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
• 3rd 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
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
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

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

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

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

- 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 37th Av & 40th Rd

- Regular & gantry-style signs
- Enforcement by NYPD & 109th Precinct
39\textsuperscript{TH} 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
DATA COLLECTION METHODOLOGY

MTA Bus Time
- Bus ping/ breadcrumb data

Green Taxi GPS
- Taxi ping/ breadcrumb data

Traffic Counts
- Manually collected traffic volumes
DATA COLLECTION METHODOLOGY

- 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 40th 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

<table>
<thead>
<tr>
<th>Year</th>
<th>Bus Speed (MPH)</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>2.7</td>
</tr>
<tr>
<td>2018</td>
<td>3.4</td>
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</table>
BUS SPEEDS- NORTHBOUND

40th Rd to Northern Boulevard

- 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

11% faster from 2017 to 2018

Bus Speed (MPH)

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northbound</td>
<td>3.2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

11% faster from 2017 to 2018
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
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
<table>
<thead>
<tr>
<th>Segment</th>
<th>Direction</th>
<th>2017</th>
<th>2018</th>
<th>2018 v. 2017 DELTA</th>
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</thead>
<tbody>
<tr>
<td><strong>Main Street</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Boulevard to 40th Rd (Buses Only)</td>
<td>SB</td>
<td>385.0</td>
<td>317.0</td>
<td>-68.0</td>
</tr>
<tr>
<td>Roosevelt Ave to Northern Blvd</td>
<td>NB</td>
<td>182.0</td>
<td>186.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Sanford Ave to Roosevelt Ave</td>
<td>NB</td>
<td>156.0</td>
<td>151.0</td>
<td>-5.0</td>
</tr>
<tr>
<td><strong>College Point Blvd</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 Ave to Roosevelt Ave</td>
<td>SB</td>
<td>146.0</td>
<td>161.0</td>
<td>15.0</td>
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<tr>
<td>Roosevelt Ave to 35 Ave</td>
<td>NB</td>
<td>109.0</td>
<td>104.0</td>
<td>-5.0</td>
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<tr>
<td>Roosevelt Ave to Sanford Ave</td>
<td>SB</td>
<td>110.0</td>
<td>110.0</td>
<td>0.0</td>
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<tr>
<td>Sanford Ave to Roosevelt Ave</td>
<td>NB</td>
<td>106.0</td>
<td>120.0</td>
<td>14.0</td>
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<tr>
<td><strong>Prince St</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Northern Blvd to 40th Rd</td>
<td>SB</td>
<td>233.0</td>
<td>252.0</td>
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<tr>
<td>40th Rd to Northern Blvd</td>
<td>NB</td>
<td>224.0</td>
<td>218.0</td>
<td>-6.0</td>
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<td><strong>Union St</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Northern Blvd to Roosevelt Av</td>
<td>SB</td>
<td>217.0</td>
<td>226.0</td>
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<td>Roosevelt Av to Northern Blvd</td>
<td>NB</td>
<td>205.0</td>
<td>197.0</td>
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<tr>
<td><strong>40th Rd</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Prince St to Main St</td>
<td>EB</td>
<td>107.0</td>
<td>129.0</td>
<td>22.0</td>
</tr>
<tr>
<td><strong>Northern Blvd</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main St to Union St</td>
<td>EB</td>
<td>106.0</td>
<td>109.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Union St to Main St</td>
<td>WB</td>
<td>101.0</td>
<td>110.0</td>
<td>9.0</td>
</tr>
<tr>
<td><strong>Roosevelt Av</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Point Blvd to Main St</td>
<td>EB</td>
<td>216.0</td>
<td>189.0</td>
<td>-27.0</td>
</tr>
<tr>
<td>Main St to College Point Blvd</td>
<td>WB</td>
<td>160.0</td>
<td>184.0</td>
<td>24.0</td>
</tr>
</tbody>
</table>
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
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 37th Avenue and 40th 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 37th Avenue
2. Prince St at 37th Avenue
3. Main St at 40th Rd

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

- ‘BUS & TRUCK ONLY’ pavement markings in through lane
- Southbound curbside right turn lane, and additional green time to complete the turn onto 37th Av
THANK YOU!

Questions?