

# BROADWAY (W 155<sup>TH</sup> ST TO W 170<sup>TH</sup> ST)

## Proposed Corridor Safety Improvements

Community Board 12

May 1, 2017

# PROJECT LOCATION

- Subway stations at W 157<sup>th</sup> St / W 168<sup>th</sup> St
- M2, M3, M4, M100, Bx6, Bx7 buses
- Corridor studied as part of the Washington Heights Neighborhood Transportation Study
- Within the Hamilton Heights Senior Pedestrian Focus Area
- 2013 High Pedestrian Crash Location, Broadway/W 162<sup>nd</sup> St





# CRASH DATA: VISION ZERO PRIORITY

## Broadway is a Vision Zero Priority Corridor

- Broadway is one of 11 designated Priority Corridors in Manhattan
- Broadway W 155<sup>th</sup> to W 170<sup>th</sup> had 20 Pedestrian KSI/mile (killed or severely injured, 2010-14), a higher density than the rest of the corridor
  - Compared with 10.4 Ped KSI for Broadway, north of Columbus Circle (excluding project area)
  - 54 KSI/mile in project area vs. 23.8 KSI/mile for Broadway, north of Columbus Circle (all modes)

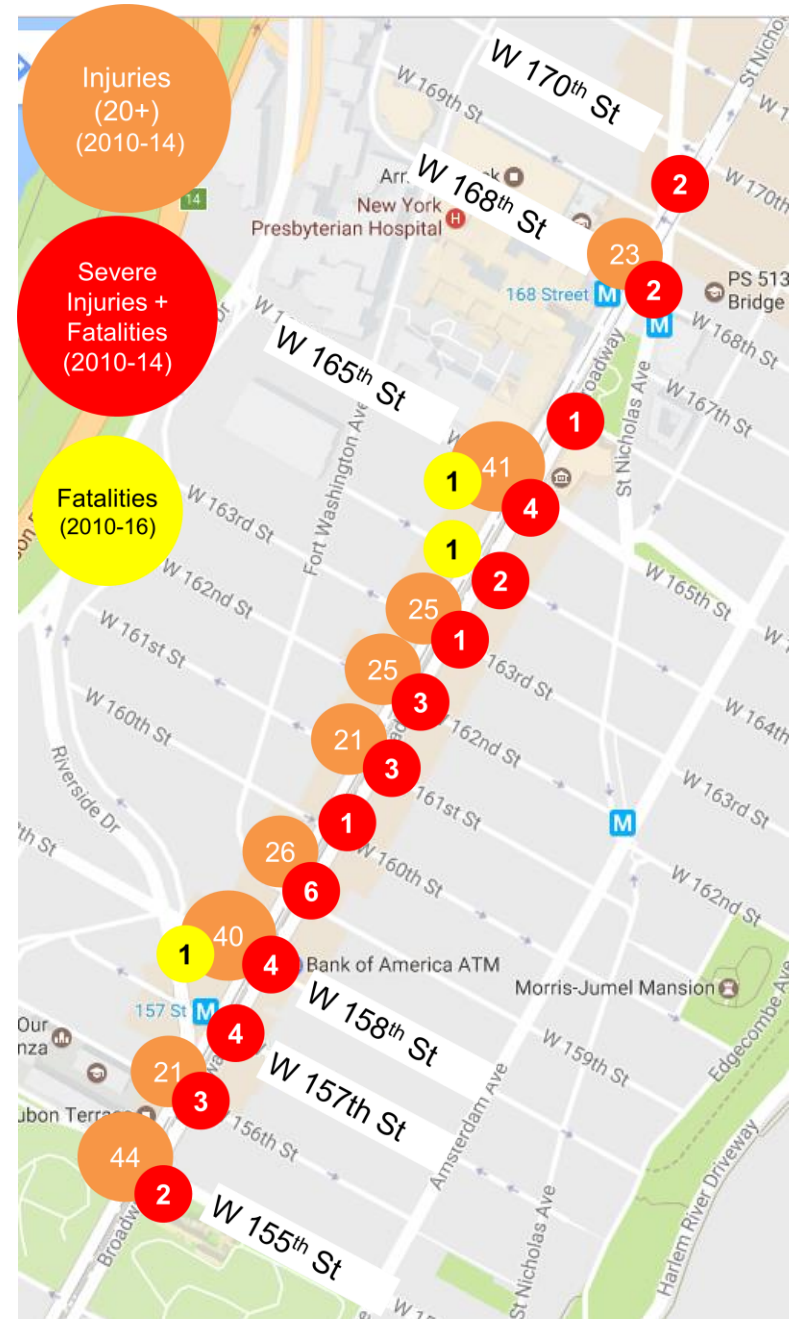
## 5 Vision Zero Priority Intersections

- W 157<sup>th</sup> St, W 158<sup>th</sup> St, W 159<sup>th</sup> St / Ft Washington, W 162<sup>nd</sup> St, W 164<sup>th</sup> St
- 15-block (0.8 mile) project area



# SAFETY DATA

- **526 total injuries** (2010-14 crash data)
- **40 persons severely injured** along 0.8 mile corridor (2010-2014 crash data)
  - 21 motor vehicle occupant severe injuries
  - 16 pedestrian severe injuries
  - 3 pedestrian fatalities
- Majority of pedestrians (59%) hit at intersections, while crossing with the signal
- Vehicle occupant injuries associated with:
  - Rear-End (24%)
  - Right angle crashes (17%)
  - Left Turn ( 16%)



# OUTREACH TIMELINE

2014-2017

- DOT works with CB 12 and community stakeholders on Washington Heights Neighborhood Transportation Study

January  
2017

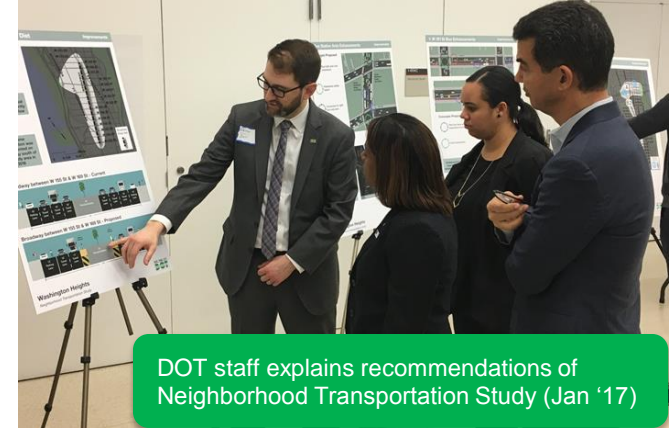
- Final Open House for Neighborhood Transportation Study, including recommendations for Broadway

February  
2017

- DOT conducts merchant surveys on Broadway, surveying over 70 businesses

April  
2017

- DOT Street Ambassadors conduct on-street surveys on Broadway at W 157<sup>th</sup> St and W 168<sup>th</sup> St
- DOT Street Teams & NYPD conduct joint Vision Zero Education outreach on Broadway at W 165<sup>th</sup> St & W 178<sup>th</sup> St



DOT staff explains recommendations of Neighborhood Transportation Study (Jan '17)



DOT Street Ambassador speaks with Broadway merchant (Feb '17)

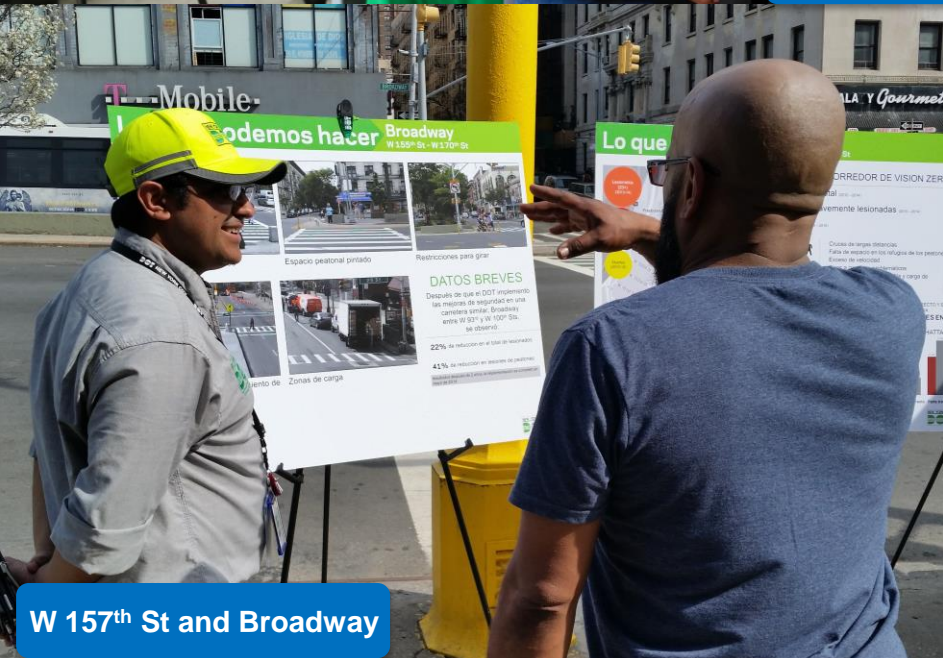


DOT Street Ambassador speaks with passerby about safety on Broadway (Apr '17)





W 168th St and Broadway



W 157th St and Broadway

## DOT Street Ambassadors conducted bi-lingual outreach on Broadway

- 67% of those surveyed said they often or sometimes feel unsafe as a pedestrian crossing Broadway
- 69% of those surveyed live in neighborhood, 23% were there for work/school



# TOP ISSUES FOR DRIVERS

Unclear and  
conflicting left turns  
between medians

W 158<sup>th</sup> St and Broadway

1/3 of motorists on  
Broadway are injured  
in left turn/right angle  
crashes (2010-14 data)





# TOP ISSUES FOR DRIVERS

Double parking,  
truck loading in  
travel lane

Broadway and W 162<sup>nd</sup> St



DOT's Office of Freight Mobility developing a **comprehensive curb management plan** for the project area

- Use merchant surveys, data and observations to develop plan for loading zones
- Intended to meet diverse needs of business on Broadway



# TOP ISSUES FOR PEDESTRIANS

Trucks limit visibility for pedestrians / vehicles

58% of pedestrians surveyed experienced this issue

Broadway and W 165<sup>th</sup> St



# TOP ISSUES FOR PEDESTRIANS

Lack of median  
refuge space at  
some locations

W 169<sup>th</sup> St and Broadway





# TOP ISSUES FOR PEDESTRIANS

Lack of pedestrian space at busy locations

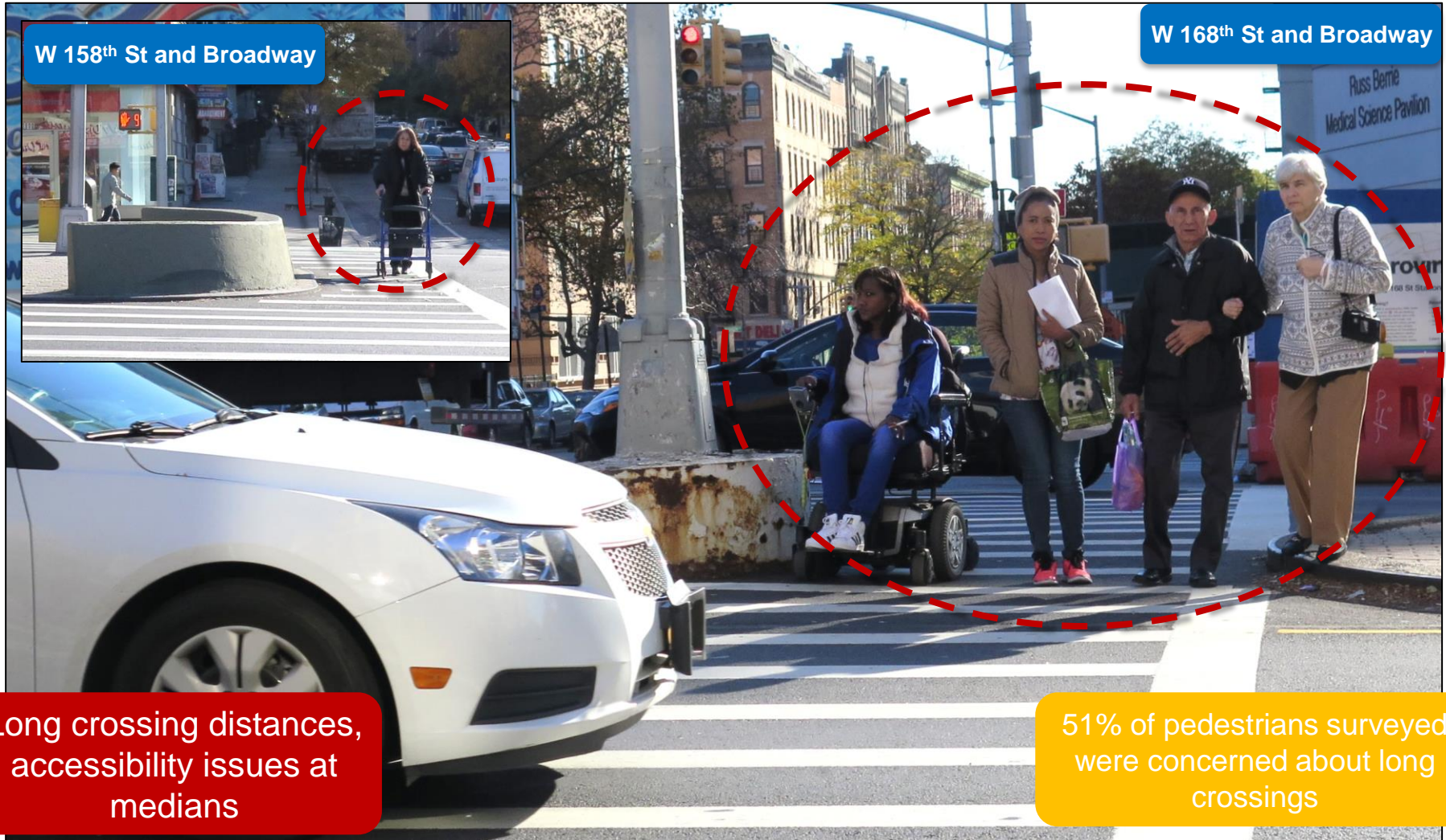
Over 800 pedestrians per hour cross Broadway at W 157<sup>th</sup> St, during peak

W 157<sup>th</sup> St at Broadway/  
Edward Morgan PI





# TOP ISSUES FOR PEDESTRIANS



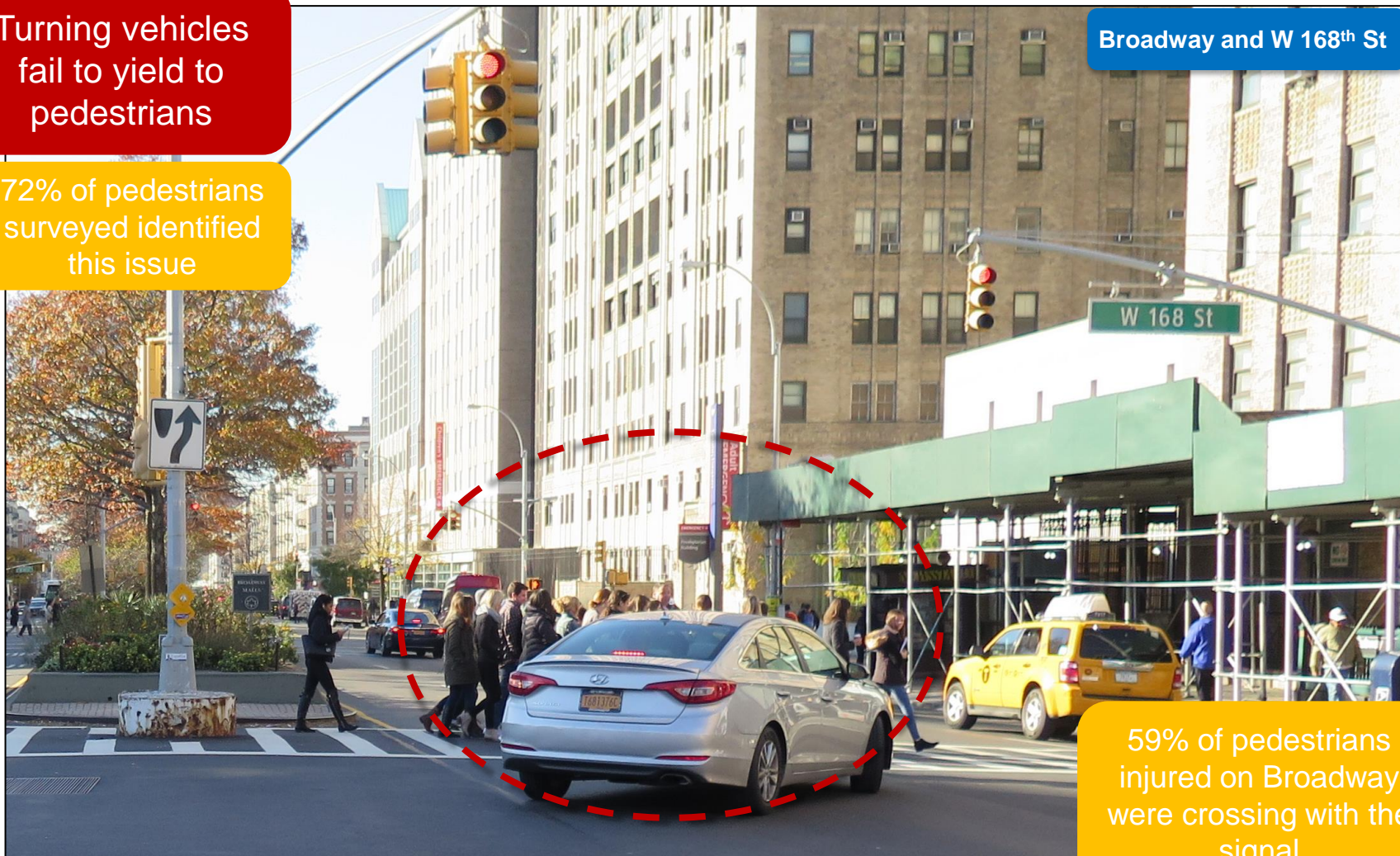


# TOP ISSUES FOR PEDESTRIANS

Turning vehicles  
fail to yield to  
pedestrians

72% of pedestrians  
surveyed identified  
this issue

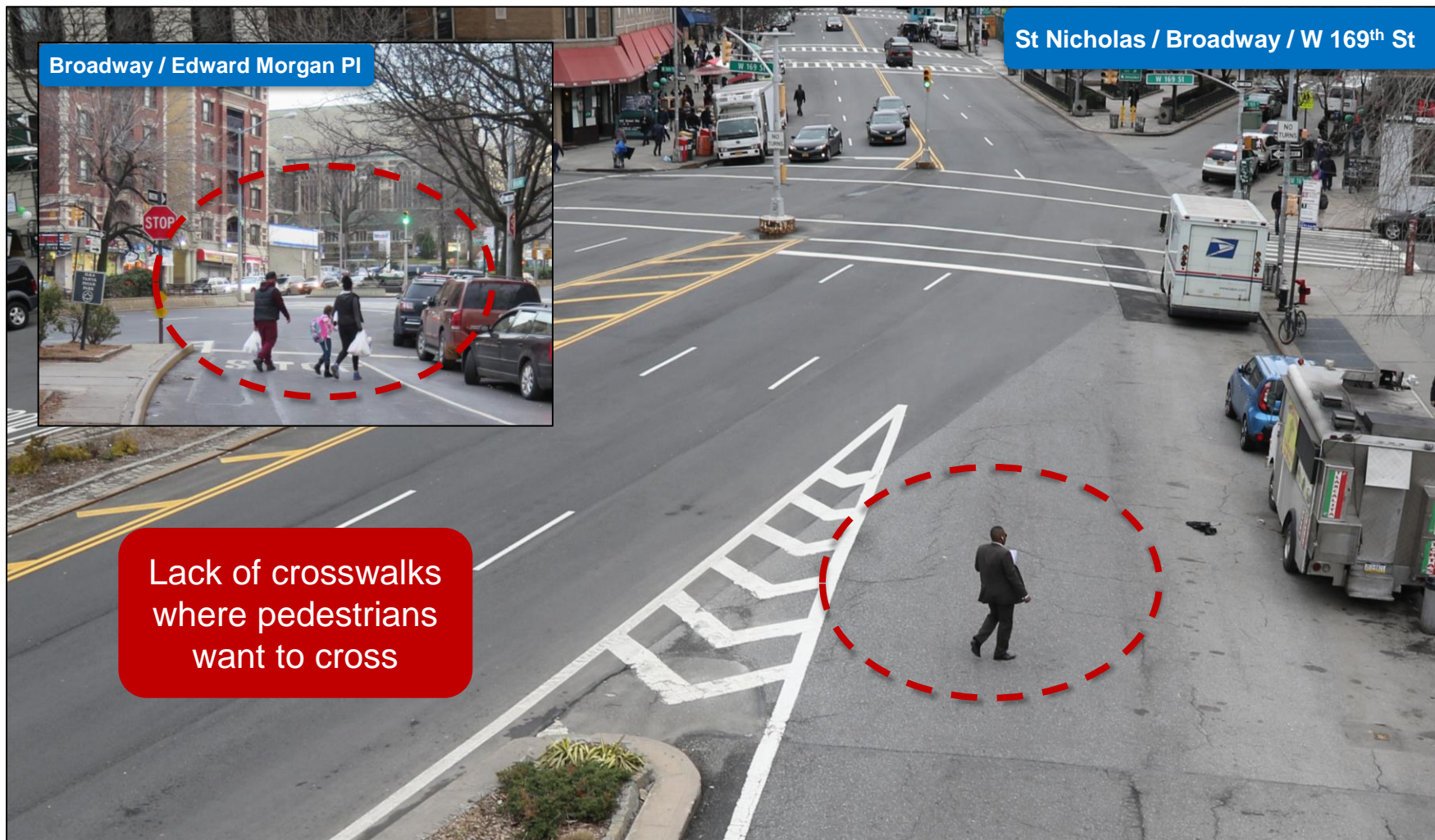
Broadway and W 168<sup>th</sup> St



59% of pedestrians  
injured on Broadway  
were crossing with the  
signal



# TOP ISSUES FOR PEDESTRIANS



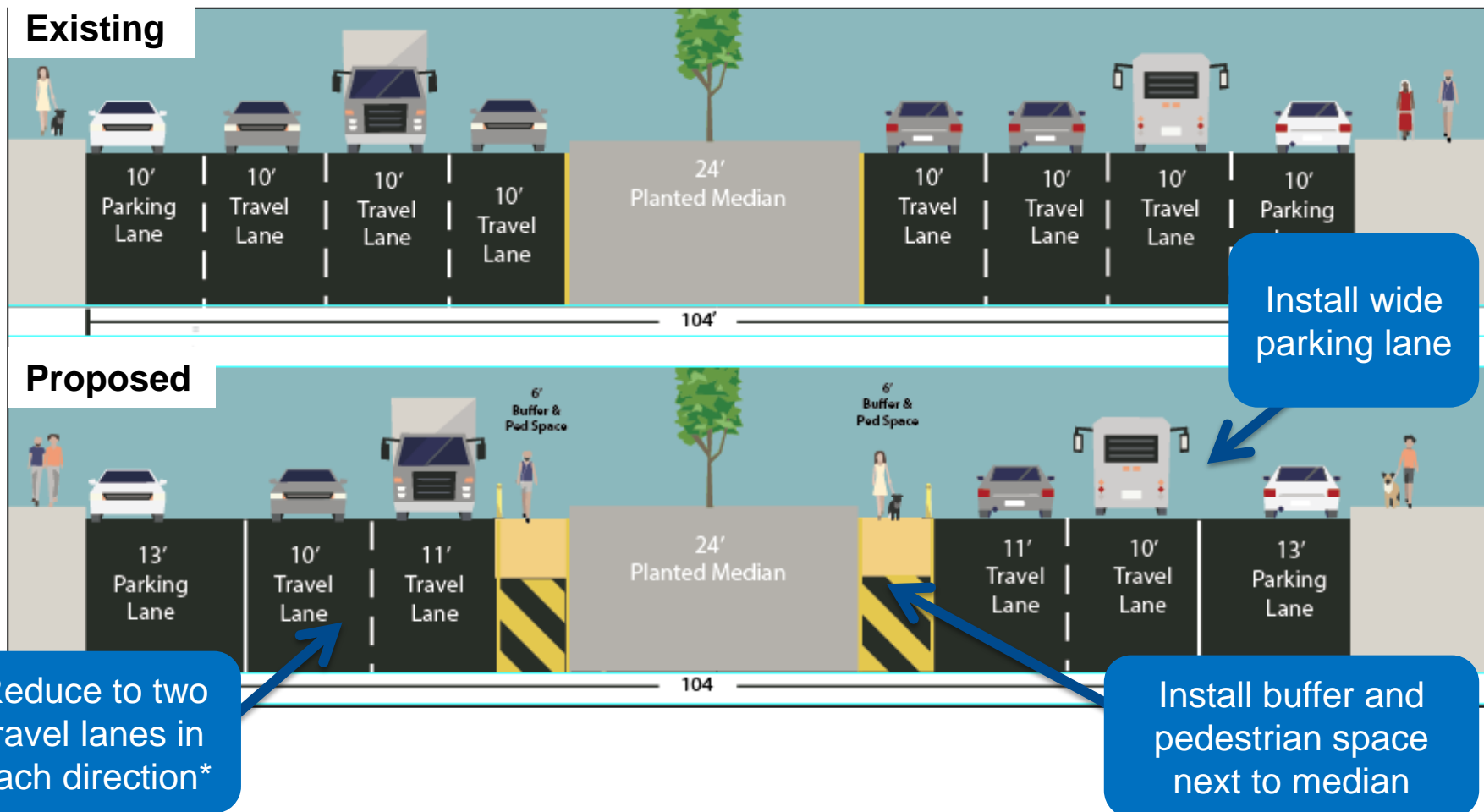


# PROPOSAL

W 155<sup>th</sup> St to W 168<sup>th</sup> St

\*3 travel lanes maintained in select locations:

Northbound: W 155<sup>th</sup> to W 157<sup>th</sup> Sts  
Southbound: W 159<sup>th</sup> St to W 155<sup>th</sup> Sts



# KEY DESIGN FEATURES

Median Widening and Markings Improvements



Broadway and W 149th St

Concrete Medians and Pedestrian Islands



Fort George Ave and W 193rd St

Painted Pedestrian Space



Canal St and E Broadway

Signal Timing Improvements

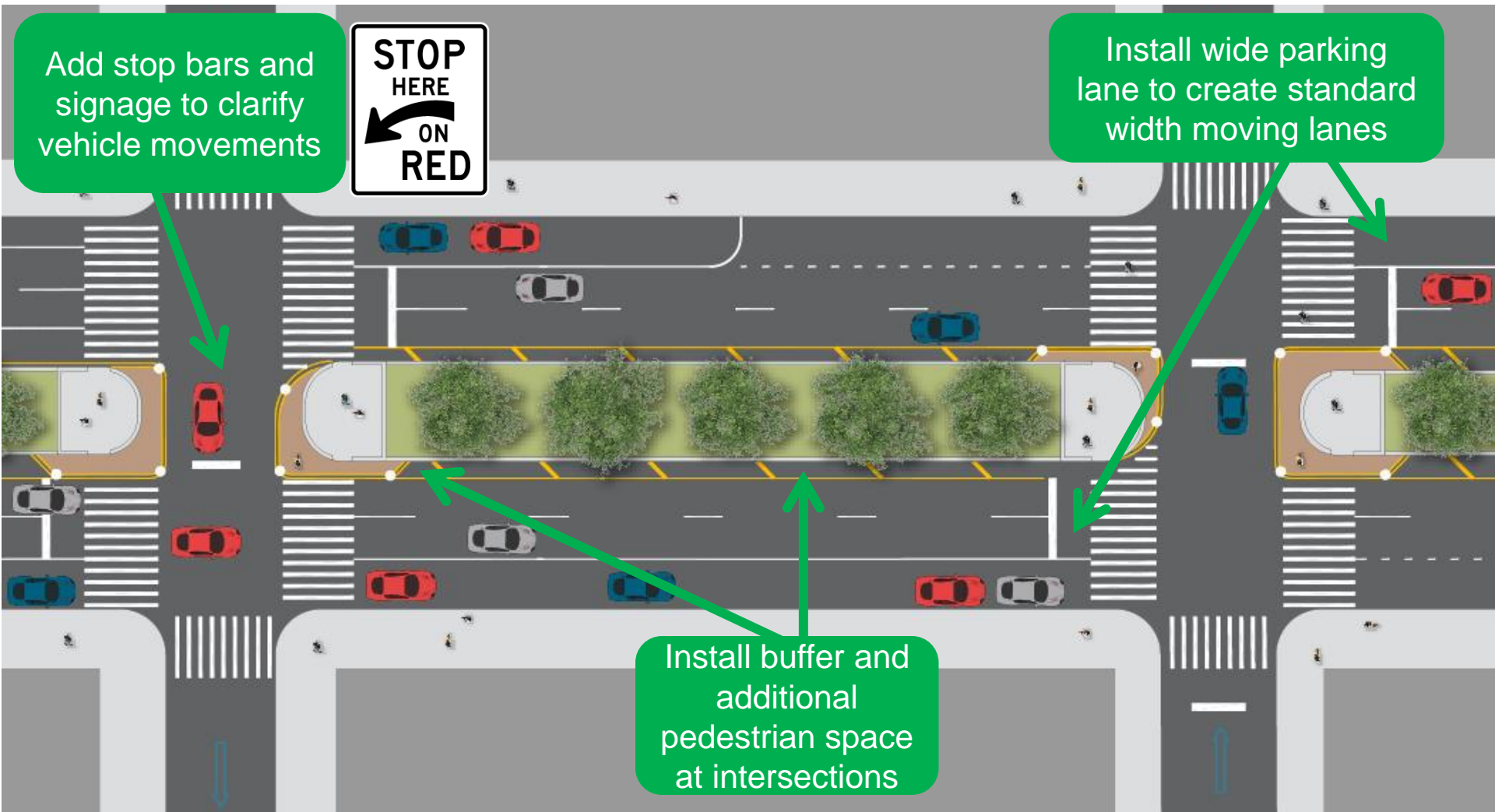


Broadway and W 155th St



# TYPICAL TREATMENT-

## BROADWAY (W 155<sup>TH</sup> ST –W 168<sup>TH</sup> ST)



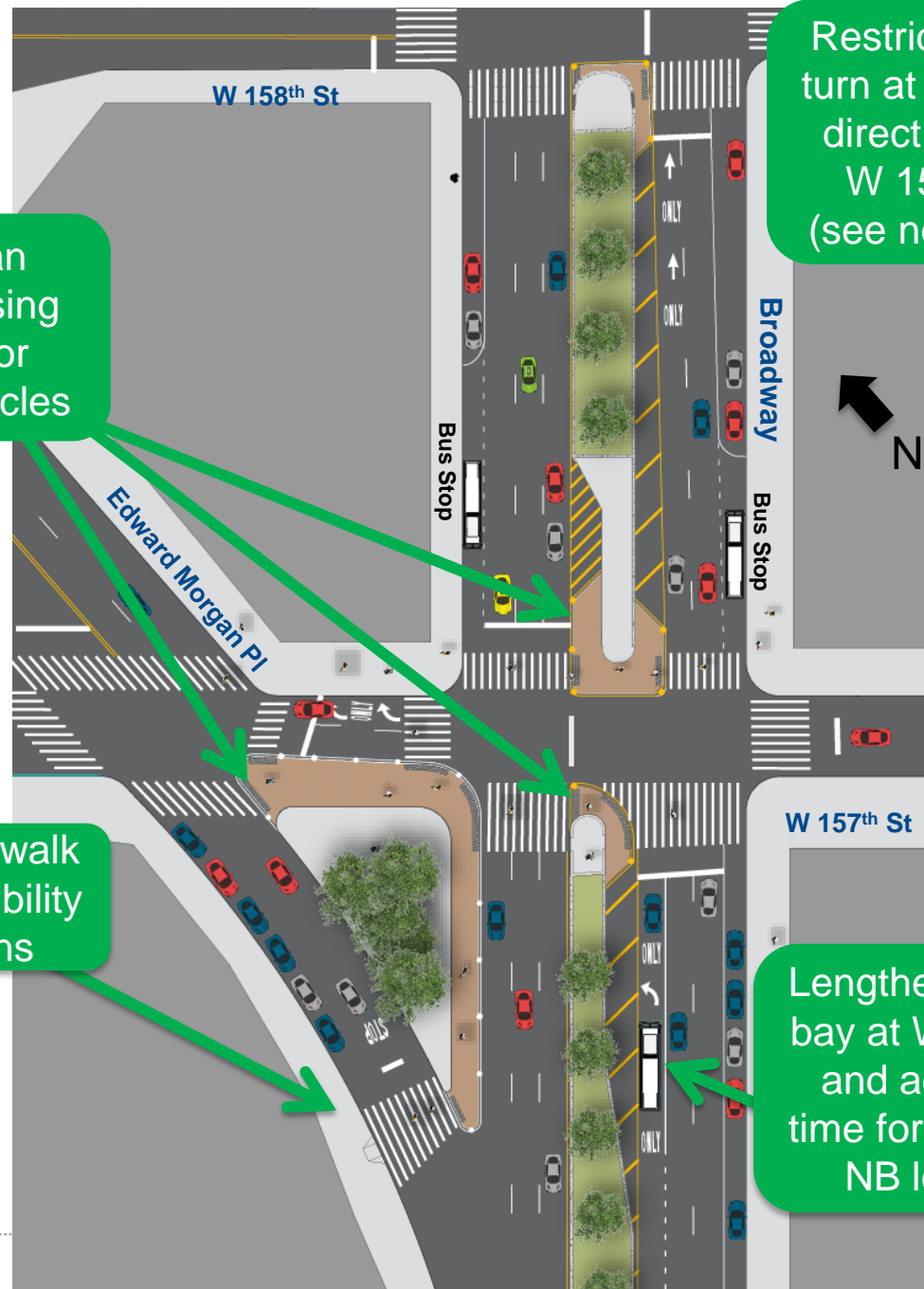
# PROPOSAL-

## W 157<sup>TH</sup> / W 158<sup>TH</sup> STS

Create new pedestrian space, to shorten crossing distances and allow for better markings for vehicles



Add new crosswalk to enhance visibility of pedestrians



Restrict NB left turn at W 158th, direct turns to W 157th St (see next slide)

Lengthen left turn bay at W 157th St and add more time for protected NB left turn



# PROPOSAL:

## W 157<sup>TH</sup>/ W 158<sup>TH</sup> ST LEFT TURNS



Proposal lengthens left turn bay storage by 110 ft, and adds 63% more protected green time for NB left turn at W 157<sup>th</sup> St

Peak Hour:  
78 Vehicles



Median gap at W 158<sup>th</sup> too narrow for NB and SB left turns

Majority of vehicle crashes from left turns/right angle at W 158<sup>th</sup> St (54.6%)



Vehicle queue regularly can't fit into short turn bay at W 157<sup>th</sup>, blocks thru NB moving lane

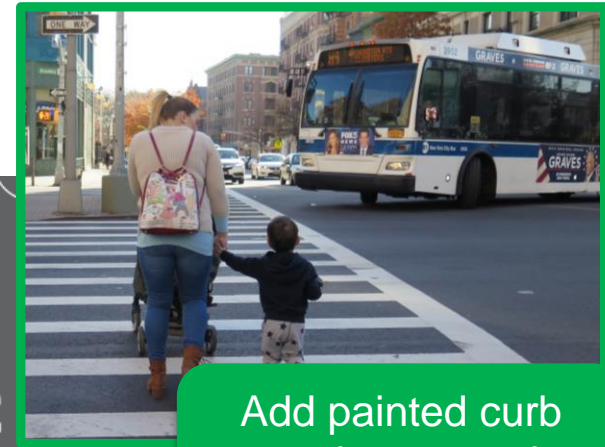
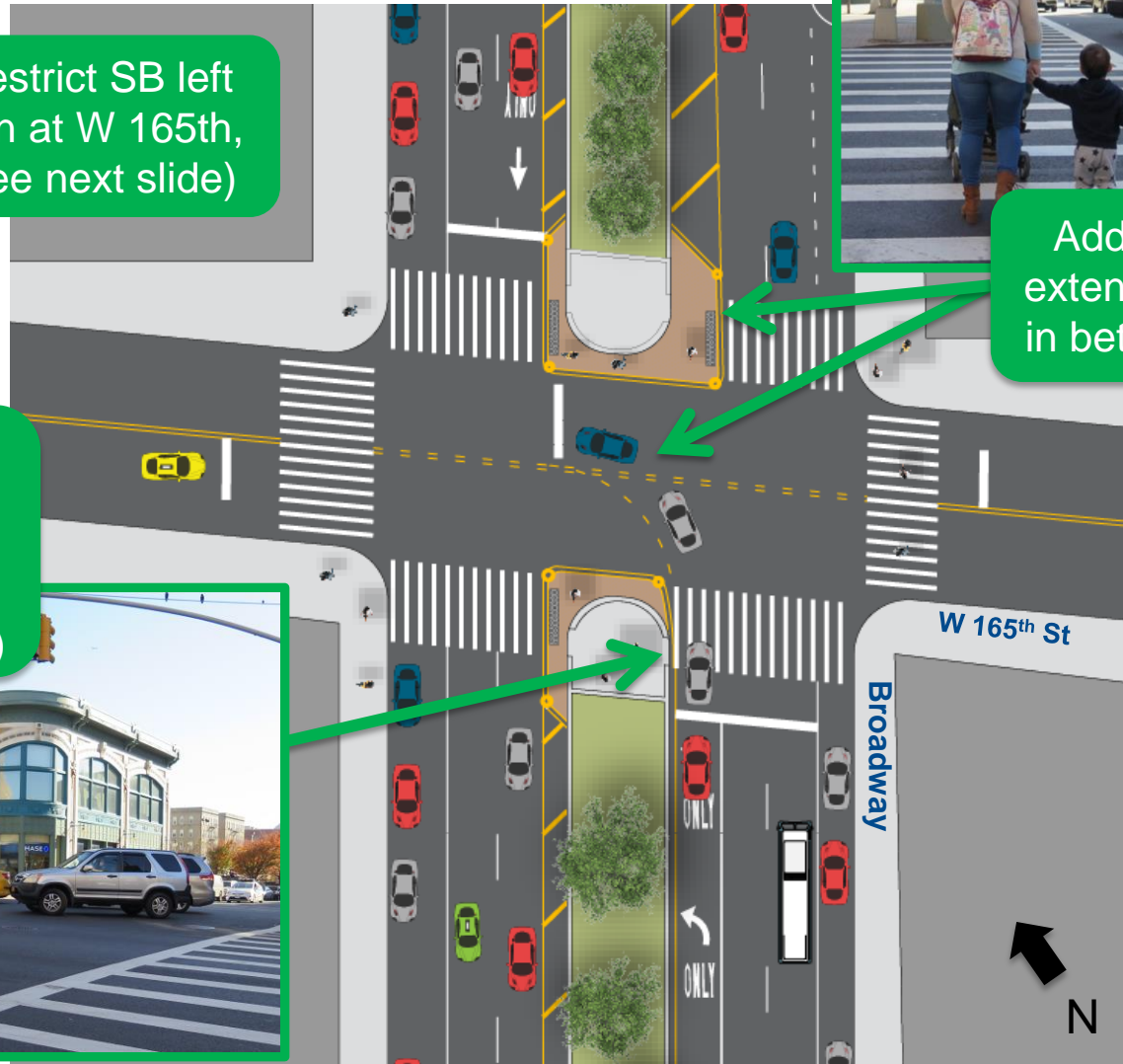
# PROPOSAL:

## W 165<sup>TH</sup> ST

Restrict SB left turn at W 165th, (see next slide)

Add painted curb extensions, stop bar in between medians

Add turn bay and dedicated signal for northbound left turn at W 165<sup>th</sup> St (NYPD/MTA request)





# PROPOSAL:

## W 165<sup>TH</sup> ST LEFT TURNS

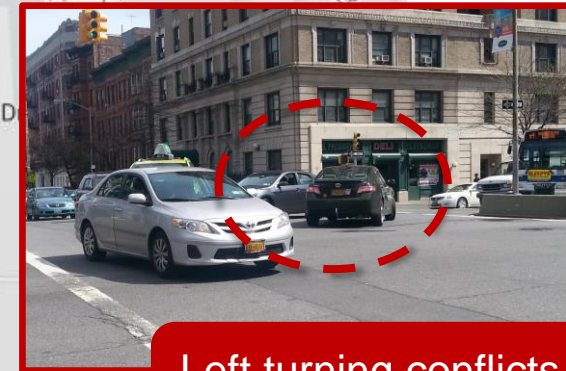


Proposal allows for addition of protected left turn phase for northbound left (174 peak vph) (NYPD and MTA request)

Peak Hour:  
23 Vehicles

Alternate Route:  
W 166<sup>th</sup> St

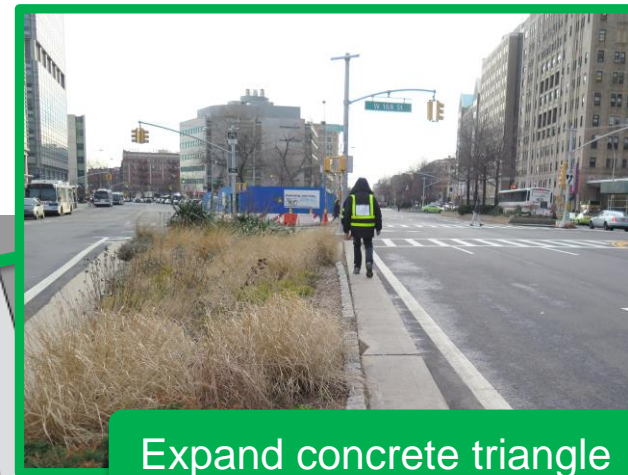
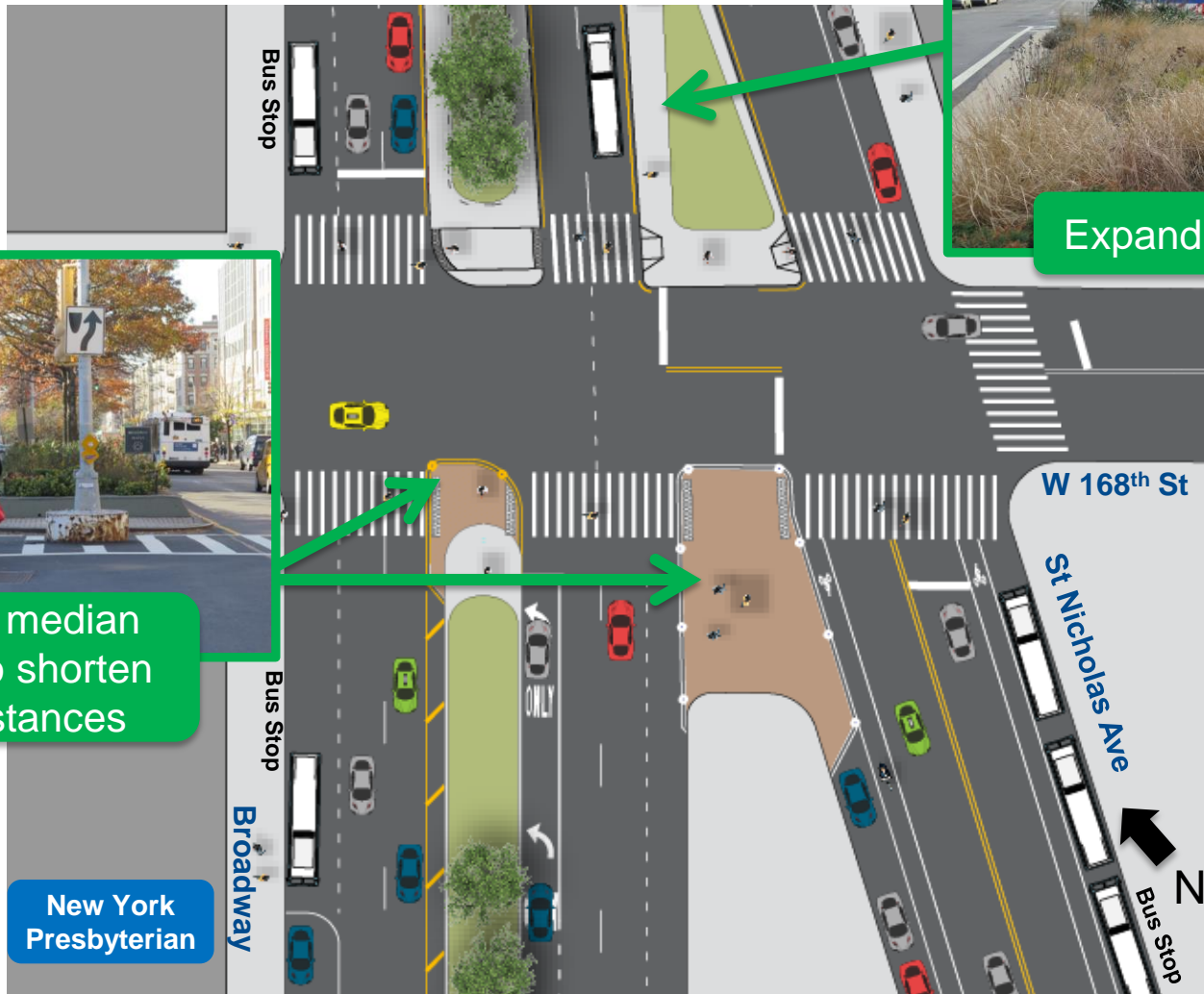
Alternate Route:  
W 164<sup>th</sup> St



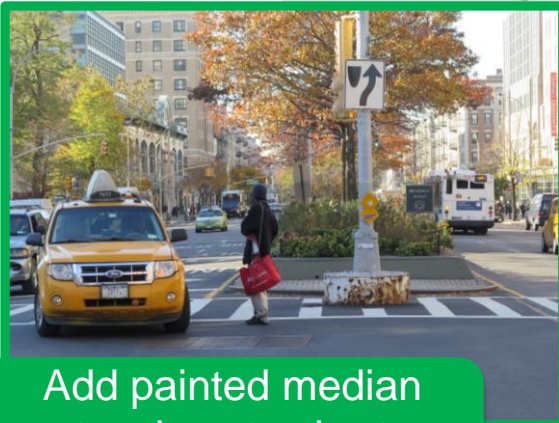
Left turning conflicts in the median

# PROPOSAL-

## W 168<sup>TH</sup> ST / ST NICHOLAS



Expand concrete triangle



Add painted median extensions to shorten crossing distances



# PROPOSAL-

## W 169<sup>TH</sup> ST/ ST NICHOLAS

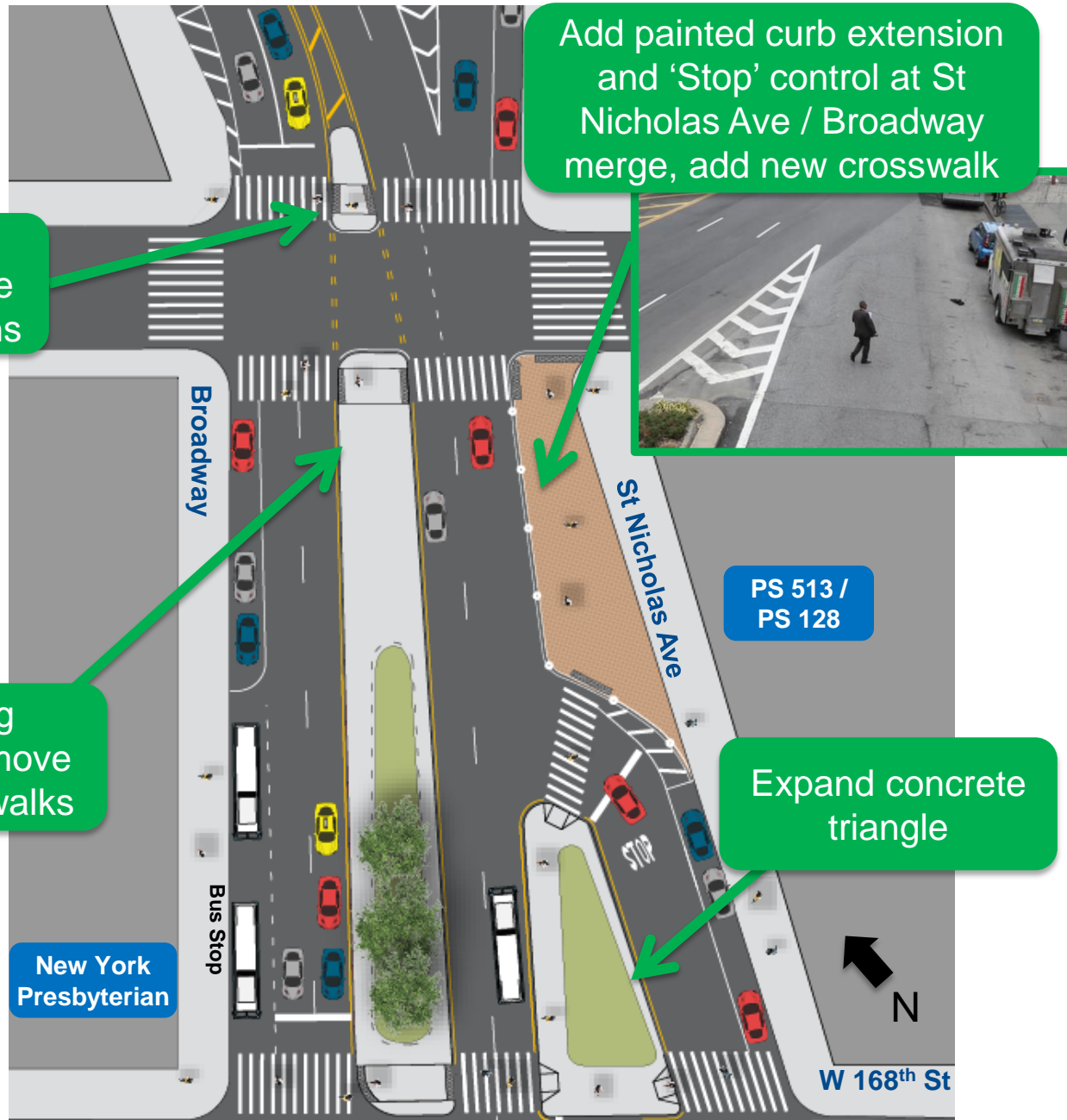
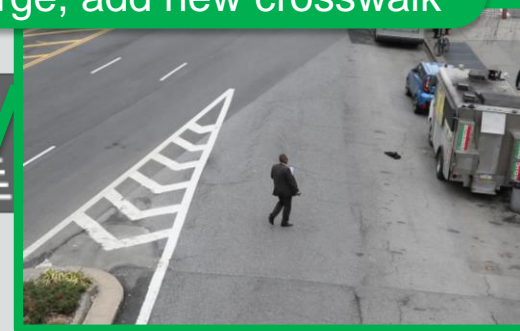
Construct concrete pedestrian island to provide refuge space for pedestrians



Improve existing concrete median, move signal out of crosswalks



Add painted curb extension and 'Stop' control at St Nicholas Ave / Broadway merge, add new crosswalk



PS 513 /  
PS 128

Expand concrete  
triangle



# BENEFITS OF SAFETY PROPOSAL

## SIMILAR PROJECTS ON BROADWAY

- 2014 Broadway Project (W 93<sup>rd</sup> to W 100<sup>th</sup> Sts)\*
  - 22% reduction in total injuries
  - 20% reduction in motor vehicle occupant injuries
  - 41% reduction in pedestrian injuries
- 2016 Broadway Project (W 135<sup>th</sup>-W 155<sup>th</sup> Sts)
  - No fatalities since implementation (6 fatalities since 2007)





# BENEFITS OF SAFETY PROPOSAL

## Median Widening and Markings Improvements

- Shortens crossing distances
- Allows for installation of stop bars, clarifying vehicle movements
- Encourages slower, safer turns, yielding to pedestrians



## Concrete Medians and Pedestrian Islands

- Shorten crossing distances
- Creates refuge space for pedestrians
- Encourages slower, safer turns, yielding to pedestrians
- Allows for upgrades of outdated signal infrastructure



# BENEFITS OF SAFETY PROPOSAL

## Painted Pedestrian Space

- Allows for installation of new crosswalks
- Shortens crossing distances
- Potential for beautification



## Signal Timing Changes

- Allows for safer, more organized distribution of left turns
- Reduces turning conflicts between vehicles and pedestrians





# THANK YOU!

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## Questions?



NYC DOT



NYC DOT



nyc\_dot



NYC DOT

# APPENDIX-

## MERCHANT SURVEYS

- DOT surveyed 73 businesses
- 27 additional businesses were contacted but did not want to be surveyed
- Surveys conducted Feb 14, 2017

Business Name	#	Street
Number 1 Chinese Restaurant	3853	Broadway
MetroPCS	3851	Broadway
Buffet	3938	Broadway
Brothers Fish Market	3845	Broadway
BBQ Dallas	3956	Broadway
VIM Drugs	3835	Broadway
Famous Famiglia	4020	Broadway
Dunkin Donuts	3833	Broadway
Tasty Deli	4020	Broadway
Guadalupana deli	3823	Broadway
Dunkin Donuts	4030	Broadway
MetroPCS	4036	Broadway
Columbia Wine Co	4038	Broadway
TS Grocery	3868	Broadway
Nancy Fashion	3872	Broadway
St. Anthony Pharmacy	3860	Broadway
Bladi's Deli	3856	Broadway
El Pitallito	3854	Broadway
Payless	3805	Broadway
Heights Smoke and Vape	3834	Broadway
162 Gourmet Deli	601 W 162nd St	
J & G Wines Liquors	3803	Broadway
Modern Gift Shop	3832	Broadway
Rite Health Pharmacy	3885	Broadway
Ana Fashion	3891	Broadway
Lil Caesars	3830	Broadway
Las Palinas Restaurant	3891A	Broadway
Boost Mobile	3897	Broadway
Coral Deli	3801	Broadway
24/7 DISCOUNT	3810	Broadway
Azeez Smoke Shop	3895	Broadway
Theresa Pharmacy	3901	Broadway
UP NYC	3806	Broadway
Columbia Gourmet Deli	3905	Broadway
Furry Rascal	3915	Broadway
Ricky Fruit Vegetable	3804	Broadway

Business Name	#	Street
GNC Nutrition Center	3799	Broadway
Columbia Pharmacy	3921	Broadway
T-Mobile	3780	Broadway
Carrot Top Pastries	3931	Broadway
Optica Express	3929	Broadway
AT&T Wireless	3925	Broadway
Subway	3795	Broadway
USA scrubs	3929A	Broadway
Planet Fitness	3799	Broadway
Galaxy Deli	3778	Broadway
A & H Photo	3933	Broadway
Empanadas Monumental	3772	Broadway
Wendy's	3939	Broadway
La Fiesta	3789	Broadway
Kennedy's Chicken Pizza & Grill	3789	Broadway
AH Broadway Grocery	3770	Broadway
Marina Dental Center	3768	Broadway
iFix4U	3783A	Broadway
La Libertad	3764	Broadway
Starbucks	4001	Broadway
Boston Market	3781	Broadway
Sbarro	4007	Broadway
Coogan's	4015	Broadway
Chipotle	4009	Broadway
Broadway gourmet deli	3750	Broadway
Riverside Gourmet Markets	3779	Broadway
Reme Restaurant	4021	Broadway
Andy pharmacy	3750	Broadway
Uptown Chemists	4027	Broadway
Tropical Spanish	3771	Broadway
Como Pizza	4035	Broadway
Tommy's Grill and Pizza	3750	Broadway
Gristedes	4037	Broadway
Santo's & Sons	3759	Broadway
Mobile Gas	3740	Broadway
Santo's & Sons	3759	Broadway
Boricua College	3155	Broadway



# APPENDIX-

## TRAFFIC VOLUMES

Existing Peak Traffic Volumes				
	Northbound		Southbound	
	AM	PM	AM	PM
W 155 <sup>th</sup> St	404	703	912	618
W 157 <sup>th</sup> St	623	988	828	538
W 158 <sup>th</sup> St	483	722	923	639
W 165 <sup>th</sup> St	378	705	1,120	770
W 170 <sup>th</sup> St	333	515	837	504

\* Vehicle counts based on automatic traffic recorder machines, data from 1/23/17 to 2/13/17