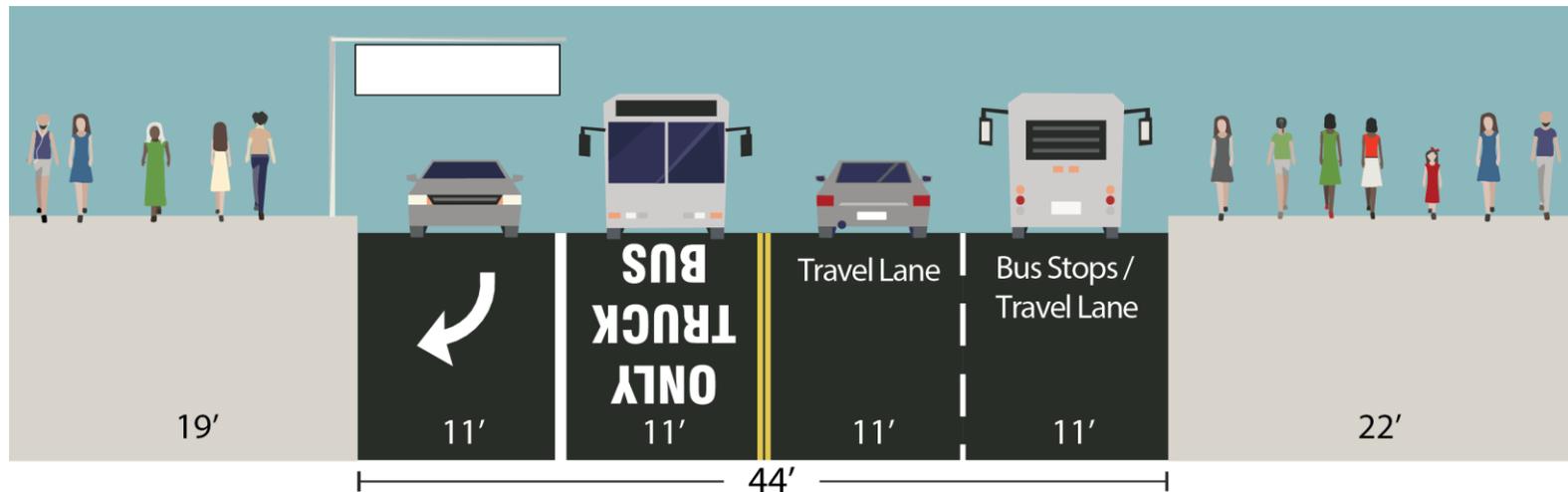
1. Main St at 37<sup>th</sup> Avenue
2. Prince St at 37<sup>th</sup> Avenue
3. Main St at 40<sup>th</sup> Rd

Evaluate potential of adding more green time for turns onto and off of Main St and Prince St



# MAIN STREET AT 37<sup>TH</sup> AVENUE

## Proposal



- 'BUS & TRUCK ONLY' pavement markings in through lane
- Southbound curbside right turn lane, and additional green time to complete the turn onto 37<sup>th</sup> Av

# THANK YOU!

---

## Questions?



NYC DOT



NYC DOT



nyc\_dot



NYC DOT