



# 2<sup>ND</sup> AVE UPDATE

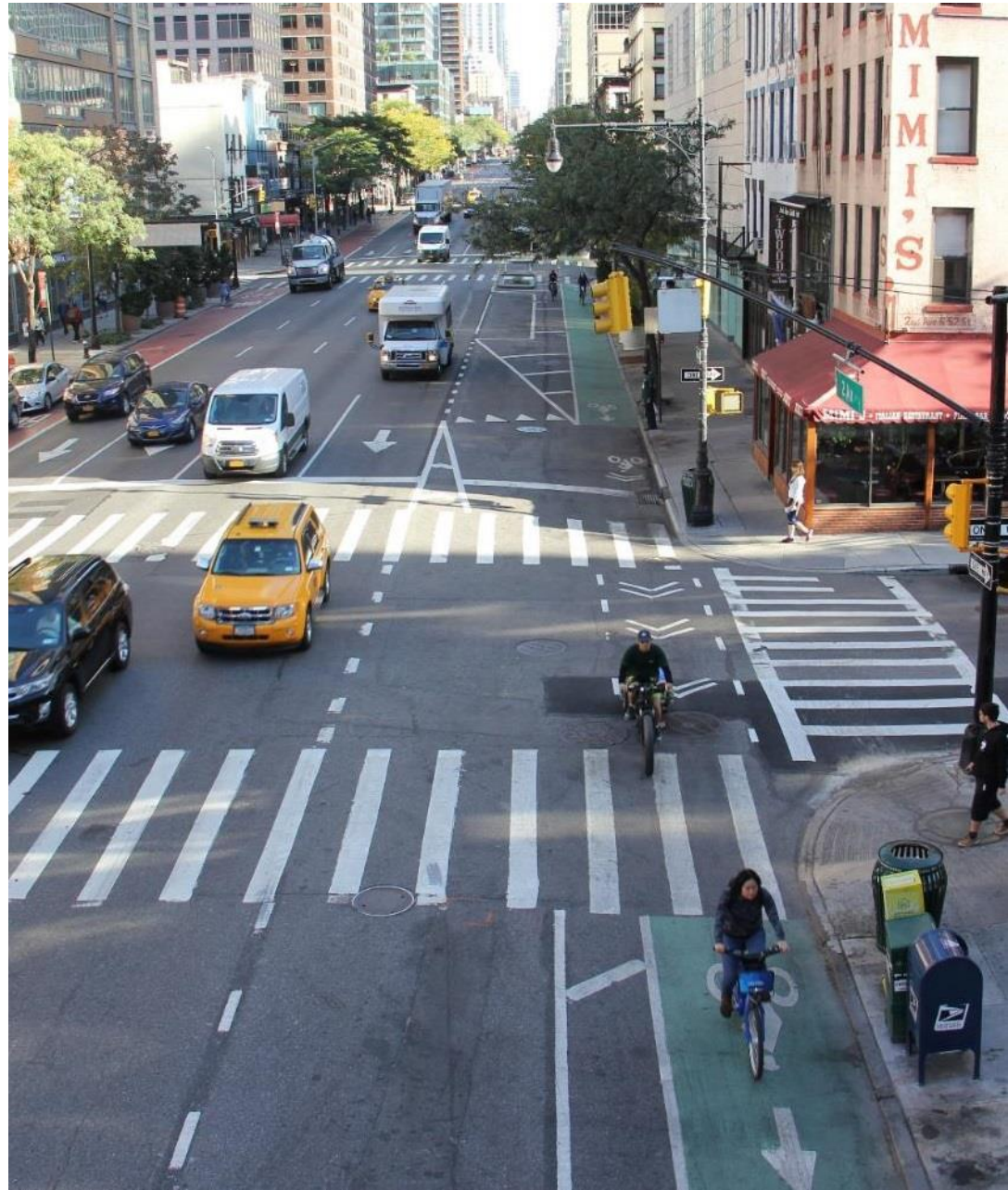
New York City Department of Transportation

Presented by the Bicycle and Greenway Program to Community Board 6 on July 2, 2018



# OVERVIEW

1. Protected Bike Network Implementation Update
2. Evaluation of Off-Peak Protected Bike Lane
3. Filling the Gaps
4. Proposal
5. Next Steps

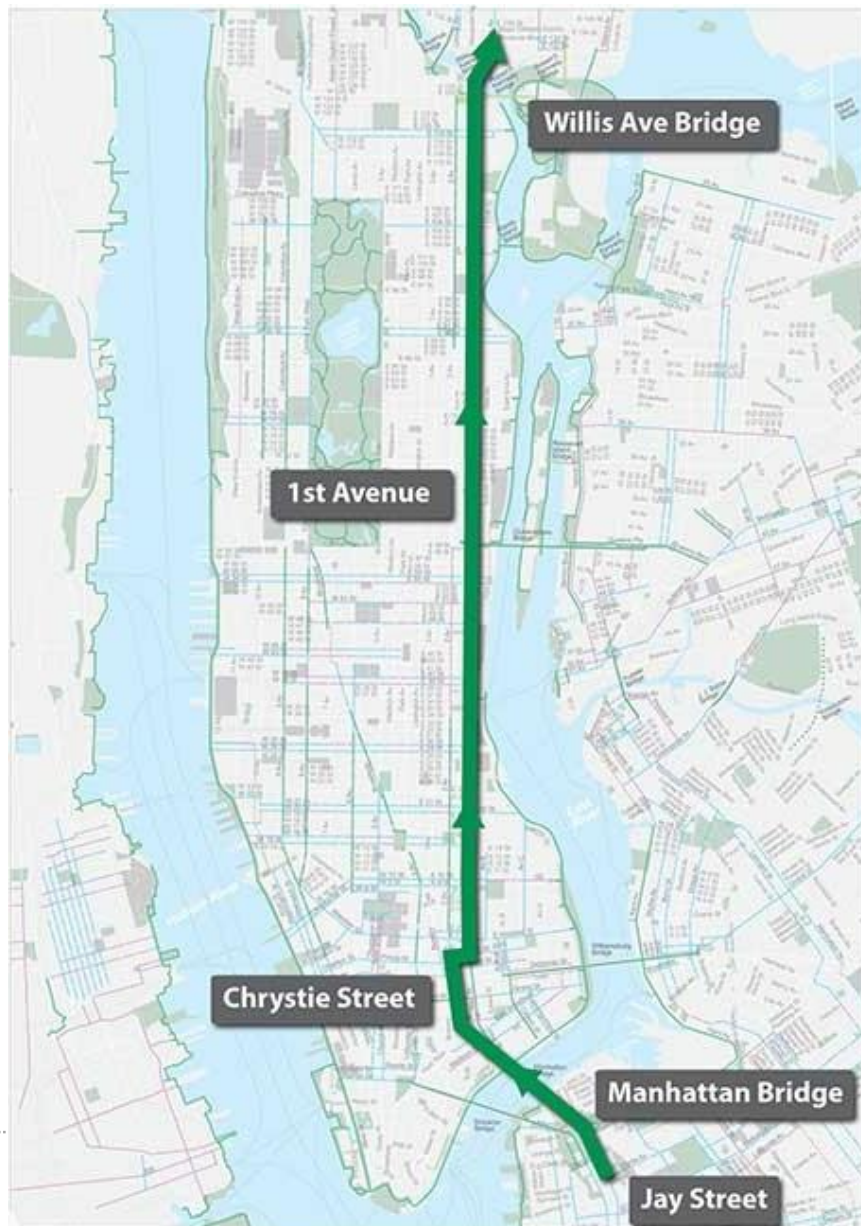


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# Protected Bike Network Implementation Update

# 1

# EAST SIDE PROTECTED BIKE LANE NETWORK



## Northbound: 1<sup>st</sup> Ave

- Continuous 9-mile protected bike lane connecting Brooklyn, Manhattan and the Bronx

## Southbound: 2<sup>nd</sup> Ave

- Challenges to creating continuous protected bike lane:
  - 2<sup>nd</sup> Ave Subway construction
  - High traffic volumes approaching Queensboro Bridge and Midtown Tunnel

# 2<sup>ND</sup> AVENUE EXISTING BIKE FACILITIES



## CB 8

**PROTECTED BIKE LANE**

- 96 St – 88 St**  
2016 (MTA)
- 88 St – 82 St**  
Functional, not yet completed (MTA)
- 82 St to 74 St**  
2016 (DOT)
- 74 St – 68 St**  
Functional, not yet completed (MTA)

**ENHANCED SHARED LANE**

- 68 St – 59 St Bridge**  
Fall 2016/17 (MTA/DOT)

## CB 6

**PROTECTED BIKE LANE**

- 59 St – 43 St:**  
2017 (DOT)
- 52 St – 43 St:** *Off-peak Protected Bike Lane Design*  
2017 (DOT)

**ENHANCED SHARED LANE**

- 43 St – 34 St Tunnel**  
2011 (DOT)

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# Evaluation of Off-Peak Protected Bike Lane Design

# 2

**BEFORE: 2 Ave, 52 St – 43 St**



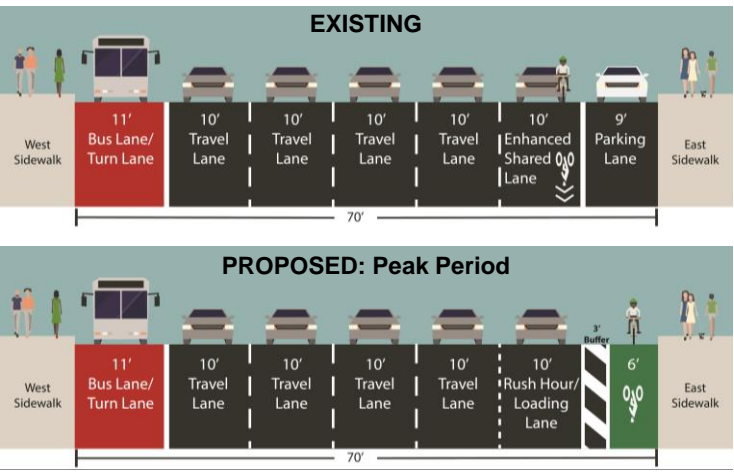
**Enhanced Shared Lane**

Gap in the protected bike lane network where facilities were most needed

High traffic volumes, lack of organization in roadway

Site specific curb access and parking needs

# AFTER: Peak Period Design



Curbside bike lane provides dedicated space for cyclists

Maintains five moving lanes

Loading not permitted



## AFTER: Off-peak Design

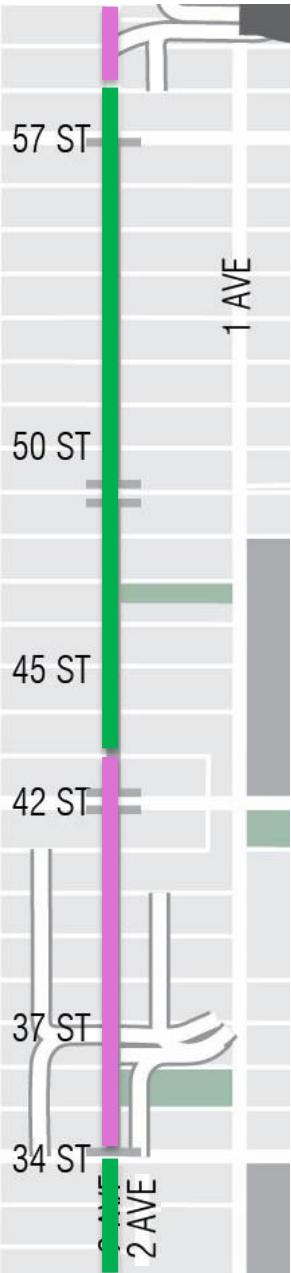
Parking protected bike lane provides dedicated space for cyclists, separated from moving vehicles

Removal of travel lane calms traffic when speeding is more likely to occur

Loading permitted



# VEHICLE SPEEDS: MIDTOWN IN MOTION EZPASS DATA



		2016	2017
49 ST - 57 ST	AM	10.3 mph	11.2 mph
	MD	9.3 mph	10.3 mph
	PM	13.8 mph	13.2 mph
42 ST - 49 ST	AM	10.5 mph	10.4 mph
	MD	6.9 mph	7.5 mph
	PM	8.3 mph	8.5 mph

Data show **no significant change** to average vehicle speeds in the project area (2<sup>nd</sup> Ave 59<sup>th</sup> St to 43<sup>rd</sup> St)

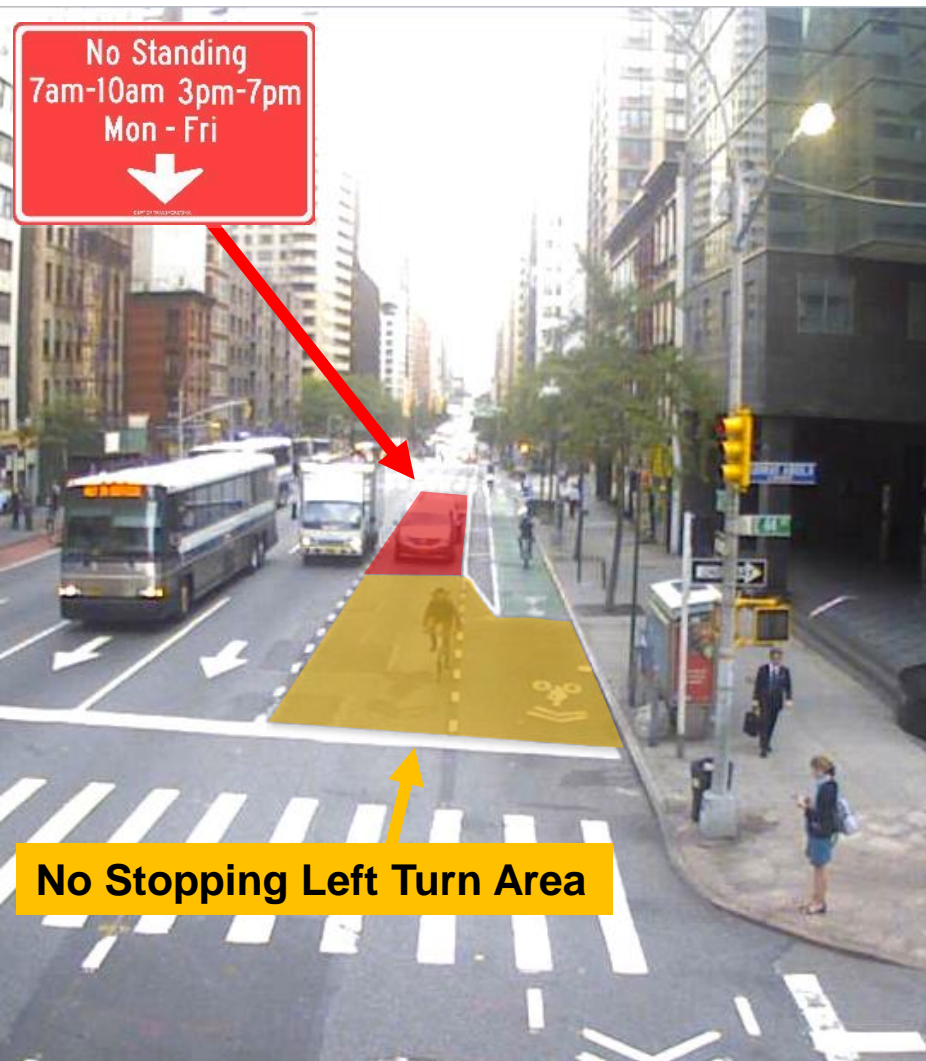
Note: No operational changes made south of 43 St

34 ST - 42 ST	AM	8.1 mph*	7.2 mph
	MD	10.6 mph*	9.2 mph
	PM	8.6 mph*	5.3 mph

Overall, average motor vehicle speeds on streets in **Midtown Manhattan decreased** during this same time period\*\*

Source: EZPASS 2017 October Mid-week Vs. 2016 October Mid-Week.  
 Note \*: 2nd Avenue - Southbound - 42nd St to 34th St, 15 min Average Travel Time using 2017 October midweek vs. 2016 October midweek (The 2016 data for this link is approximate using the historical travel time as EZPASS reader at 34 St was down during this month).  
 Note \*\*:Taxi GPS is used as a proxy for travel speeds.)

# BLOCKING OF BIKE LANE: TIME LAPSE CAMERA OBSERVATIONS



**No Stopping Left Turn Area**

Video data collected on  
 2nd Ave at 43<sup>rd</sup>, 44<sup>th</sup>, 45<sup>th</sup>, 46<sup>th</sup>, 48<sup>th</sup>, and 50<sup>th</sup> Streets  
 Data collected in August, September 2017.  
 Mid-week days from 7AM-10AM

TLC200 2017/09/12 08:02:24

## Bike Lane Blockages

Locations	43 St	44 St	45 St	46 St	48 St	50 St
Video Analyzed (Days)	5	5	6	9	12	9
Video Analyzed (Minutes)	1,200	1,200	1,440	2,160	2,880	2,160
Number of Times Bike Lane was Blocked	26	13	20	3	9	6
Total Time Bike Lane was Blocked in Minutes	81	48	86	21	46	36
Percentage of Time Bike Lane was Blocked	6.8%	4.0%	6.0%	1.0%	1.6%	1.7%

**Bike lane is clear 97% of the time**

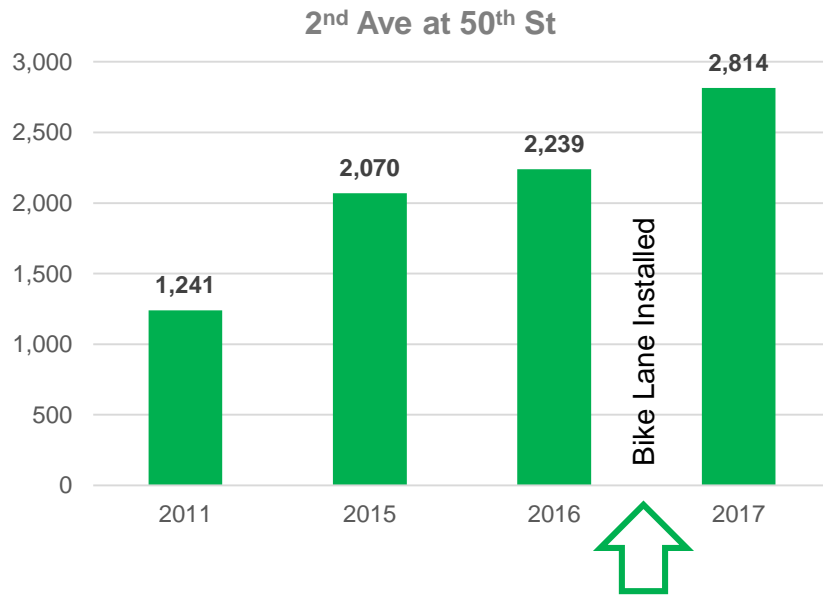
## No Stopping Left Turn Area Blockages

Locations	43 St	44 St	45 St	46 St	48 St	50 St
Video Analyzed (Days)		5		9	12	9
Video Analyzed (Minutes)		1,200		2,160	2,880	2,160
Number of Times No Stopping LT was Blocked		29		15	61	14
Total Time No Stopping LT was Blocked in Minutes		454		72	1,380	201
Percentage of Time No Stopping LT was Blocked		37.8%		3.3%	47.9%	9.3%

**Left Turn Area is clear 75% of the time**

## BIKE VOLUMES: BEFORE/AFTER COUNTS

Off-Peak Protected Bike Lane  
installed on  
2nd Ave (59 St to 43 St) in  
Spring/Summer 2017



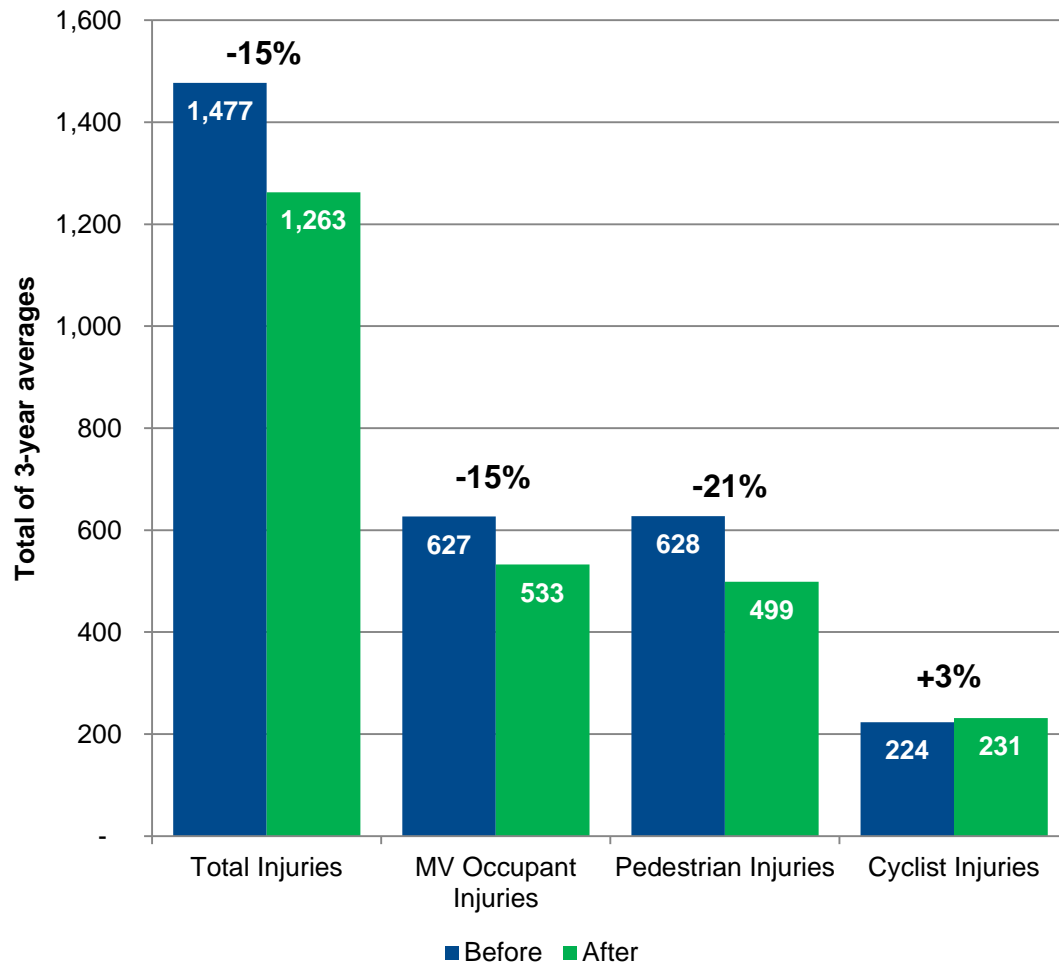
**+36% increase in cycling**  
(2015-2017)

*Bicycle Volume Data: Average of three 12-hr (7AM-7PM) counts conducted on weekdays in May, July, and September for each year reported.*



## SAFETY: PROTECTED BIKE LANES

Overall, protected bike lanes improve safety for all road users



Pedestrian experienced the most significant decrease in injuries:

- 29% decrease on 2-way paths
- 21% decrease on 1-way paths

The number of injuries to cyclists increased only slightly, despite a 61% increase in bicycle volumes



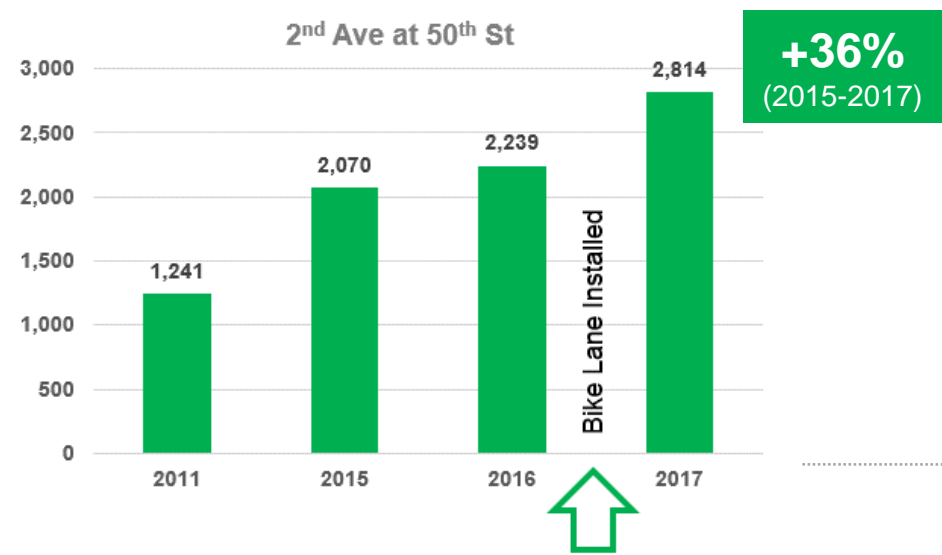
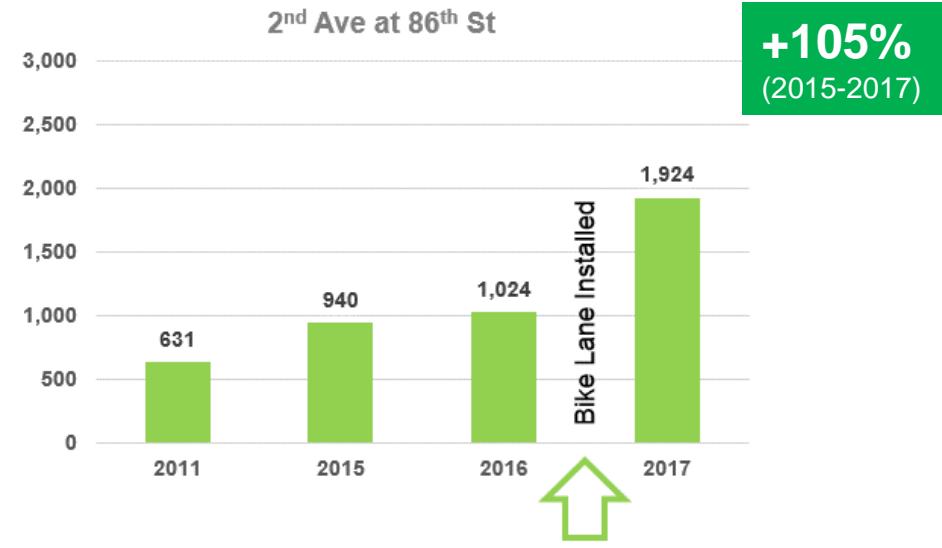
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## Filling the Gaps

# 3

# BIKE VOLUMES ARE GROWING

## Bike Counts on 2<sup>nd</sup> Ave:



In the third quarter of 2017  
**699,000**  
Citi Bike trips  
either started  
or ended in  
CB 6 and CB 8



On Average,  
**5,406 cyclists**  
use the  
Queensboro  
Bridge  
bike lane daily  
(between April and  
October)

# SAFETY CONCERNS



## 2<sup>nd</sup> Ave is a Vision Zero Priority Corridor



### 2 Ave, 68 St – 59 St

Injury Summary, 2012-2016 (5 years)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	87	9	0	9
Bicyclists	32	1	0	1
Motor Vehicle Occupant	244	16	0	16
<b>Total</b>	<b>363</b>	<b>26</b>	<b>0</b>	<b>26</b>

Fatalities, 01/01/2012 – 03/19/2018: None

### 2 Ave, 43 St – 34 St

Injury Summary, 2012-2016 (5 years)

	Total Injuries	Severe Injuries	Fatalities	KSI
Pedestrian	118	11	0	11
Bicyclists	64	5	0	5
Motor Vehicle Occupant	194	7	0	7
<b>Total</b>	<b>376</b>	<b>23</b>	<b>0</b>	<b>23</b>

Fatalities, 01/01/2012 – 03/19/2018: None

Source: Fatalities: NYCDOT. Injuries: NYSDOT. KSI: Persons killed or severely injured



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Proposal

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# 1 CORRIDOR: EXISTING CONDITIONS



**High Traffic Volume**

**High volume especially approaching bridge and tunnel**



**Curb Access/ Parking**

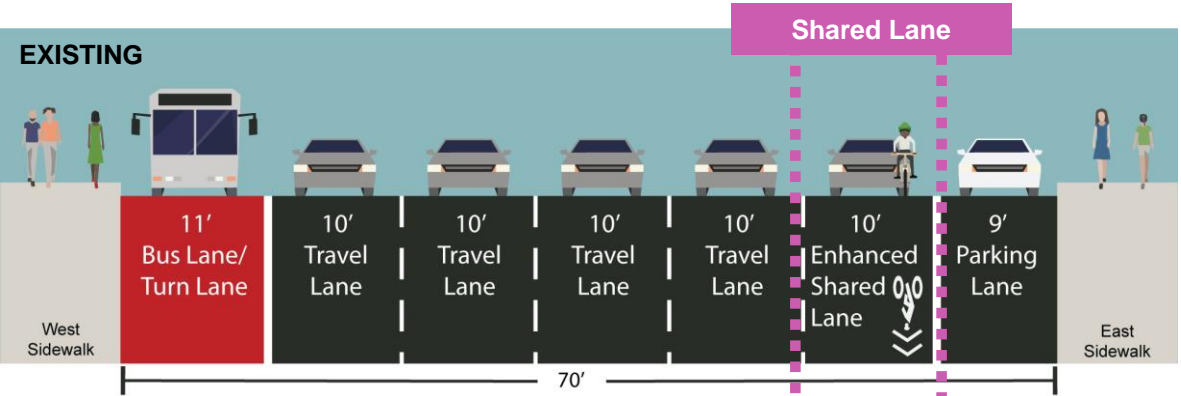
**Commercial un/loading, drop-off/pick-up of passengers**



**Heavily Used Cycling Route**

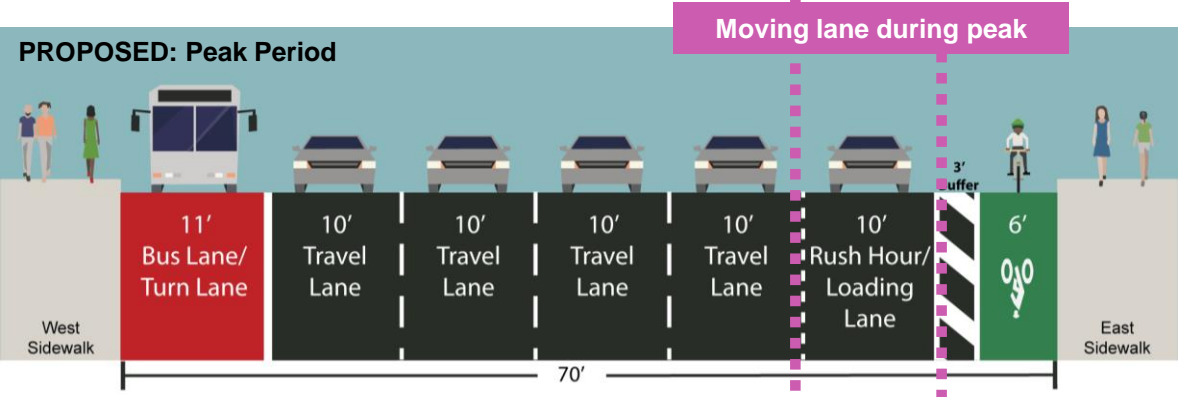
**No dedicated space for cyclists  
Gap in the protected bike network**

# 1 CORRIDOR: PROPOSED DESIGN (68<sup>th</sup> – 60<sup>th</sup> St)



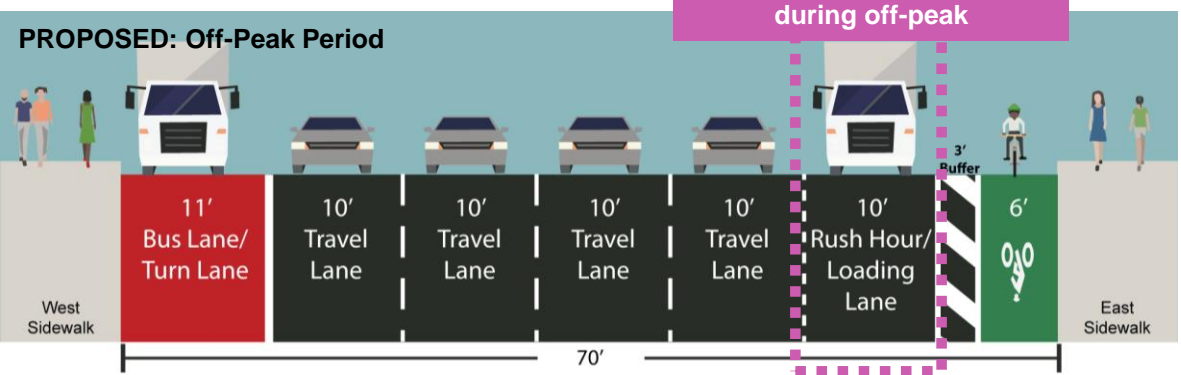
## Gap in the Protected Bike Network

- No dedicated space for cyclists
- Enhanced Shared Lane breaks down during peak hour



## Peak Period

- Curbside buffered bike lane
- Maintains vehicular capacity



## Off-Peak Period

- Parking protected bike lane
- Traffic calming
- East curb access (loading/unloading)
- West curb access (loading/unloading) when bus lane not in effect

## ② QUEENSBORO BRIDGE: EXISTING CONDITIONS

### Complex intersection

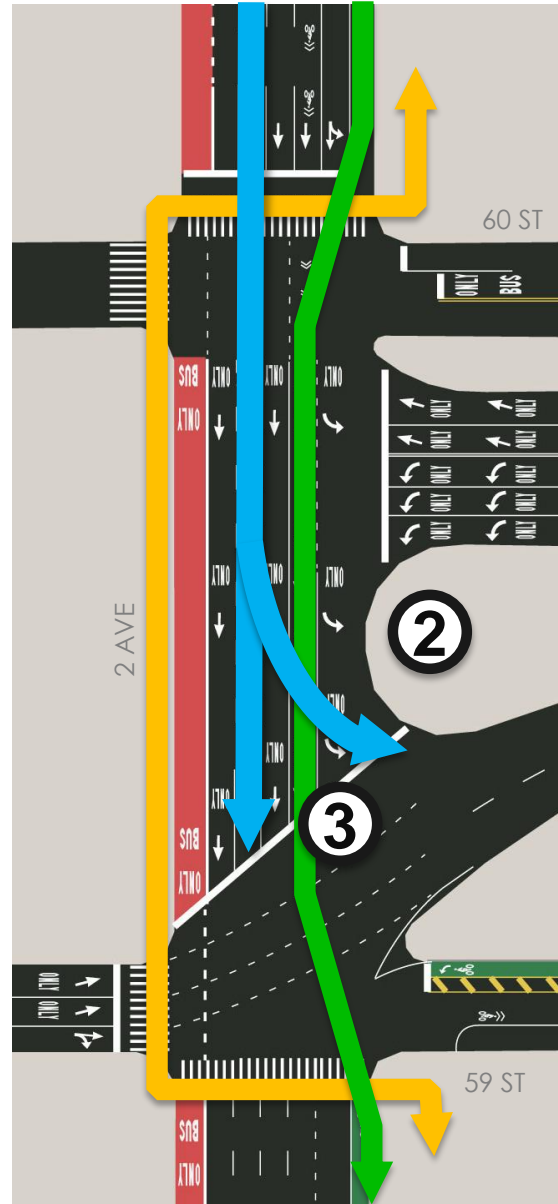
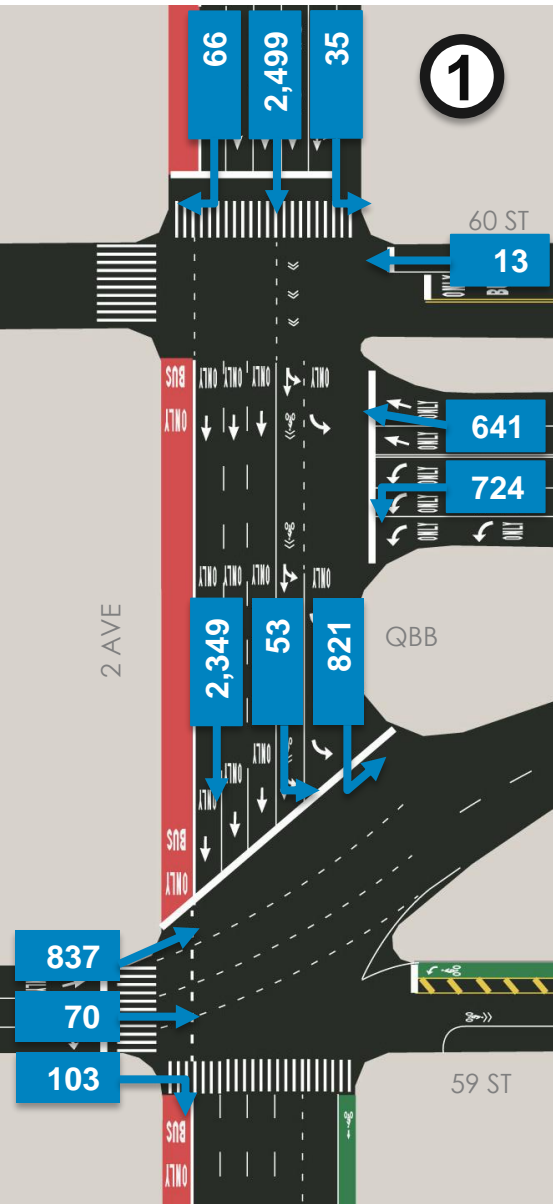
- High, constant vehicle volumes
- Limited pedestrian and bicycle access



## ② QUEENSBORO BRIDGE: EXISTING/ISSUES

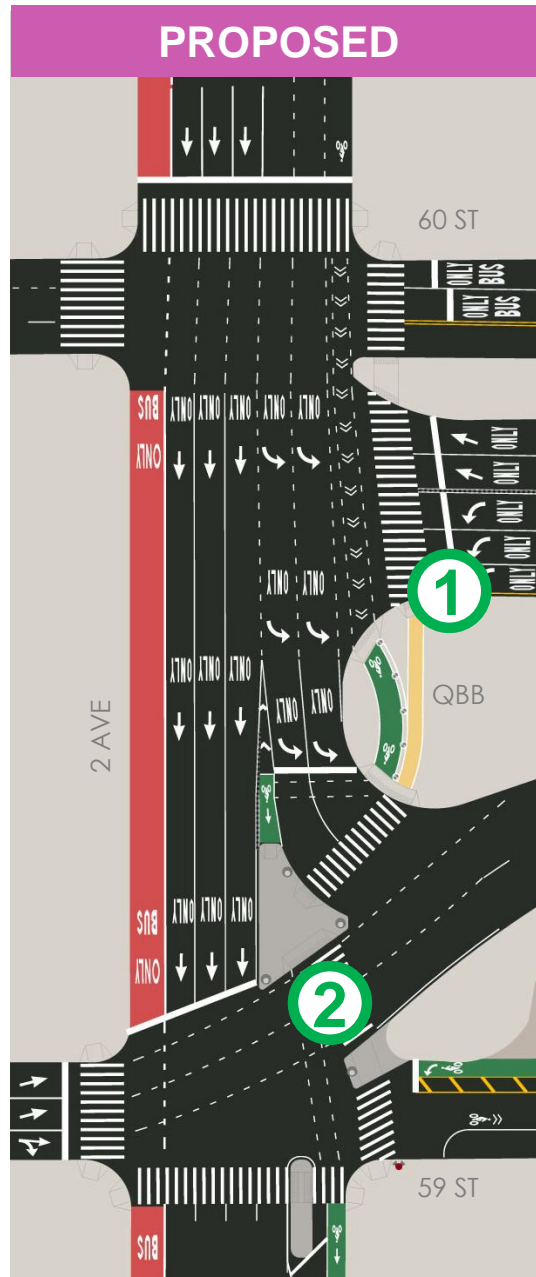
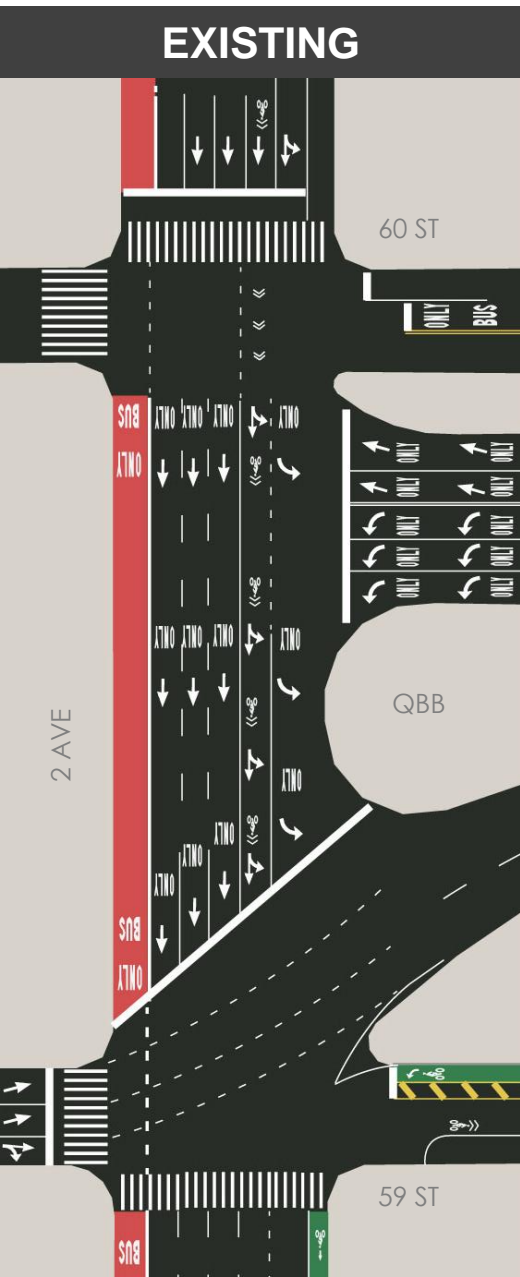


Vehicle Volumes:



- ① High volumes throughout the day
- ② No pedestrian and bike crossing on east side from 60<sup>th</sup> and 59<sup>th</sup> St
- ③ Southbound cyclists forced to merge turning vehicles to continue traveling through

## 2 QUEENSBORO BRIDGE: GEOMETRIC CHANGES

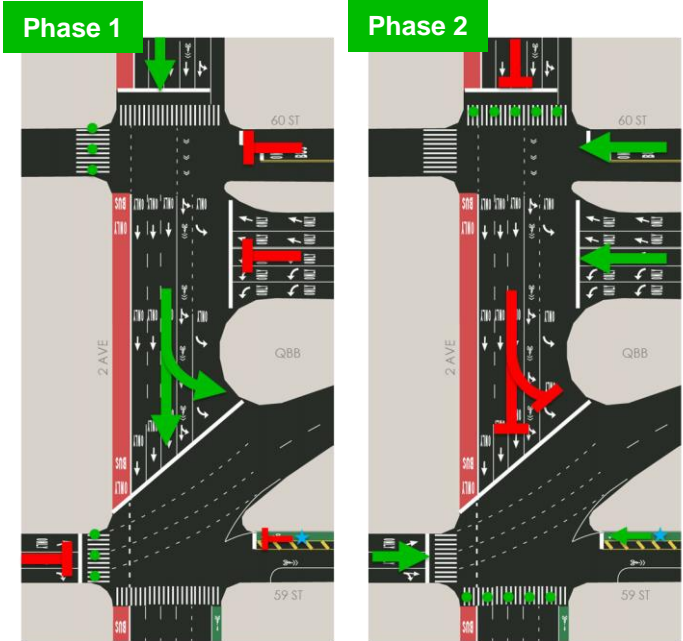


- 1 Add pedestrian and bicycle crossing
  - Allows pedestrian crossing along east side
  - Closes the gap on the protected bike network on 2<sup>nd</sup> Ave

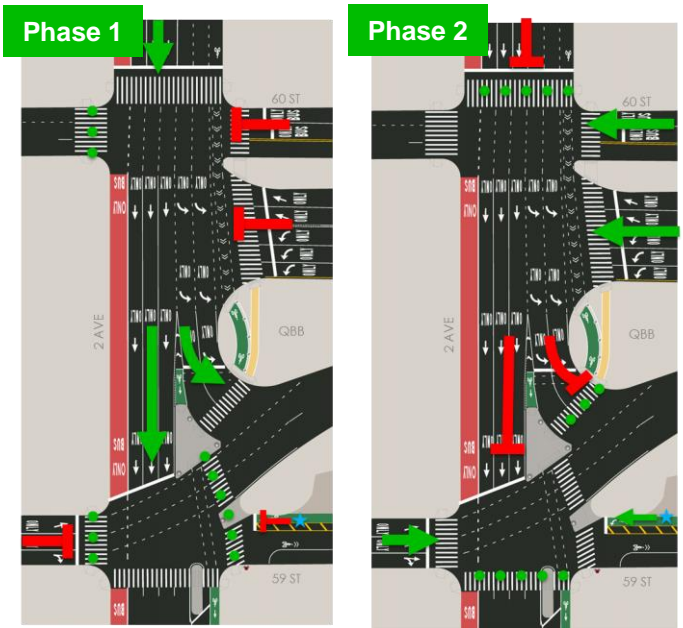
- 2 Add island and tip extension
  - Shorter pedestrian and bicycle crossing that works with signal timing

## ② QUEENSBORO BRIDGE: OPERATIONAL CHANGES

EXISTING



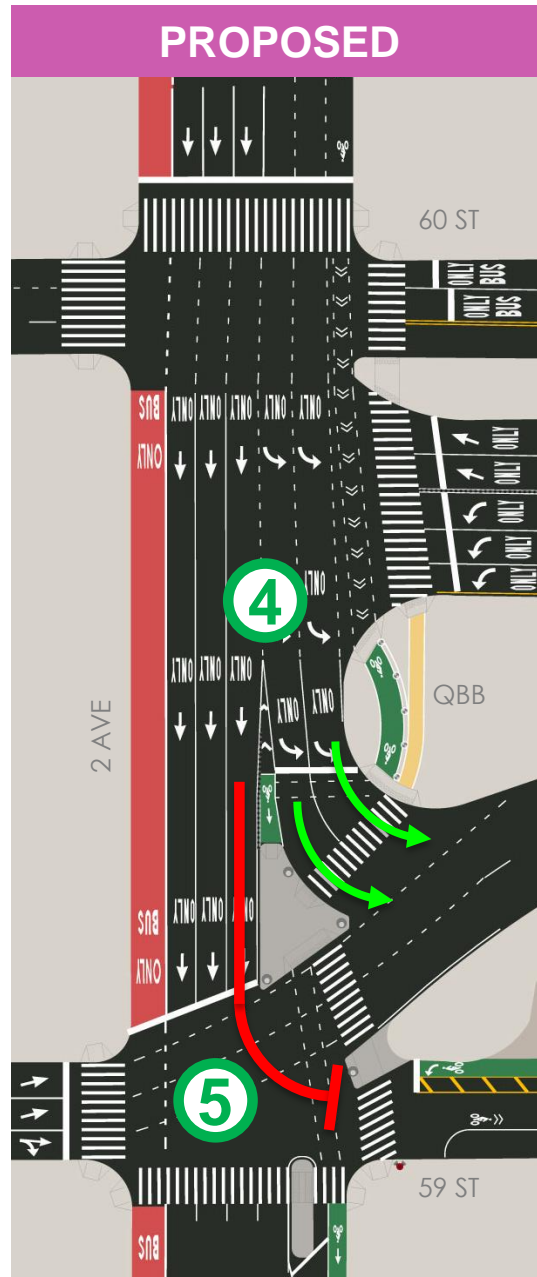
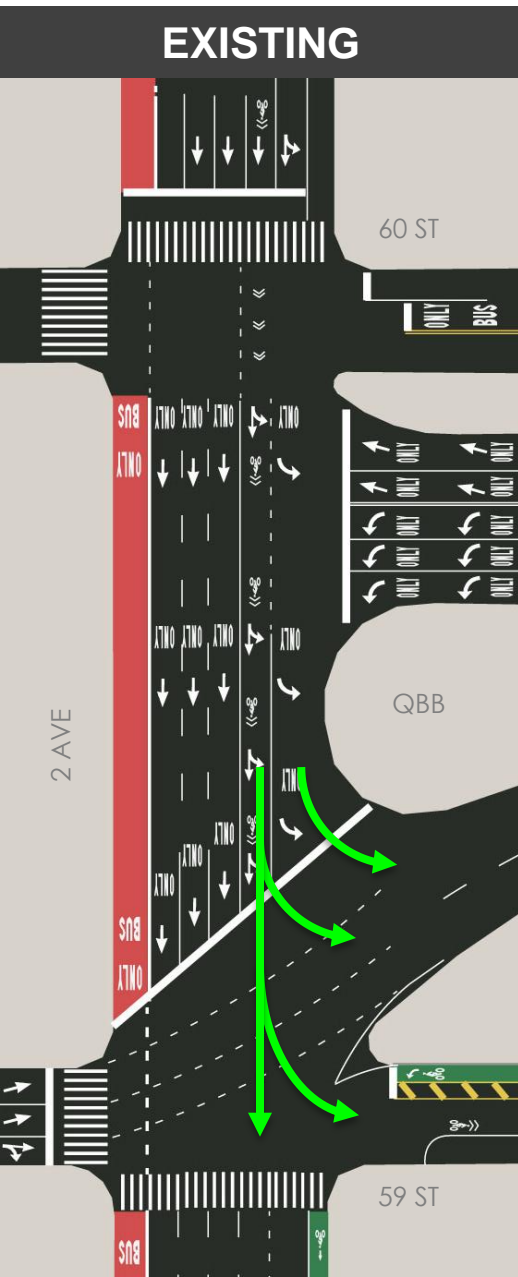
PROPOSED



③ No changes to signal timing

No changes to existing signal timing minimizes impact in traffic flow

## ② QUEENSBORO BRIDGE: OPERATIONAL CHANGES



### ④ Change in lanes configuration

**Existing:**

- 3 SB through
- 1 shared SB/left lane
- 1 left lane onto QBB

**Proposed:**

- 3 SB through
- 2 left lanes onto QBB

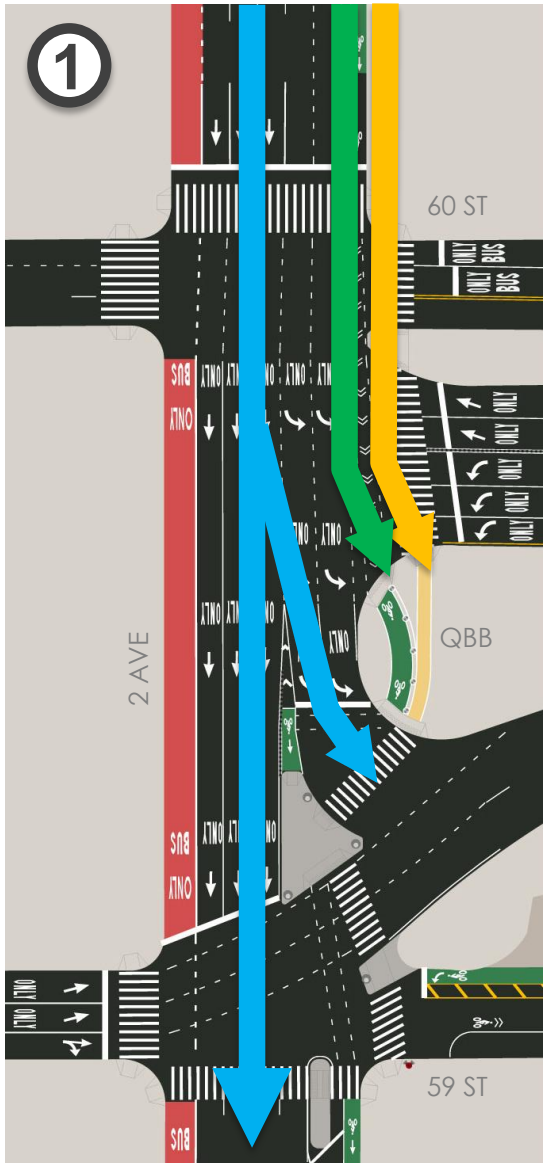
### ⑤ Ban EB left turn from 2<sup>nd</sup> Ave onto E 59th St

- Low volumes for left turn
- Banning left turn allows for conflict free pedestrian and bicycle crossing

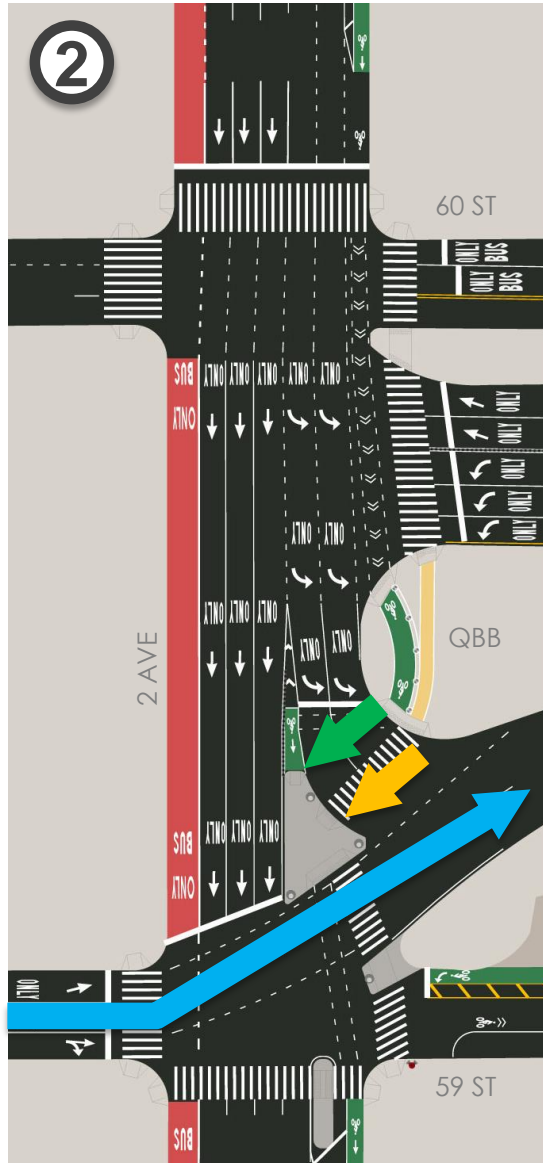


# ② QUEENSBORO BRIDGE: PROPOSED THREE STAGE CROSSING

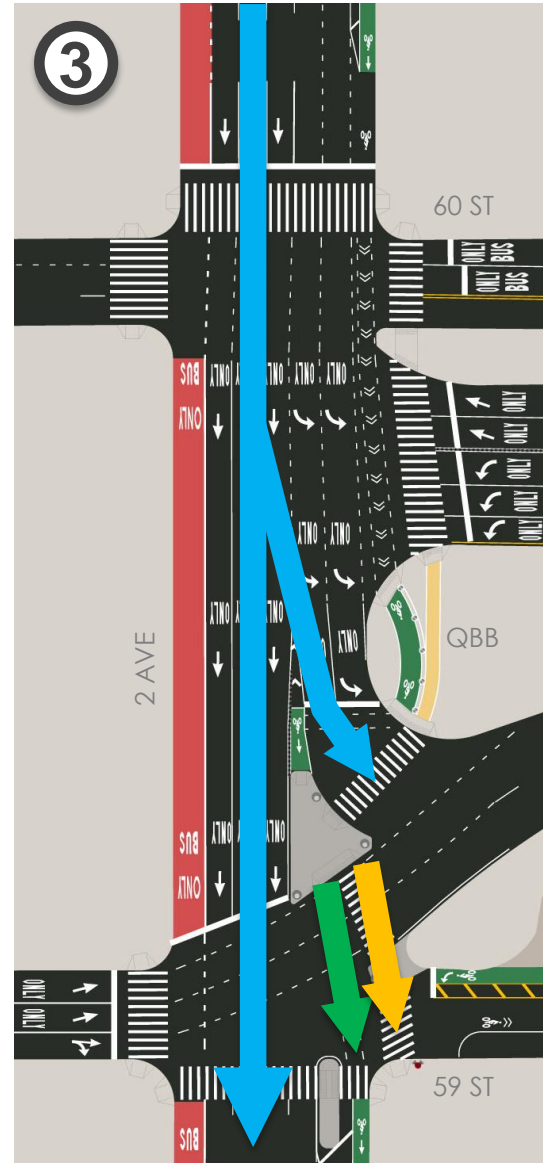
Phase 1   



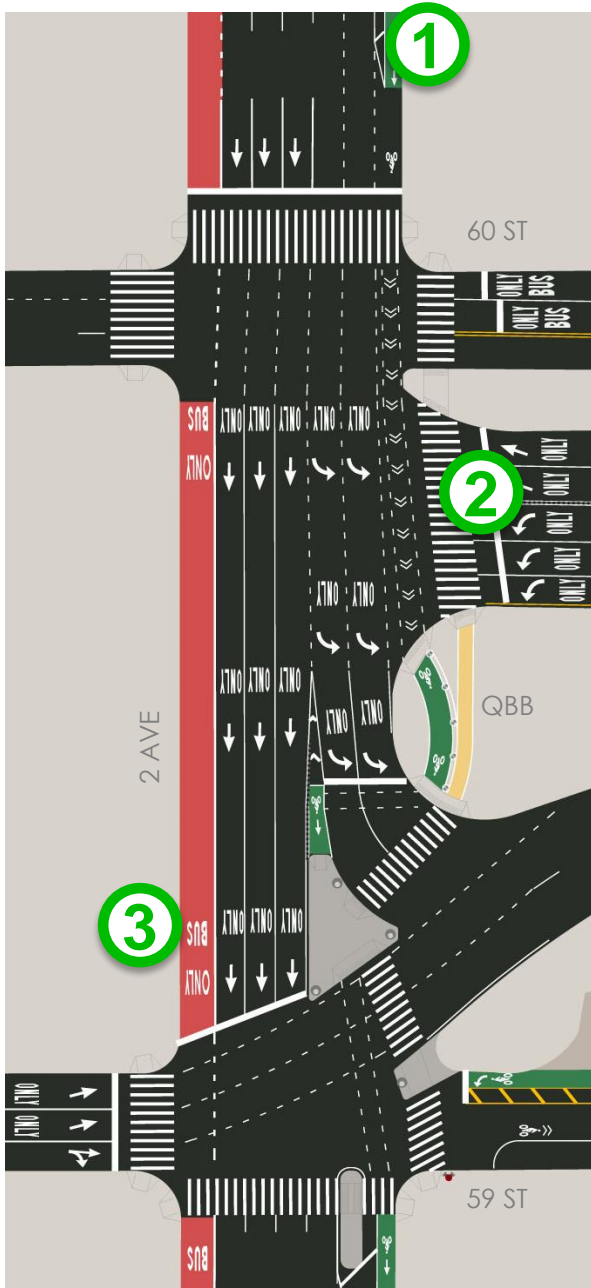
Phase 2   



Phase 1   



## BENEFITS OF PROPOSED DESIGN

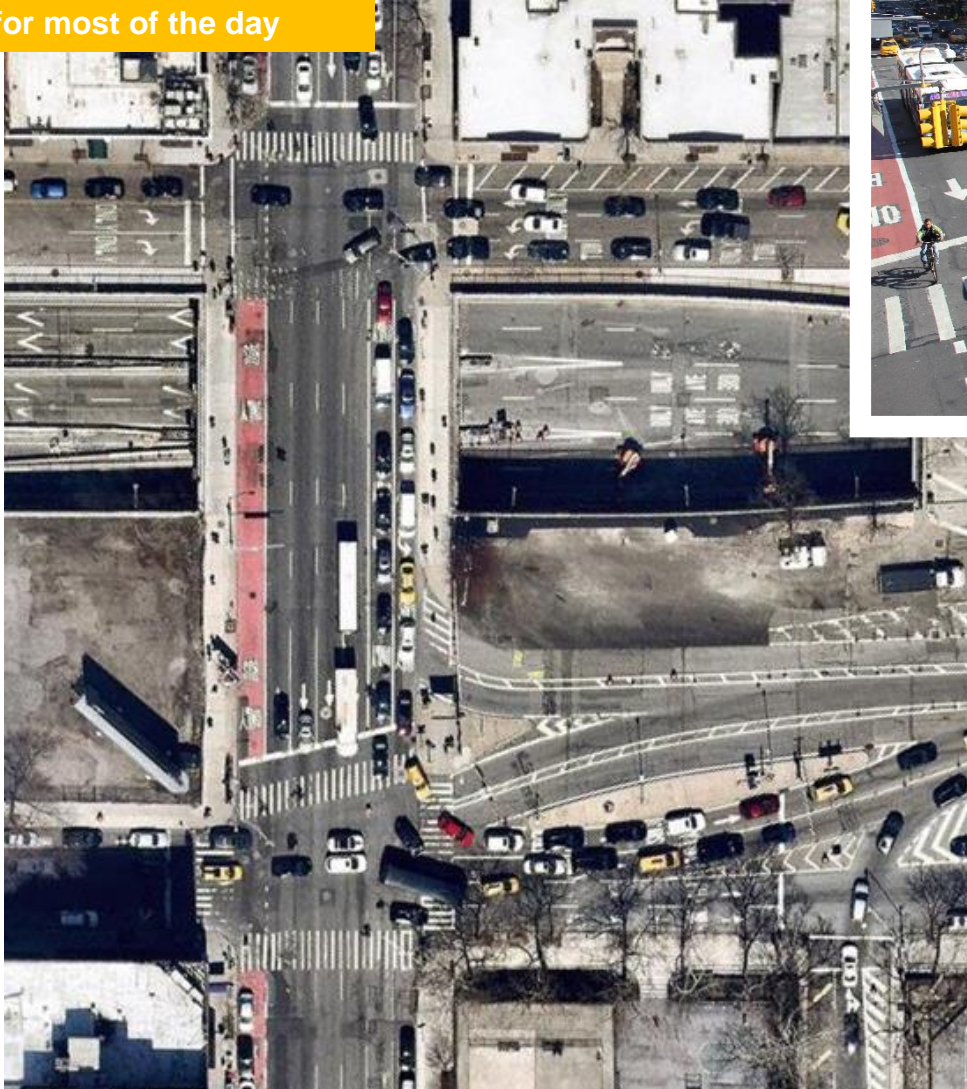


- 1 Off-Peak Protected Bike Lane**  
Continuous bike lane along east curb, protected during off peak, protected crossing at bridge entrance
- 2 New Pedestrian Crossing**  
Three-stage crossing along east curb between E 60<sup>th</sup> St and E 59<sup>th</sup> St
- 3 Rush-Hour Design**  
Minimal impact on traffic capacity, no changes to signal timing

### 3 QUEENS MIDTOWN TUNNEL: ISSUES

Complex intersection

High vehicular volume  
for most of the day



Planned water main work  
directly south of tunnel

Ongoing MTA work around  
the Tunnel area

DOT is currently working  
with MTA to develop a plan

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**Next Steps**

**5**

# NEXT STEPS

## QUEENSBORO BRIDGE

- **Project Development**
  - Complete analysis and design of corridor during all traffic configurations
  - Finalize proposal for rush hour/parking regulations
- **Community Outreach**
  - Present finalized designs to
    - Elected Officials
    - Community Board 6 and 8
- **Implementation**
  - Late 2018 / Early 2019

## QUEENS MIDTOWN TUNNEL

- DOT is working with MTA to develop a plan for the area
- Due to ongoing work and coordination efforts, facilities between 34<sup>th</sup> and 43<sup>rd</sup> Streets will not be implemented at the same time as QBB



# THANK YOU!

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## Questions?



NYCDOT



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NYCDOT