



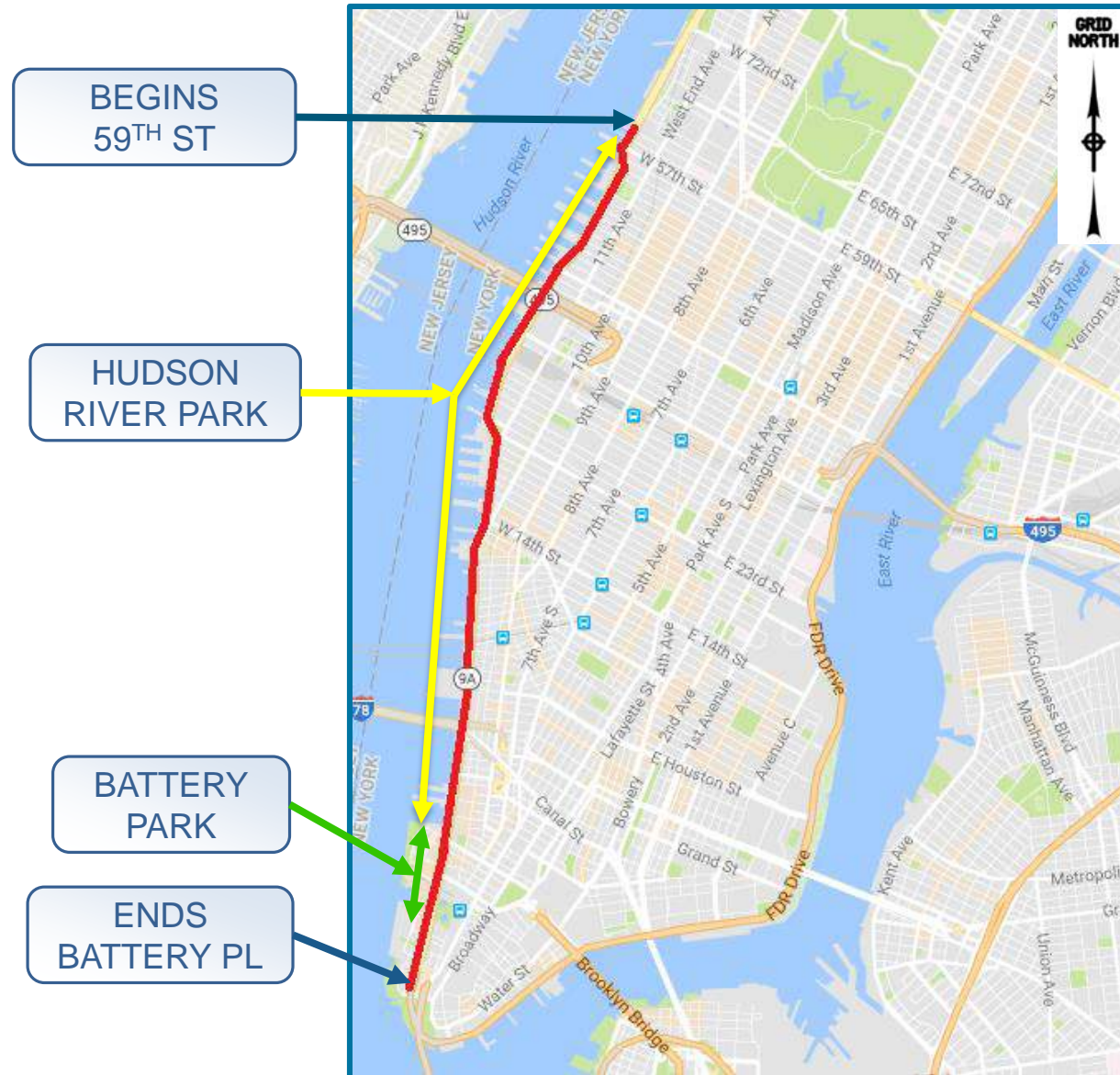
Department of
Transportation

Route 9A

Traffic Safety Evaluation Study

August 22, 2019

Study Area: Route 9A



Objective

- Evaluate traffic operations at intersections with a relatively high number of crashes in order to identify opportunities for safety improvements.



Study Overview

➤ Completed Preliminary Safety Assessment

1. Reviewed crash history at all intersections to identify those with the highest number of total crashes.
2. Identified pedestrian/bicyclist generator locations.
3. Coordinated with NYCDOT & Hudson River Park Trust (HRPT).

➤ Collected data (Summer 2018)

1. Traffic counts (vehicular, pedestrians & bicyclists) and vehicular travel speeds.
2. Physical inventory & field observations.


WE WERE HERE

➤ Quantitative assessment

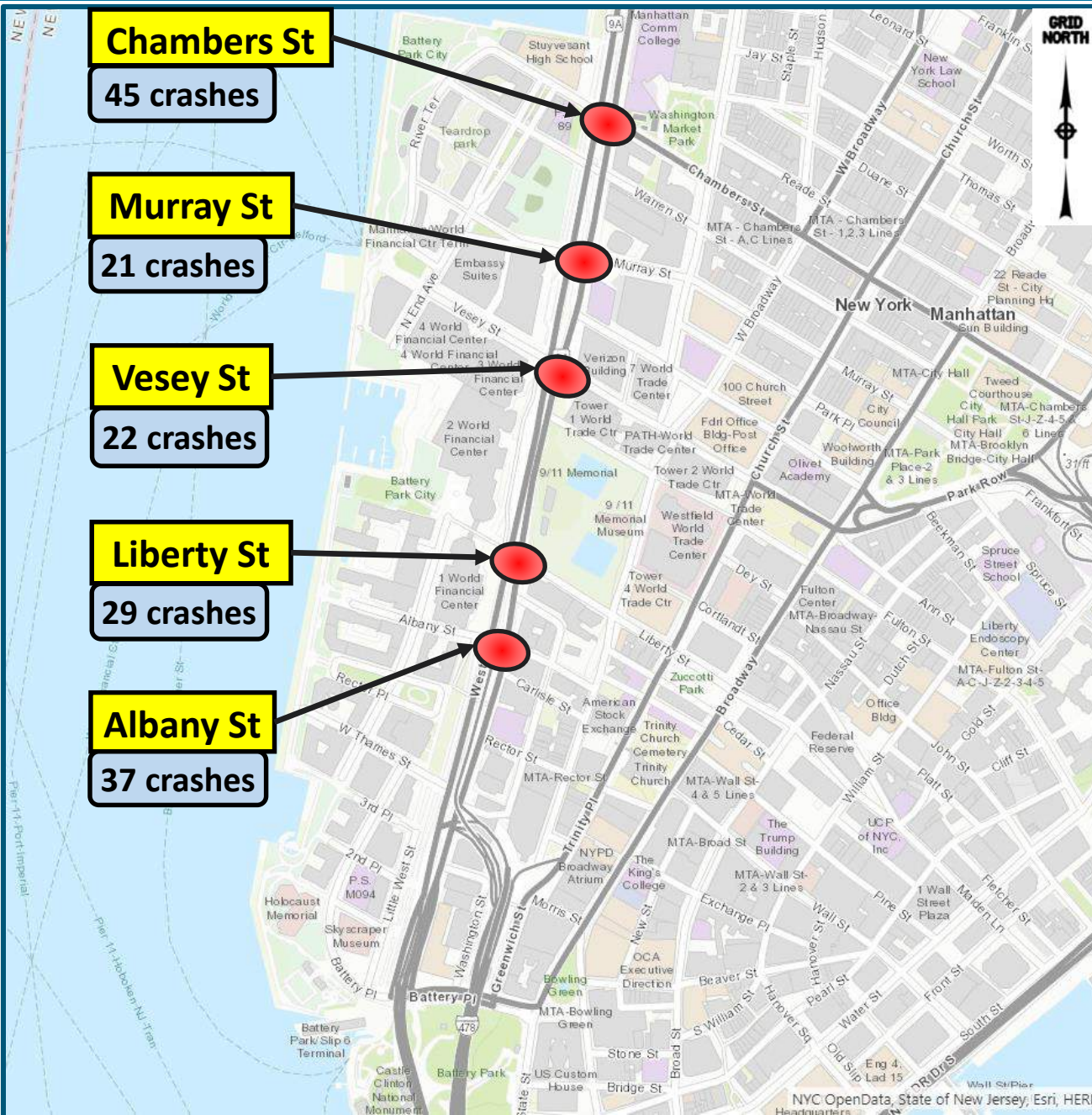
1. Performed capacity analysis for the selected intersections.
2. Evaluated existing signal timing plans in coordination with NYCDOT.
3. Present findings and recommendations concerning traffic operations.


WE ARE HERE

Battery Park to Chambers Street

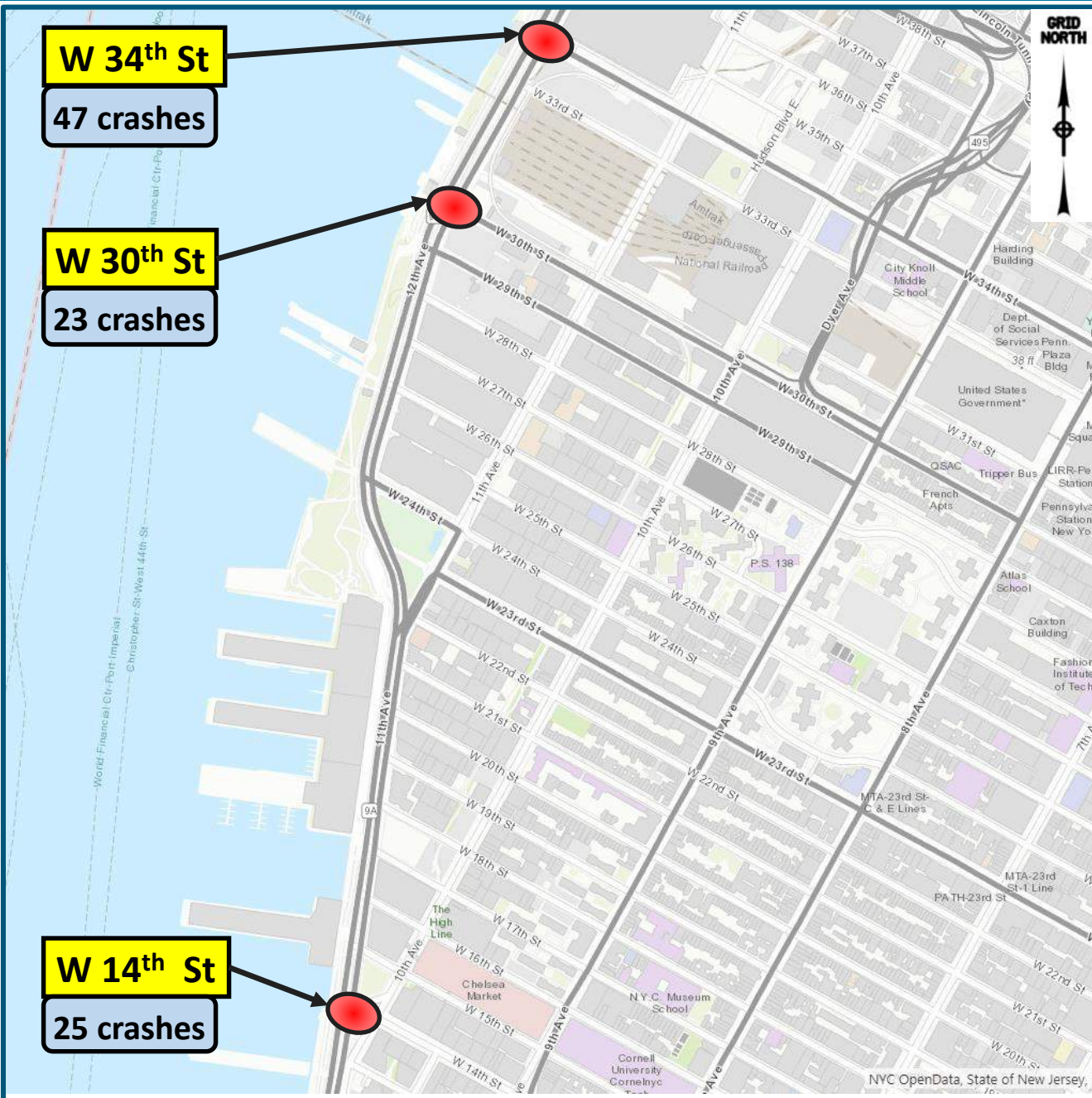
- ✓ Identified intersections with the highest number of total crashes.
(vehicles, pedestrians, bicycles)

**NYSDOT Crash Data from April 1, 2014 to March 31, 2017*



High Crash Locations

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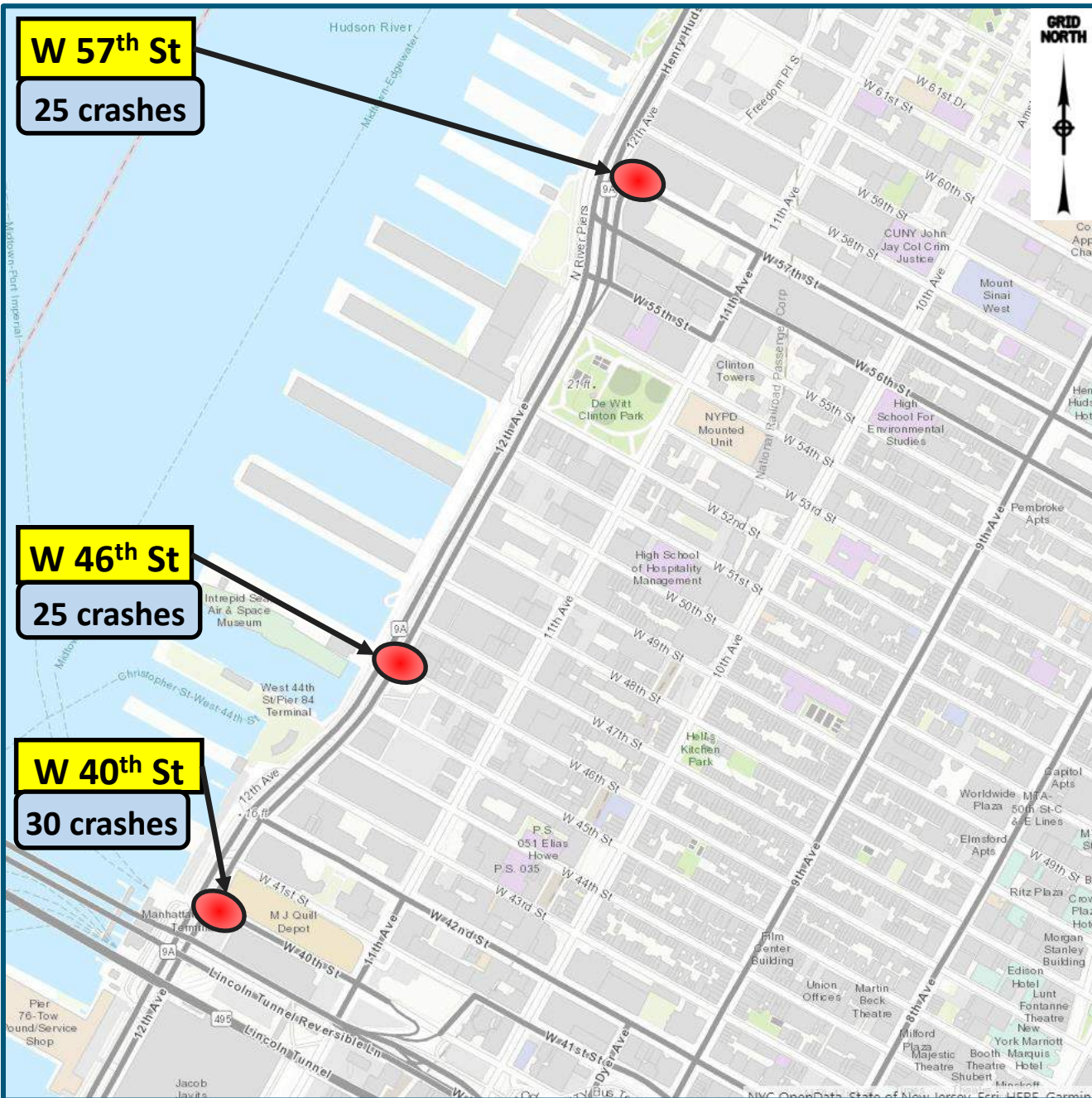


W 14th Street to W 34th Street

**NYSDOT Crash Data from April 1, 2014 to March 31, 2017*

High Crash Locations

7



W 40th Street to W 57th Street

**NYSDOT Crash Data from April 1, 2014 to March 31, 2017*

Identified Pedestrian Traffic Generators

8

Intersections	Pedestrian Generators
1. 12 th Avenue at W 57 th Street	Clinton Cove
2. 12 th Avenue at W 46 th Street	Intrepid Museum
3. 12 th Avenue at W 40 th Street	NY Water Taxi, Ferry
4. 12 th Avenue at W 34 th Street	Javits Center
5. 12 th Avenue at W 30 th Street	Heliport
6. 12 th Avenue at W 14 th Street	High Line W 14 th Street Park
7. West Street at Chambers Street	Stuyvesant High School, P.S. 89, IS 289
8. West Street at Murray Street	Regal Cinemas
9. West Street at Vesey Street	One World Trade Center
10. West Street at Liberty Street	9/11 Memorial
11. West Street at Albany Street	World Trade Center, Liberty Park

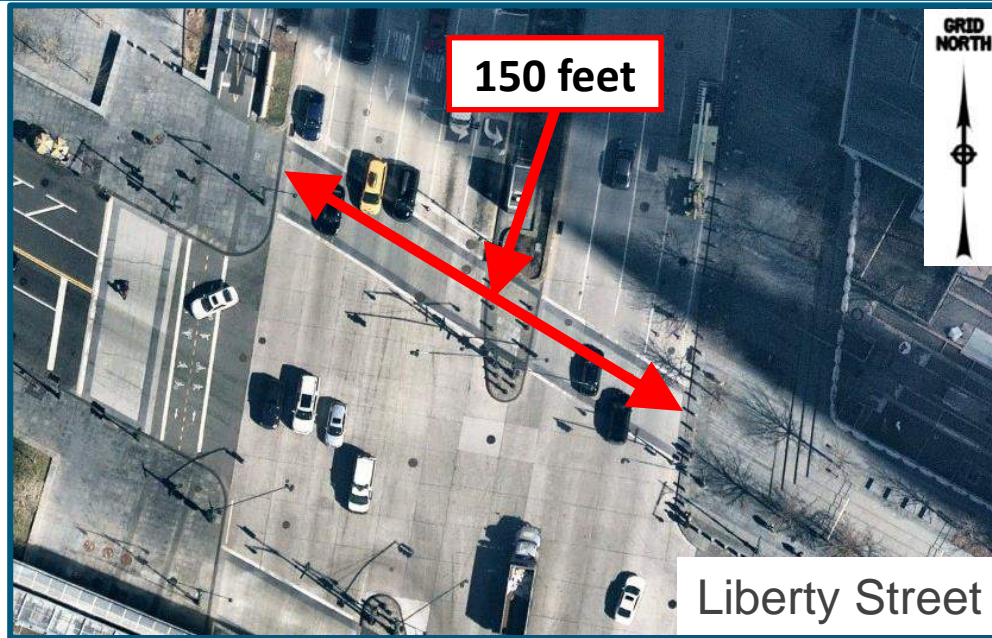
(in addition to bikeway/walkway, Battery Park City Esplanade and Hudson River)



- Faded pavement markings.



- Nonfunctioning street lamps.



- Long crosswalk across Route 9A.



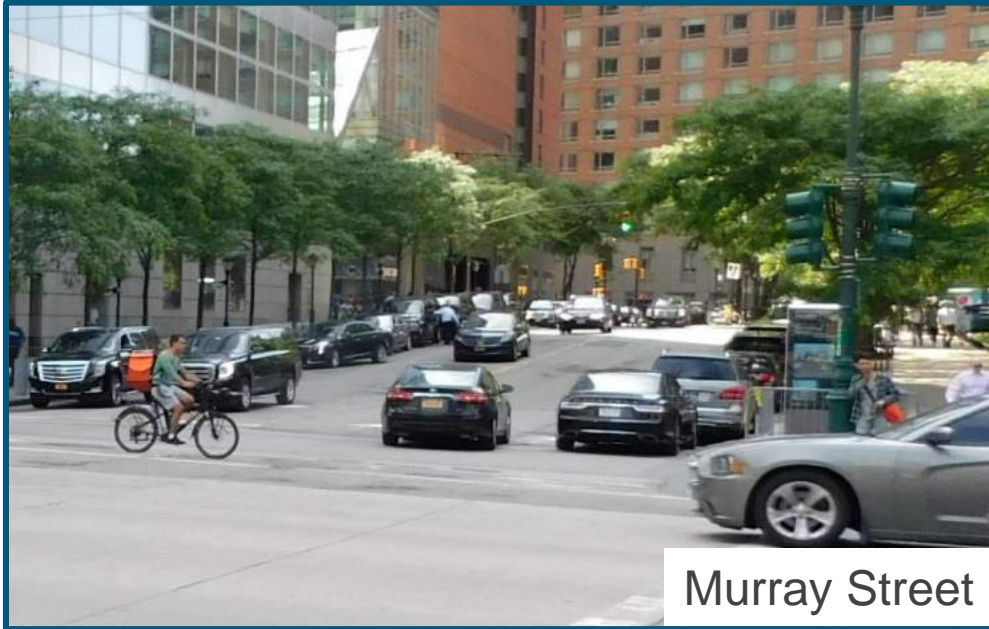
- Vehicular congestion on NB/SB West St blocking the crosswalk.



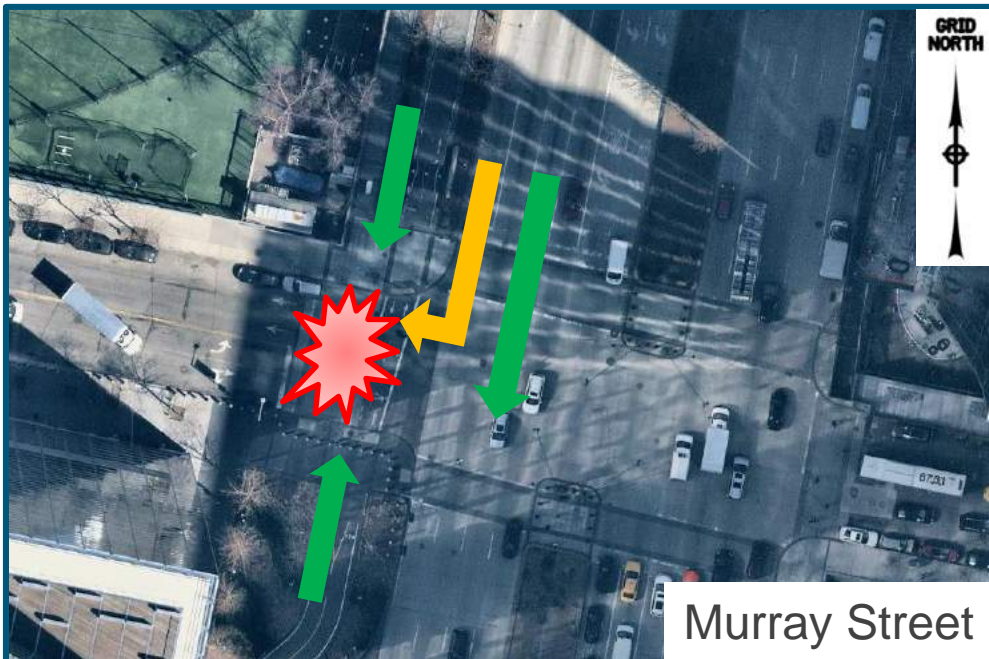
- Bicyclists failing to stop at red signal.
- Insufficient storage space between the bike path and curb for pedestrians waiting to cross.



- Vehicles driving over right lane diagonal channelization striping.



- Southbound right-turning vehicles in conflict with bicyclists and pedestrians in the west crosswalk.



Intersection

➤ Traffic Signal Modifications

- Exclusive Right Turn Phase
- Increase Cycle Length times
- Increase WALK times

➤ Pavement Markings

- Crosswalk ladder pattern
- Curb extension pavement markings
- Bikeway symbols

➤ Signs

- Right Turning Vehicles Yield to Pedestrians
- Stop Here on Red for Bicyclists

Corridor

➤ Traffic Signal Coordination

- Develop a plan with NYCDOT to improve mobility and reduce spillover at pedestrian crossings.

➤ Pavement Markings

- Restripe crosswalks and travel lanes

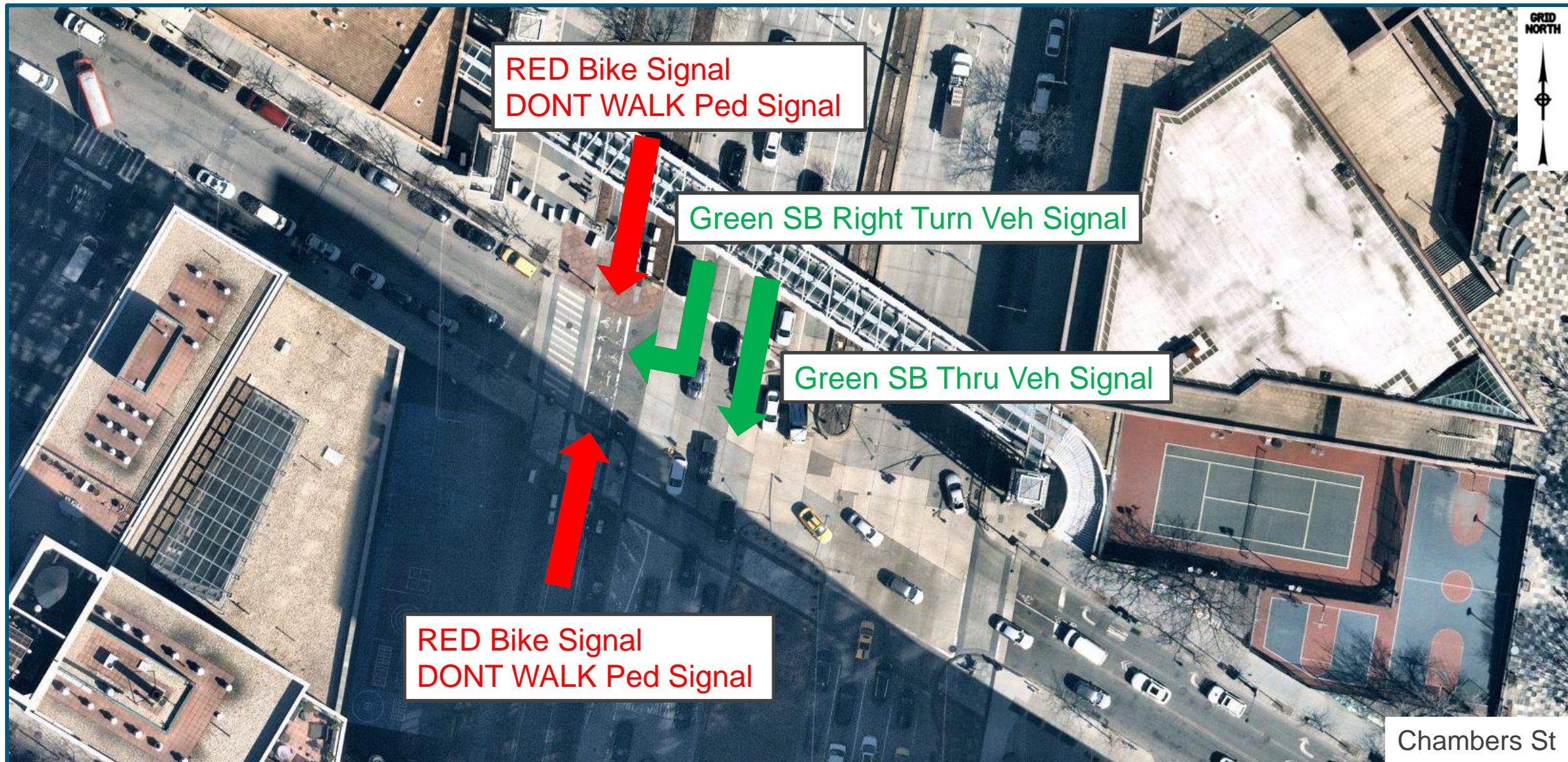
➤ Traffic Law Enforcement

- Contact NYPD to enforce traffic violations by bicyclists and motorists

Southbound Exclusive Right-Turn Signal Locations

Intersection	Proposed By
W 40 th St (NY Water Taxi Ferry)	New York State DOT
Chambers St (Stuyvesant HS)	New York City DOT
Murray St (Regal Cinemas)	New York City DOT
Vesey St (One World Trade Center)	New York City DOT
Liberty St (9/11 Memorial)	New York City DOT
Albany St (Liberty Park)	New York State DOT

Southbound Exclusive Right-Turn Signal Phase



Southbound Exclusive Right-Turn Signal Phase



Increase Walk Time

- Extend the amount of time available to cross West St.
- Increase cycle length to 150 seconds during AM Peak Hour (6am-11am) and PM Peak Hour (3pm-8pm).



Intersection	Existing Walk Time	Proposed Walk Time
Albany St	44 seconds	50 seconds
Liberty St	32 seconds	45 seconds
Murray St	36 seconds	41 seconds
Chambers St	34 seconds	44 seconds
W 30 th St	38 seconds	43 seconds

Proposed Pavement Markings

18

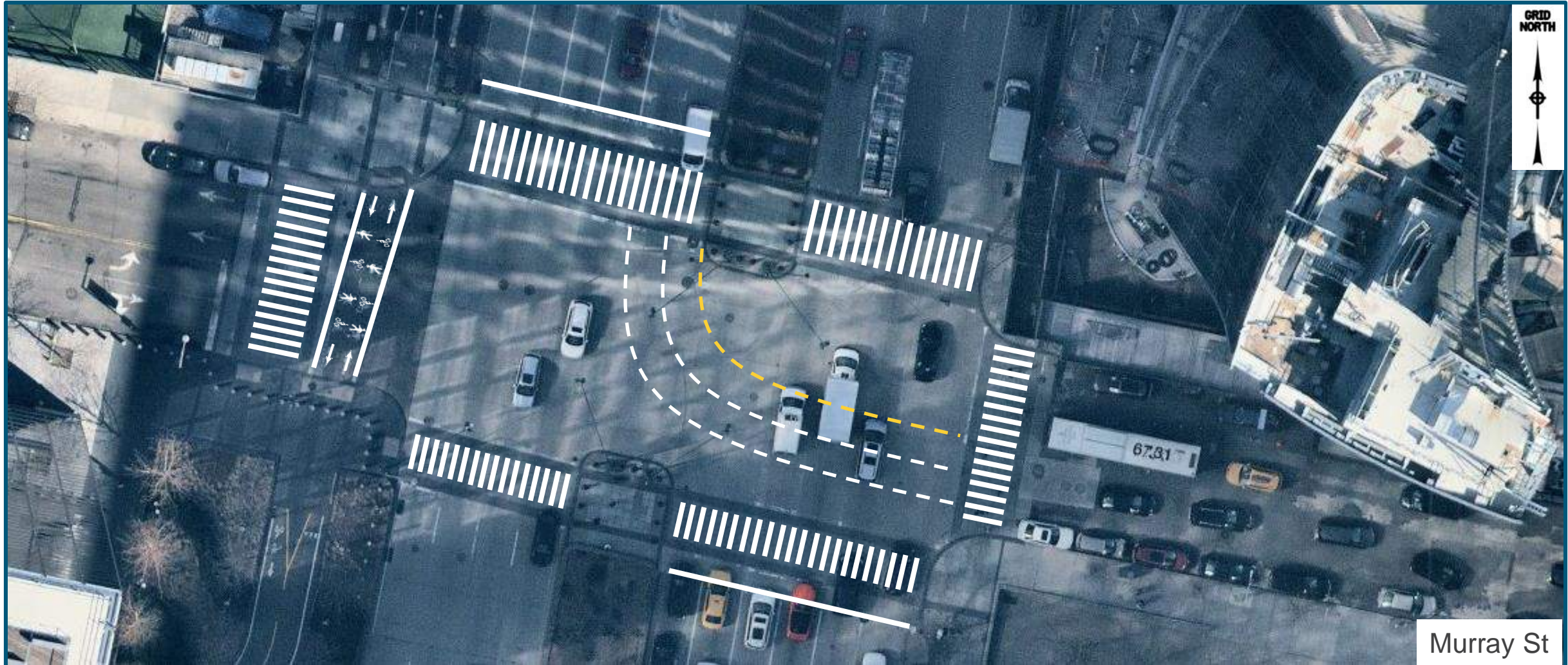
- Install curb extension pavement markings on right lane at Southwest corners.
- Reduce crossing distance.
- Reduce speed of the vehicles turning into the crosswalk.
- Prevent vehicles from driving straight on the Right Turn Only Lane.



Proposed Pavement Markings

19

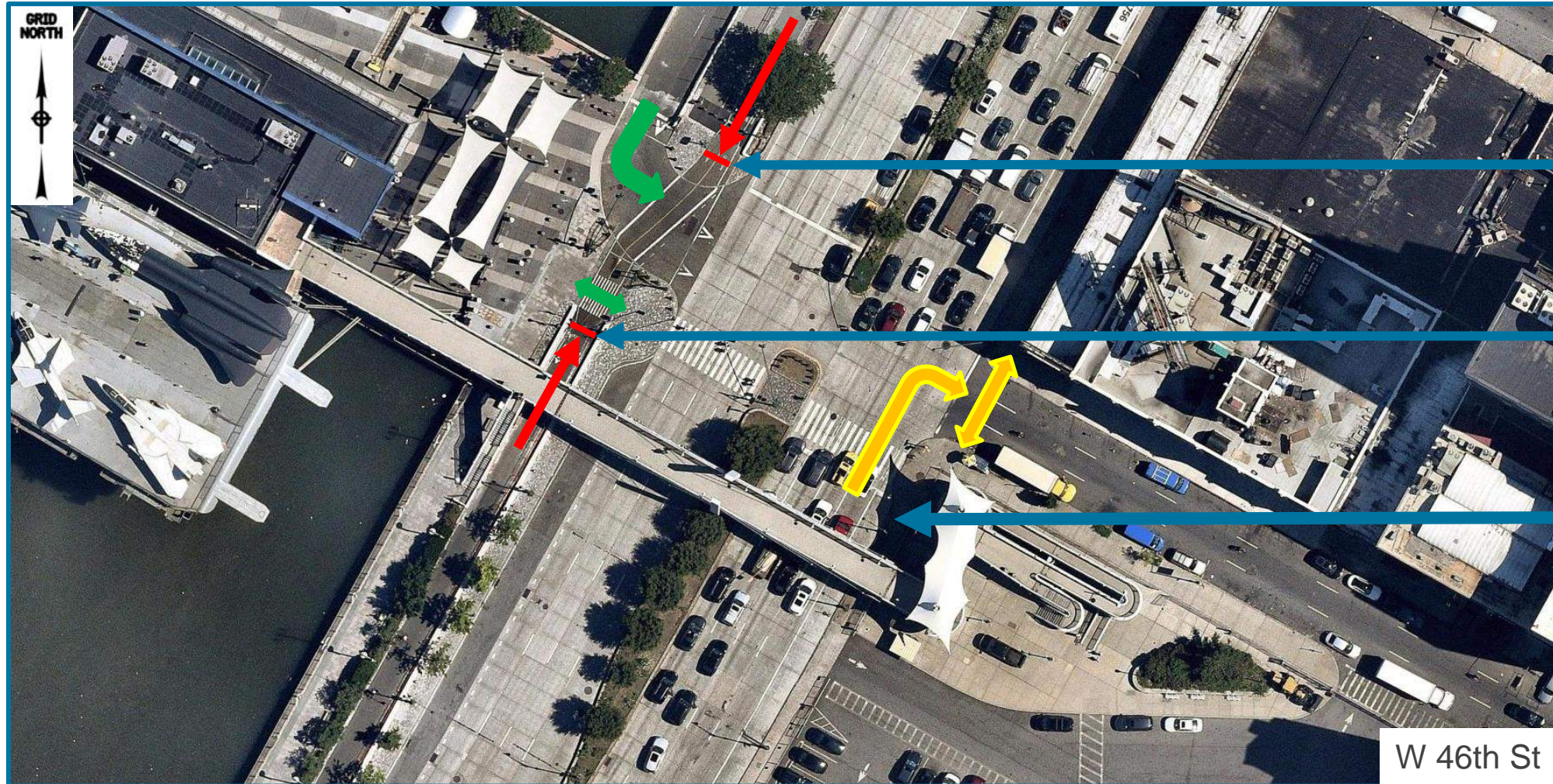
- Install crosswalk markings with ladder pattern.
- Install guide lines for vehicles making left turns.
- Restripe bikeway symbols



Proposed Signage

20

- Install Stop Here On Red for Bicycles on the Greenway crossing the pedestrian crosswalk and cross street.
- Install Right Turn Yield Sign for vehicles making right turns into crosswalk.



Proposed Improvements

21

Intersection	Increase Crosswalk Time	Exclusive Split-Phase	Curb Extension Pavement Markings	Pavement Markings	Right Turn Yield Sign
W 57 th St				☑	
W 46 th St				☑	☑
W 40 th St		☑		☑	
W 34 th St				☑	☑
W 30 th St	☑			☑	☑
W 14 th St	☑			☑	☑
Chambers St	☑	☑	☑	☑	☑
Murray St	☑	☑	☑	☑	☑
Vesey St	☑	☑	☑	☑	☑
Liberty St	☑	☑	☑	☑	☑
Albany St	☑	☑	☑	☑	☑



**Department of
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Questions?

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