



HUDSON SQUARE / WEST VILLAGE TRANSPORTATION STUDY

Community Board 2: Traffic & Transportation Committee Meeting
June 3, 2021



OVERVIEW

1. Review of Project Background
2. Already Implemented Improvements
3. Early-Action Improvements (2021)
4. Longer-Term Improvements (2022 and beyond)
5. Next Steps



Review of Project Background

1

PROJECT BACKGROUND AND STUDY GOALS

- Requested by Council Speaker Corey Johnson, CB 2, and Hudson Square Connection to conduct a **comprehensive Transportation Study**
- **Improve safety** for all street users
- Access, connectivity and circulation to **major pedestrian generators/attractions**
- **Safer crossing and access to Hudson River Park**
- **Address congestion and queue spillback along major roadways** leading to the **Holland Tunnel**
- **Enhanced quality of life** for area residents and businesses

STUDY AREA

Eastern Boundary

- 6th Av
- Greene St
- Church St

Western Boundary

- West St

Northern Boundary

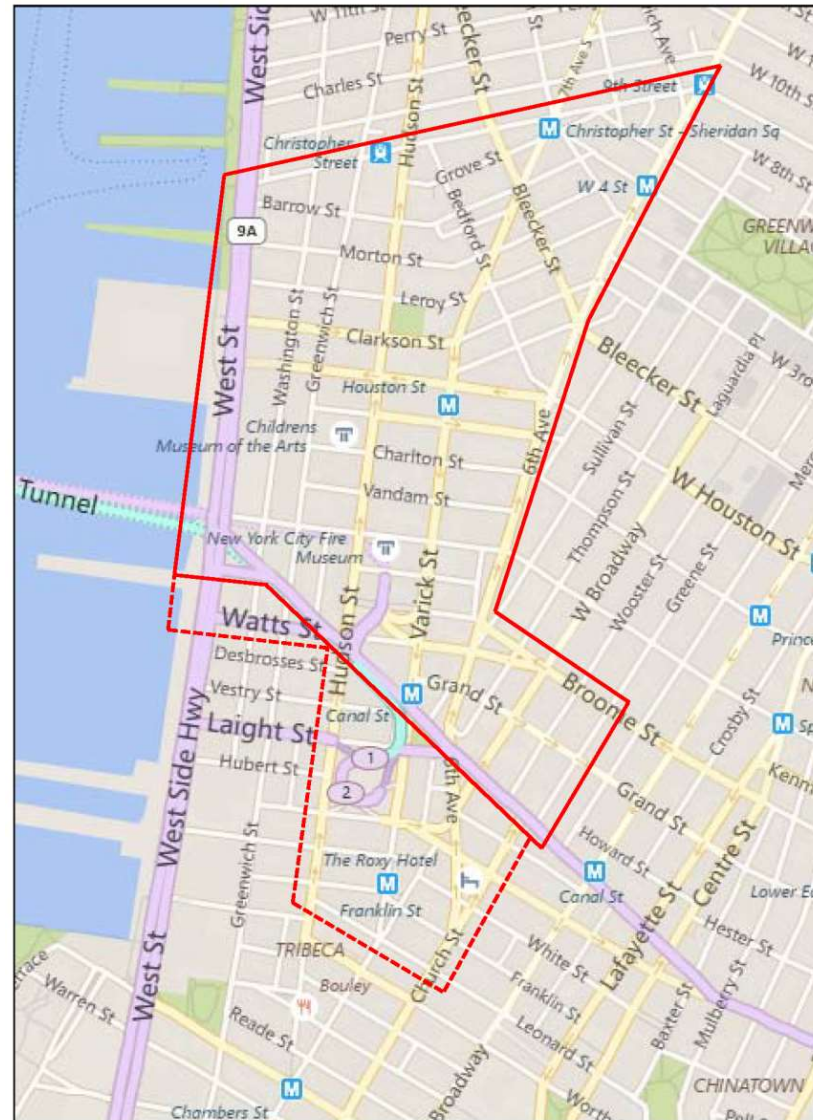
- Christopher St

Primary Southern Boundary

- Canal St

Secondary Southern Boundary

- Watts St
- Leonard St



Primary Study Area

Secondary Study Area

TECHNICAL ADVISORY COMMITTEE: LIST OF PARTICIPANTS

Agency Partners

- Fire Department of the City of New York (FDNY)
- New York City Department of City Planning (NYCDCP)
- New York City Police Department (NYPD)
- New York State Department of Transportation (NYSDOT)
- New York City Transit (NYCT)
- Office of the Deputy Mayor for Housing and Economic Development
- The Port Authority of New York & New Jersey (PANYNJ)

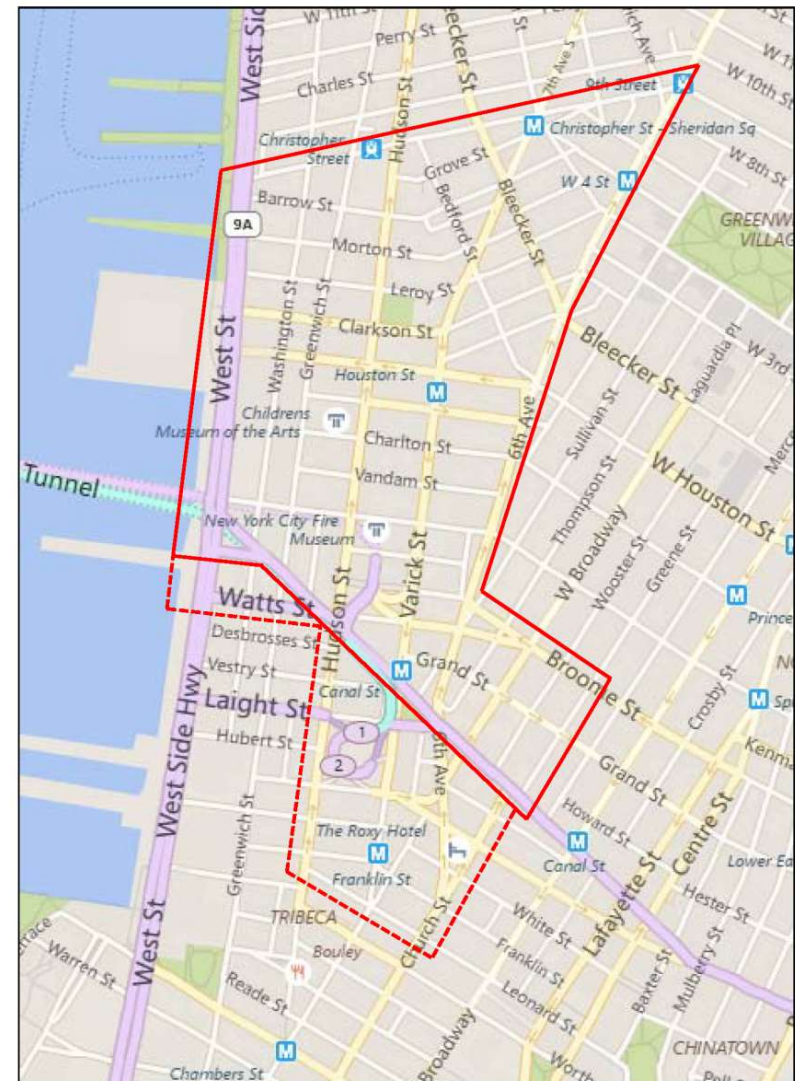
Community Partners

- Community Board 2 (CB2)
- Hudson River Park Trust (HRPT)
- Hudson Square Connection
- Office of the Manhattan Borough President (MBPO)
- Office of New York City Council Speaker Corey Johnson
- Office of New York State Senator Brad Hoylman

OVERVIEW OF IMPROVEMENTS

3 Categories:

- **Already Implemented Improvements**
- **Early Action Improvements**
Scheduled for 2020, but postponed to 2021 due to COVID-19
- **Longer-Term Improvements**
2022 and beyond



— Primary Study Area - - - Secondary Study Area

Already Implemented Improvements

2

ALREADY IMPLEMENTED IMPROVEMENTS

1. **Adjustment of signal timing at 15 intersections along 7 Av South and Varick St**
2. Construction of protected bicycle lane on 7 Av South from West 30 St to West Houston St
3. Extension of protected bicycle lane on Varick St from Clarkson St to West Houston St, and provision of pedestrian islands and curb extensions from Clarkson St to W. Houston St
4. Installation of All-Way-Stop Control signs at Washington St / Morton St
5. Provision of Leading Pedestrian Interval (LPI) for north crosswalk at 6 Av/West 4 St/ Cornelia St
6. Installation of wayfinding signage to direct pedestrians to cross West St at Clarkson St or at Morton St, rather than at Leroy St
7. Extension of the conventional bicycle lane on West 4th St between 6th Avenue and MacDougal St / Washington Sq West
8. Installation of new traffic signal at 7 Av South/Leroy St
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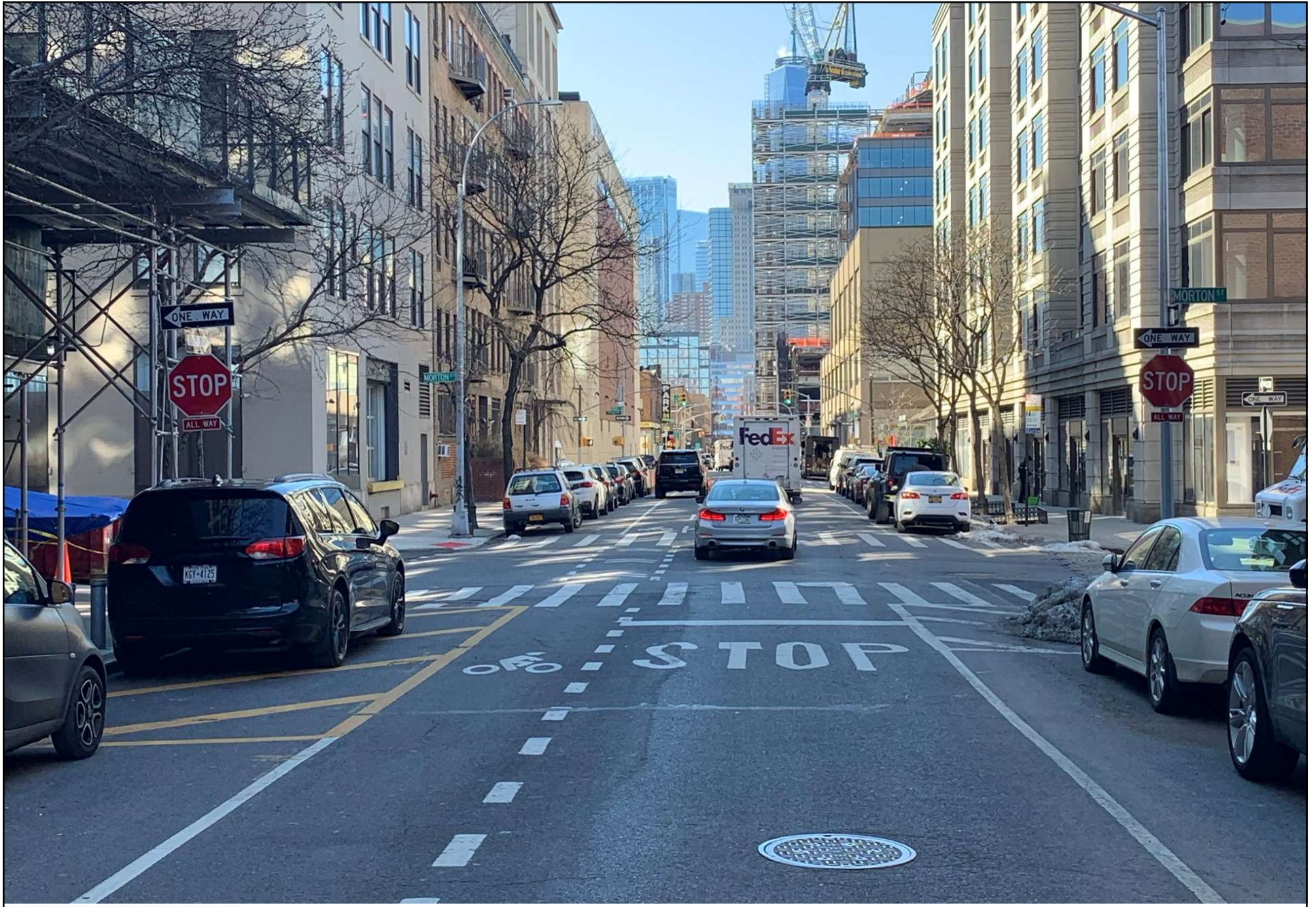
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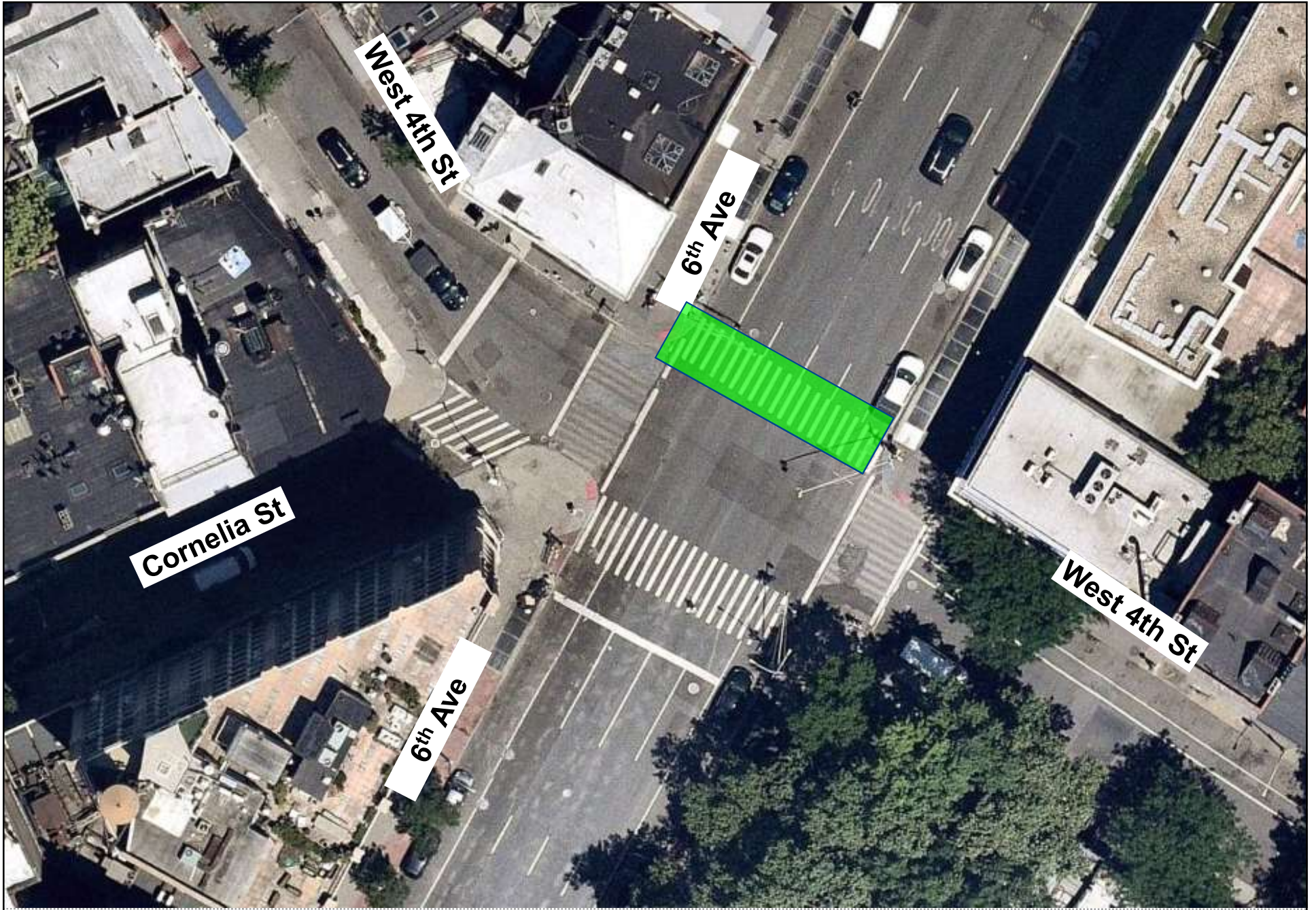




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Before (2017)



After (2018)

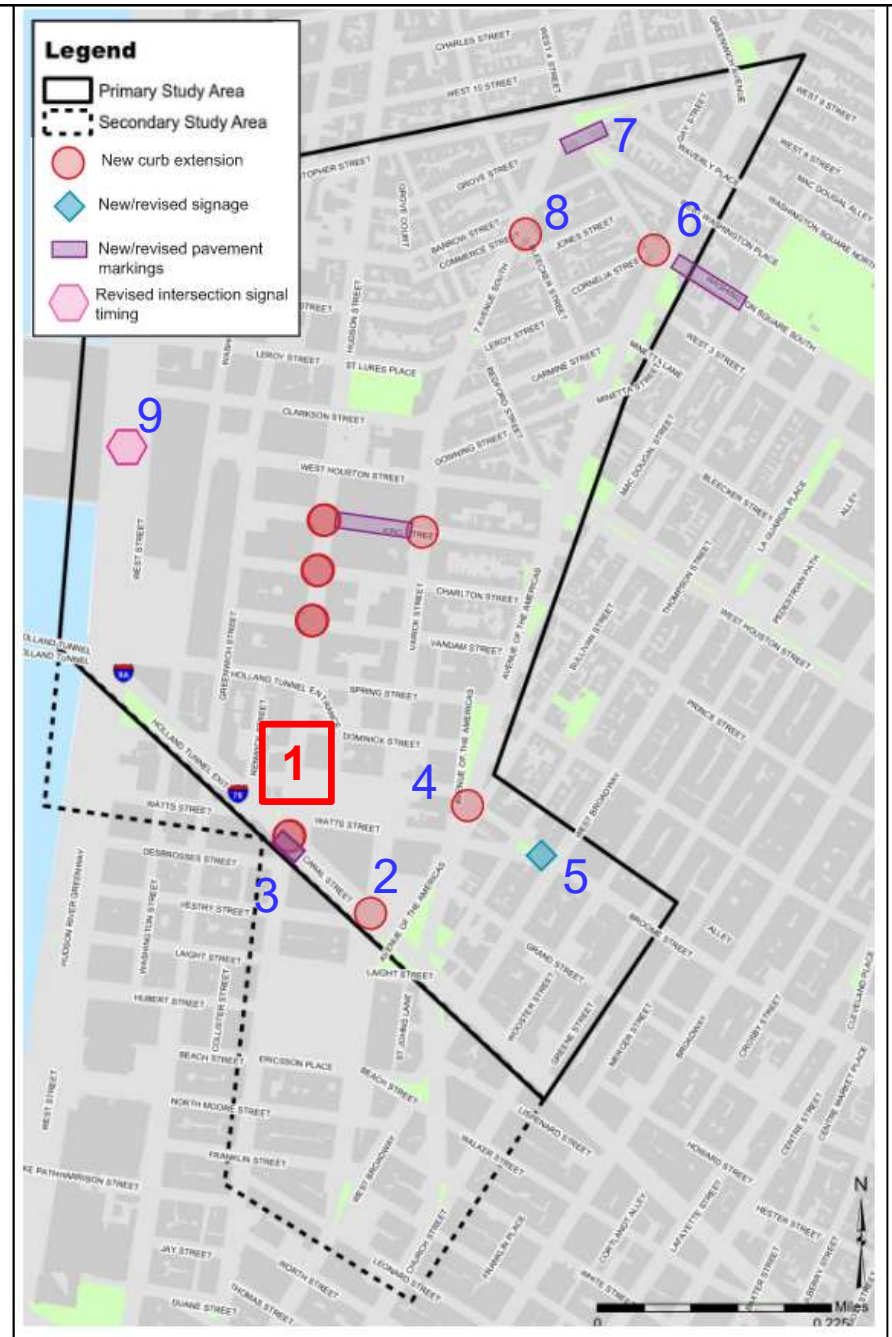


Early-Action Improvements (2021)

3

EARLY ACTION IMPROVEMENTS (TO BE IMPLEMENTED IN 2021)

1. Canal St/Hudson St
2. Canal St/Varick St
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4. 6th Av/Broome St
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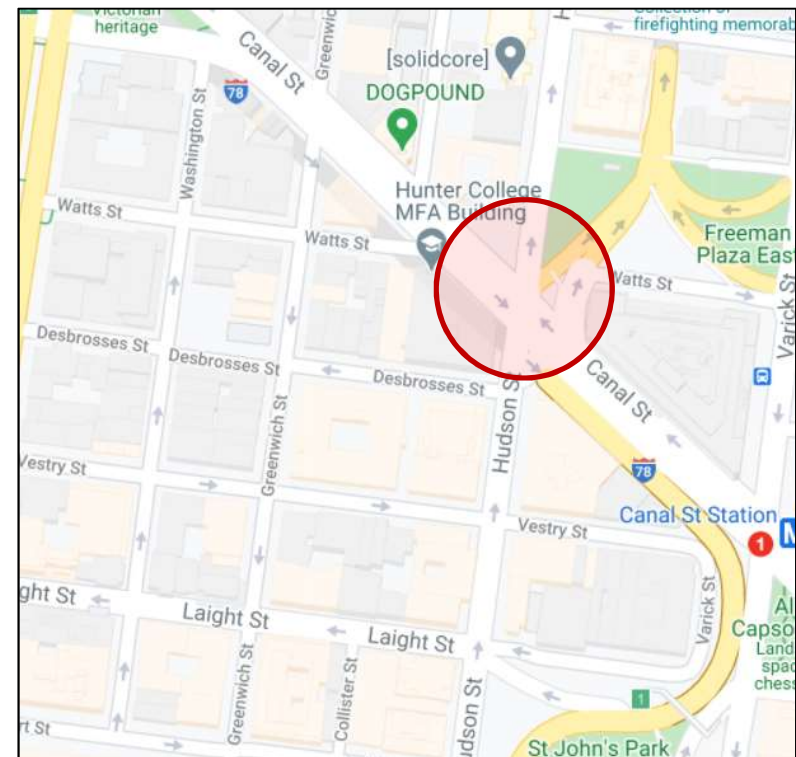


CANAL ST / HUDSON ST

ISSUE: Long pedestrian crossing distances across Canal St



Looking south on Hudson Street from north of Canal Street

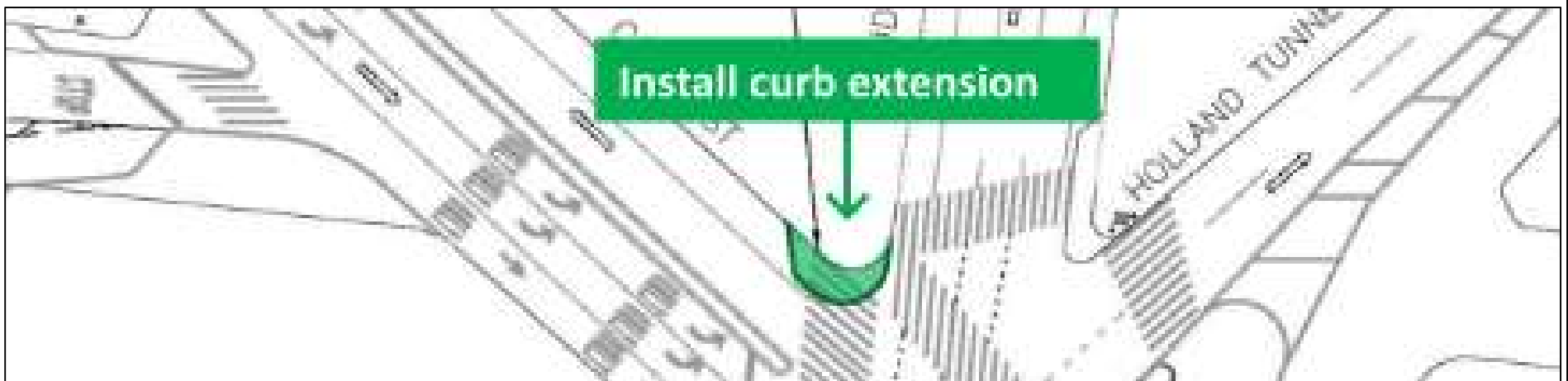


Source: Google Maps.

CANAL ST / HUDSON ST (Cont'd)

PROPOSED IMPROVEMENT:

- Install one curb extension at northwest corner of Hudson St and Canal St intersection.

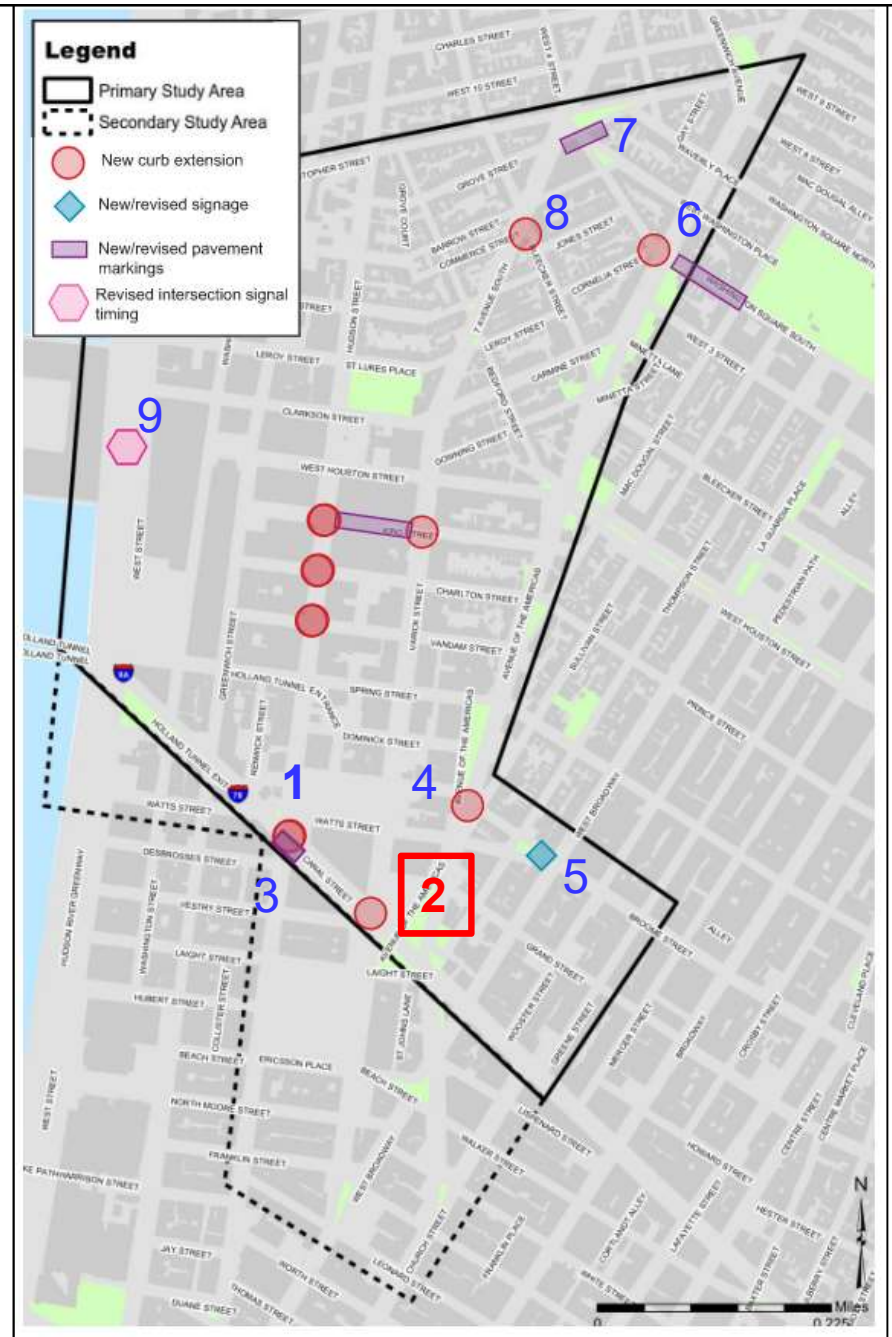


*Curb extensions under 11 ft wide require maintenance partner

** The temporary curb extensions will be made permanent as part of a future improvement

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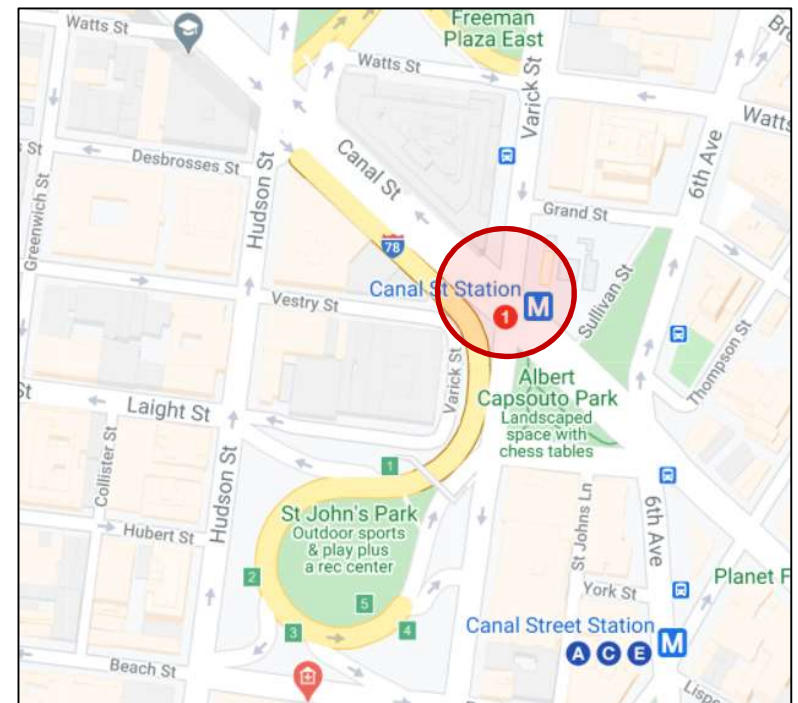


CANAL ST / VARICK ST

ISSUE: Existing curb extension on northwest corner creates challenging right-turn movement for trucks due to intersection angle



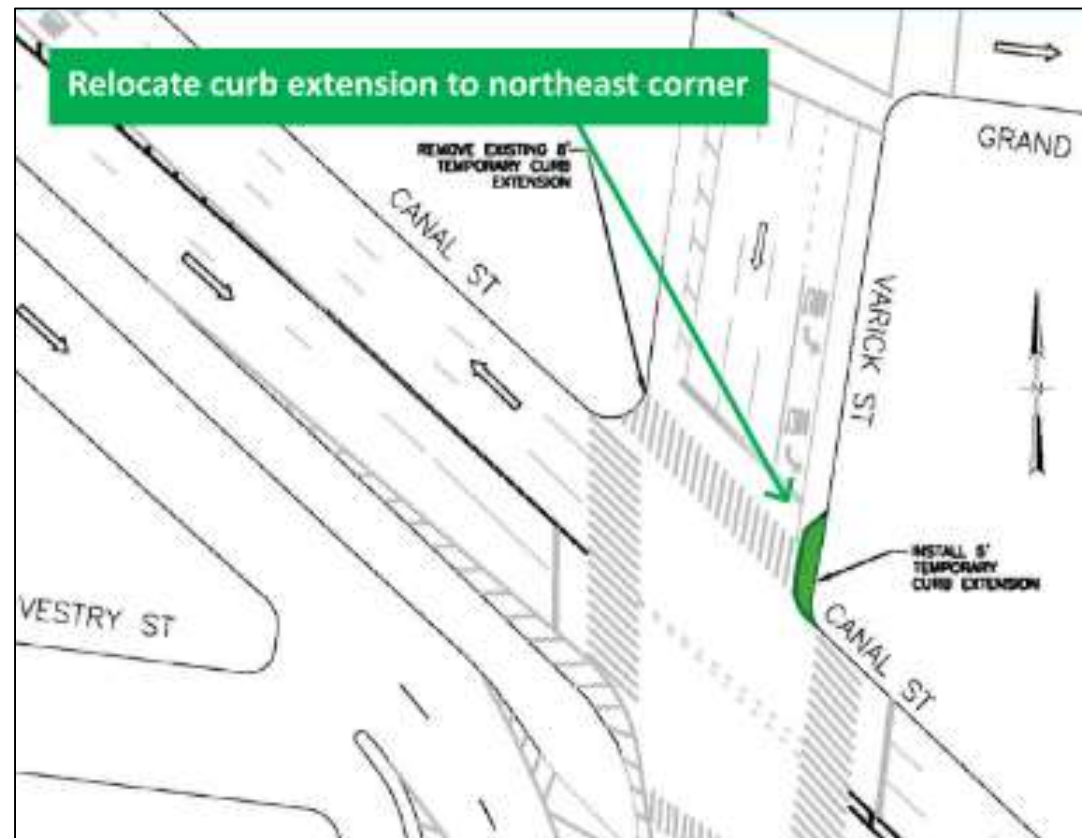
Looking north on Varick St on Canal St



Source: Google Maps.

CANAL ST / VARICK AV (Cont'd)

PROPOSED IMPROVEMENT: Remove existing painted curb extension on the northwest corner and install a new painted curb extension on the northeast corner

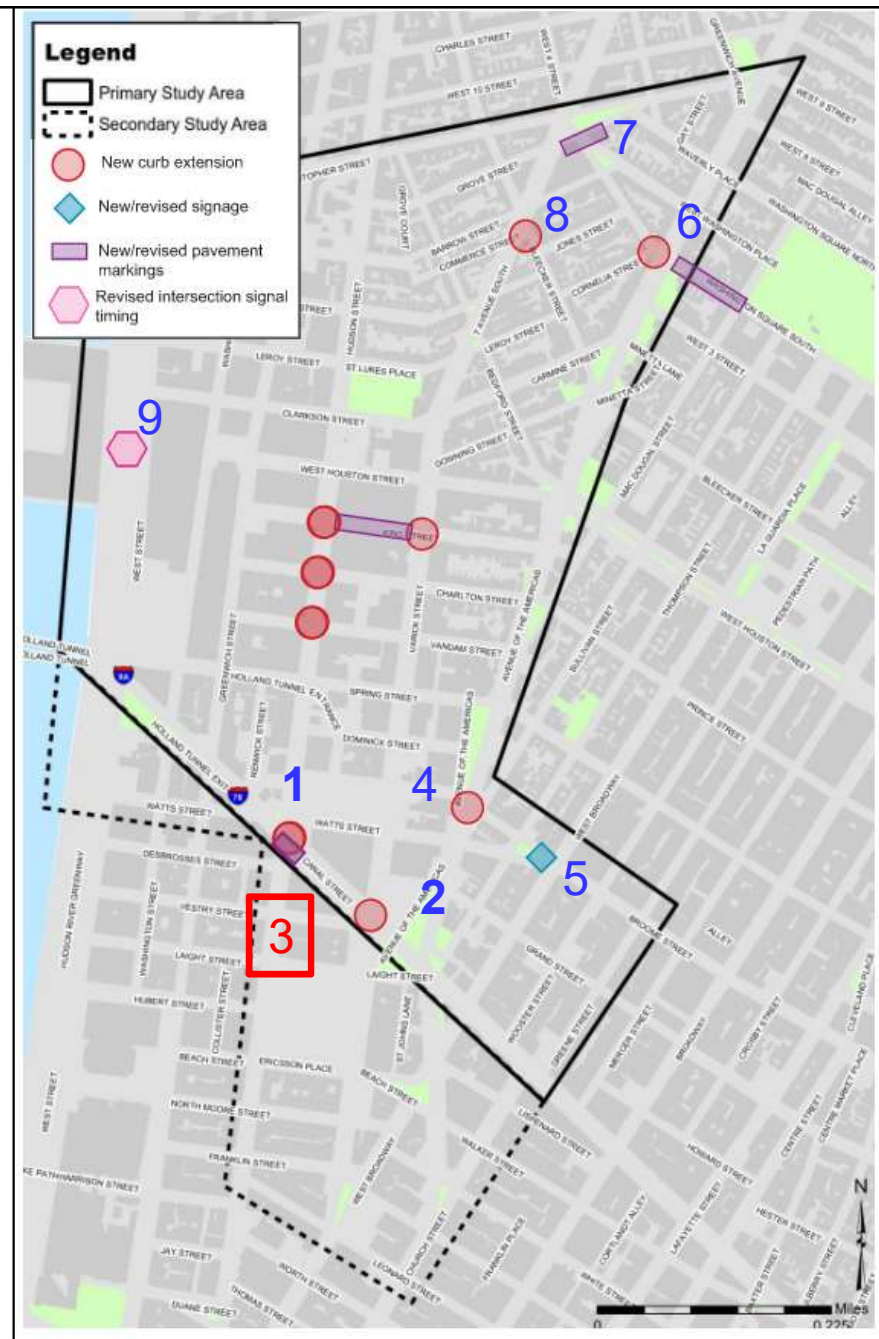


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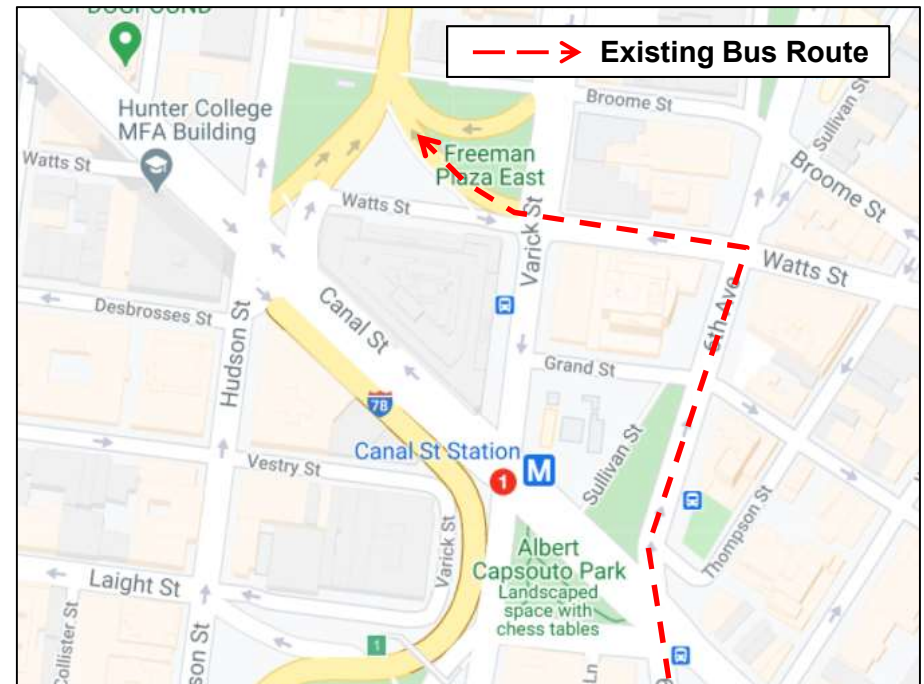


CANAL ST / HUDSON ST / 6TH AV (BUS ACCESS TO HOLLAND TUNNEL)

ISSUES: Buses turning left from 6th Av to Watts St make a difficult, sweeping turn that obstructs other vehicular and pedestrian movements. Buses experience delays due to congestion on Watts St.



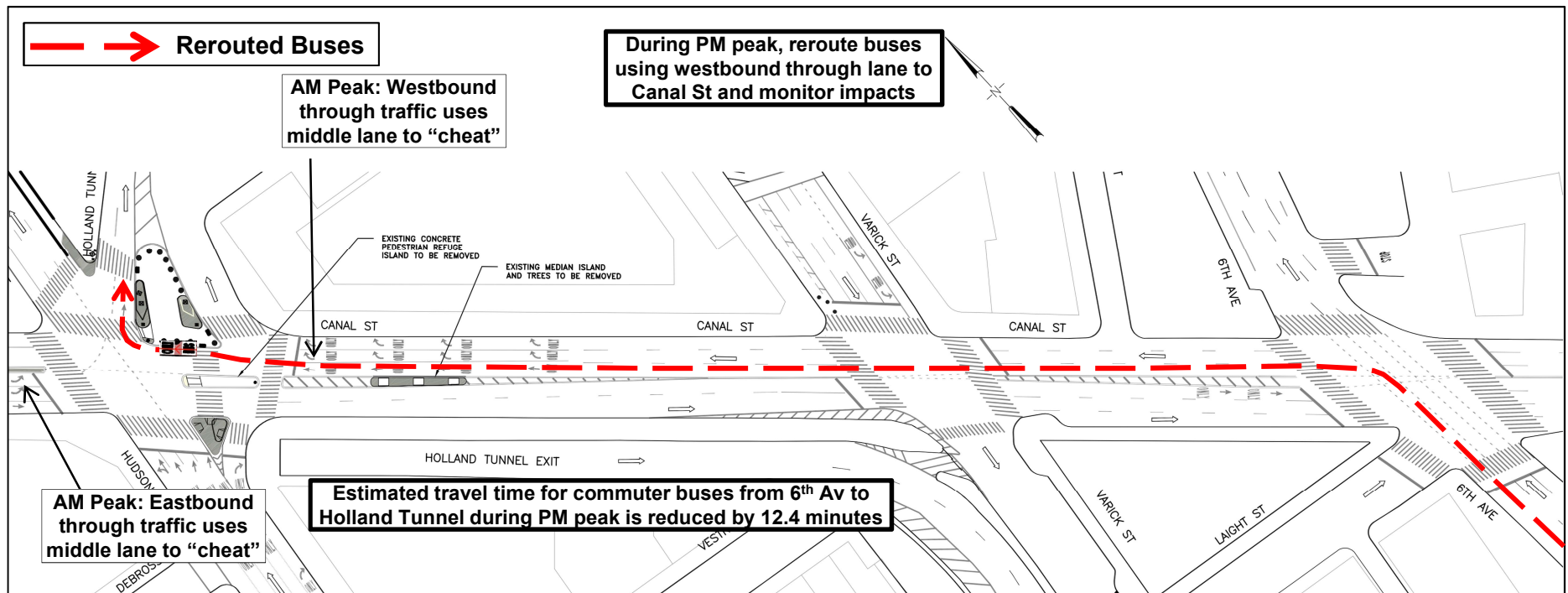
Looking northeast from SW corner of Watts St/ 6th Av



Source: Google Maps.

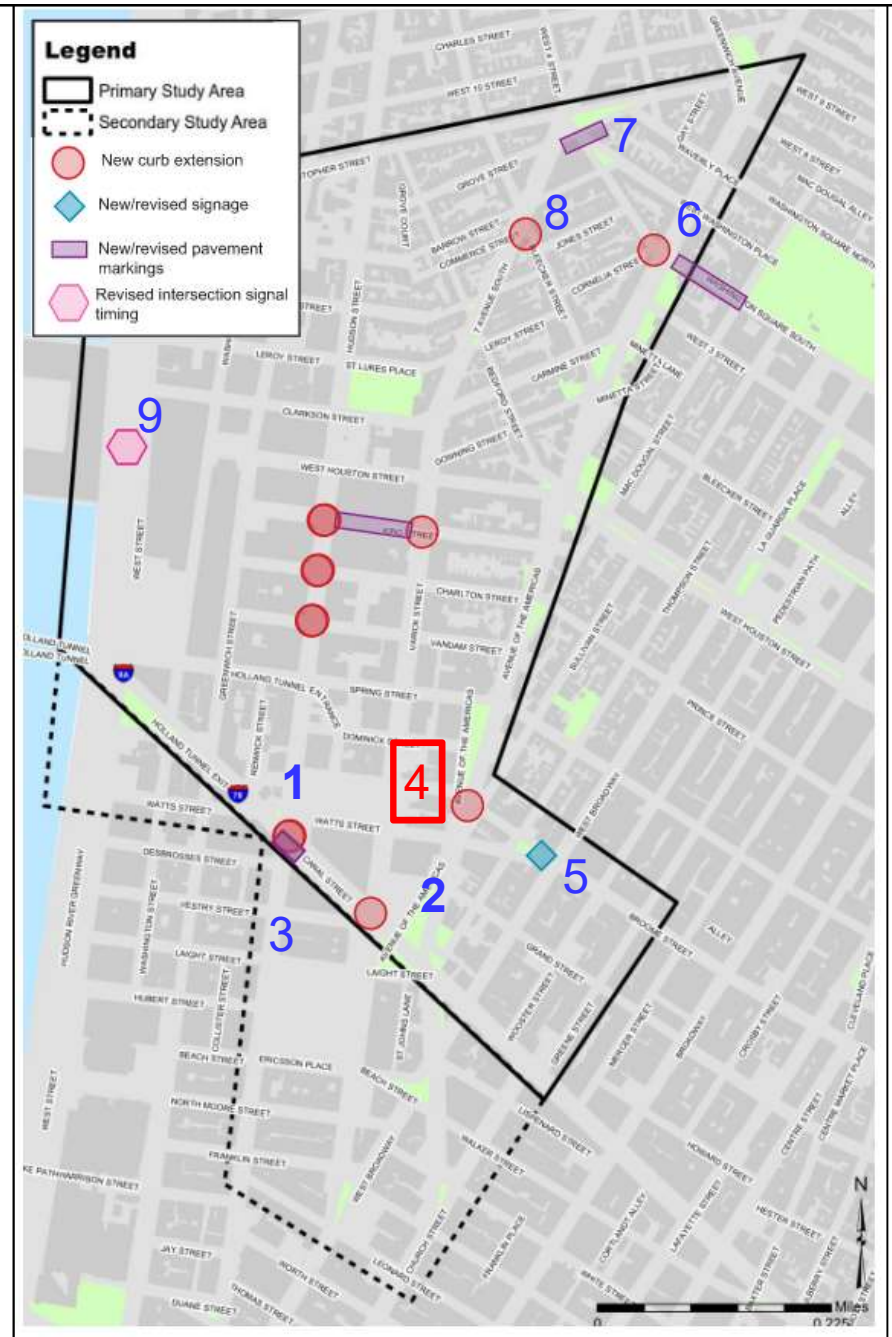
CANAL ST / HUDSON ST / 6TH AV (BUS ACCESS TO HOLLAND TUNNEL) (Cont'd)

PROPOSED IMPROVEMENT: Reroute buses to Holland Tunnel via Canal St during the weekday PM peak period.



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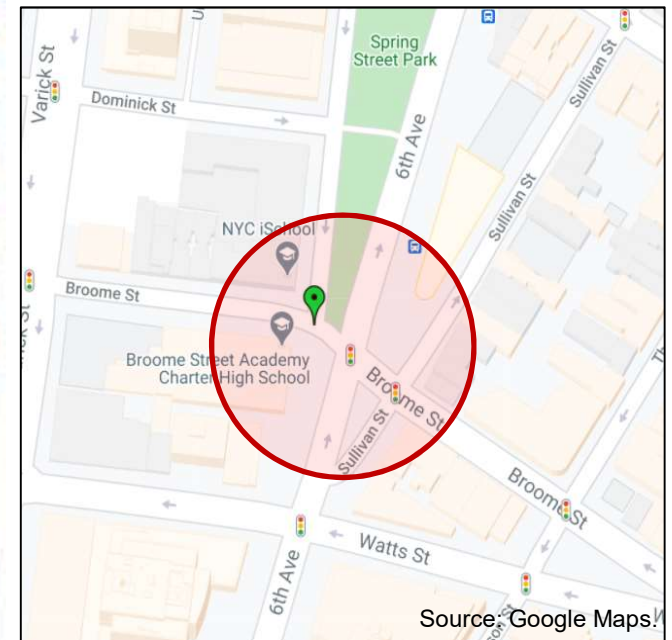
6TH AV / BROOME ST

ISSUE: The 70 foot wide pedestrian crossing distance of 6th Av at Broome St exposes crosswalk users to long crossing times and multiple conflict points with vehicles



Source: Google Maps.

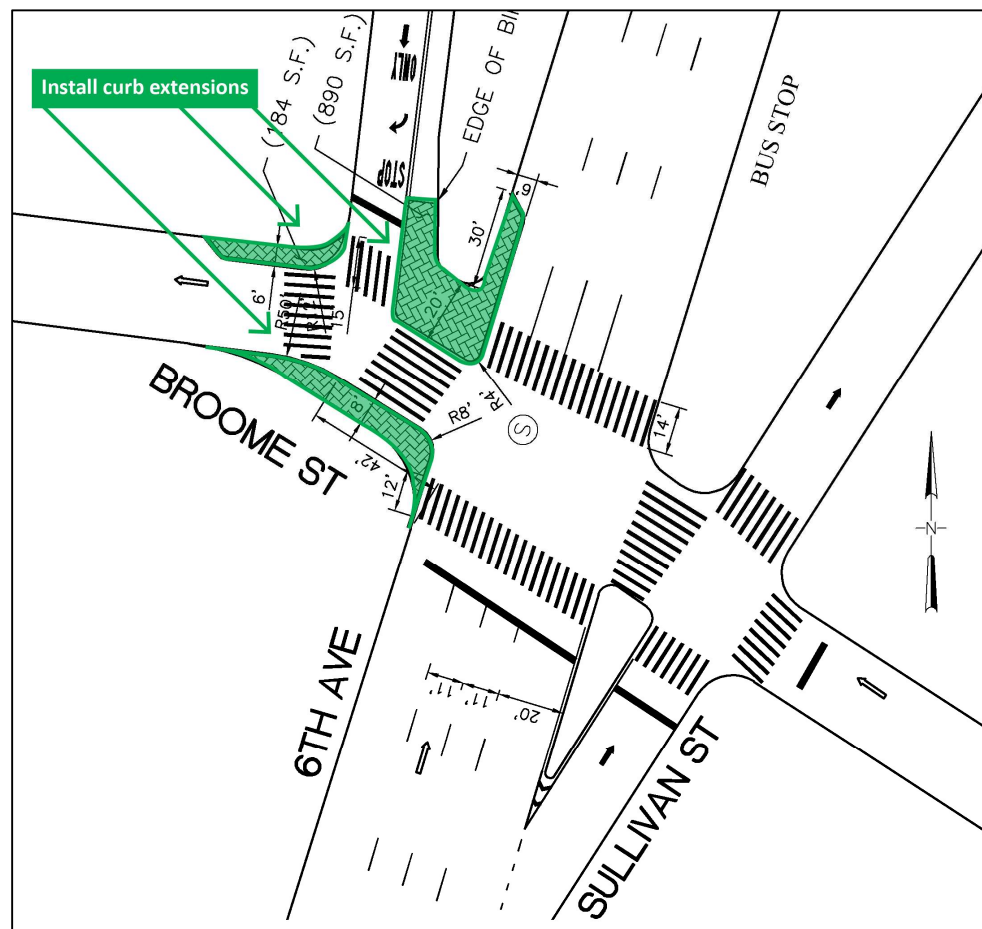
Looking north on 6th Av from the south side of Broome St



Source: Google Maps.

PROPOSED IMPROVEMENTS:

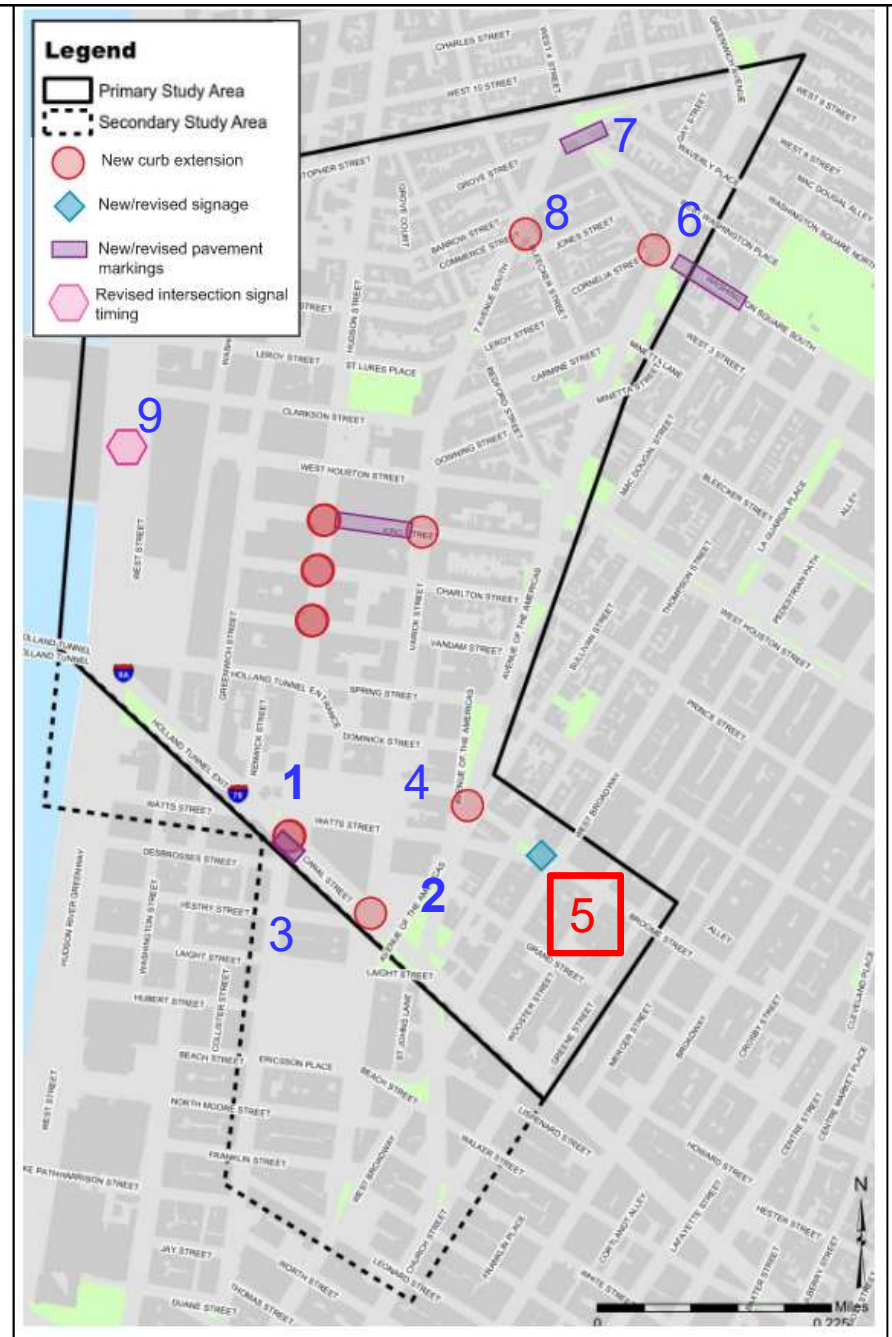
Note: Curb extensions shorten crossing distances, provide additional pedestrian circulation space on corners, and channelize traffic movements.



** The temporary curb extensions will be made permanent as part of a future improvement

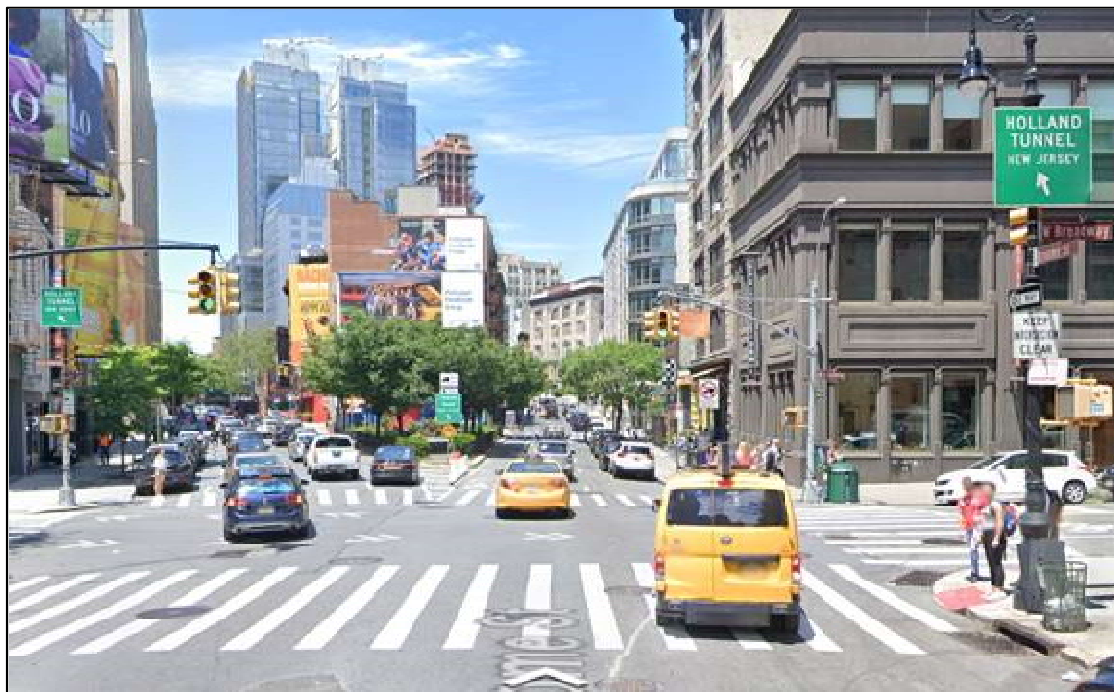
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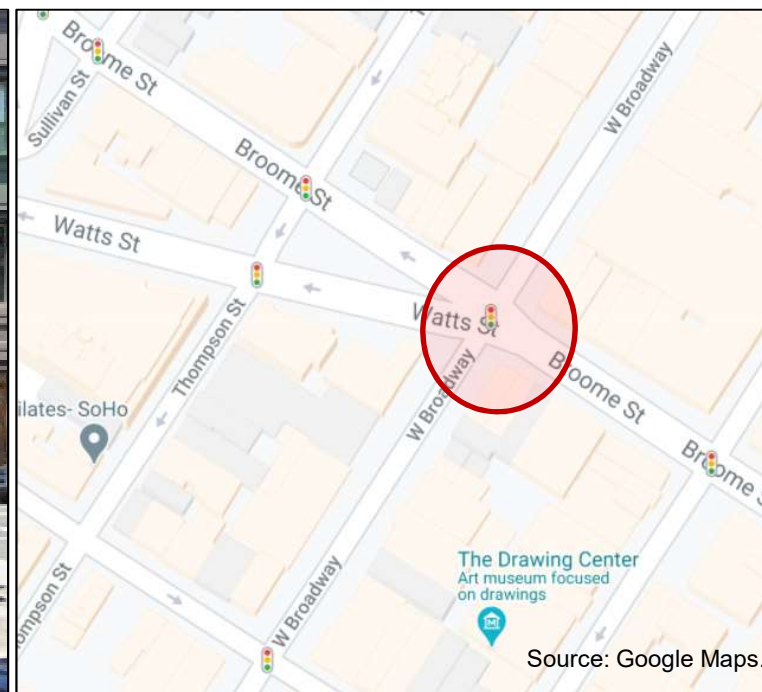


BROOME ST / WATTS ST / WEST BROADWAY

ISSUE: Existing signs are confusing to drivers at the diverge between westbound Watts St and Broome St at West Broadway.



Looking west at the intersection of
Broome St/ Watts St/ West Broadway

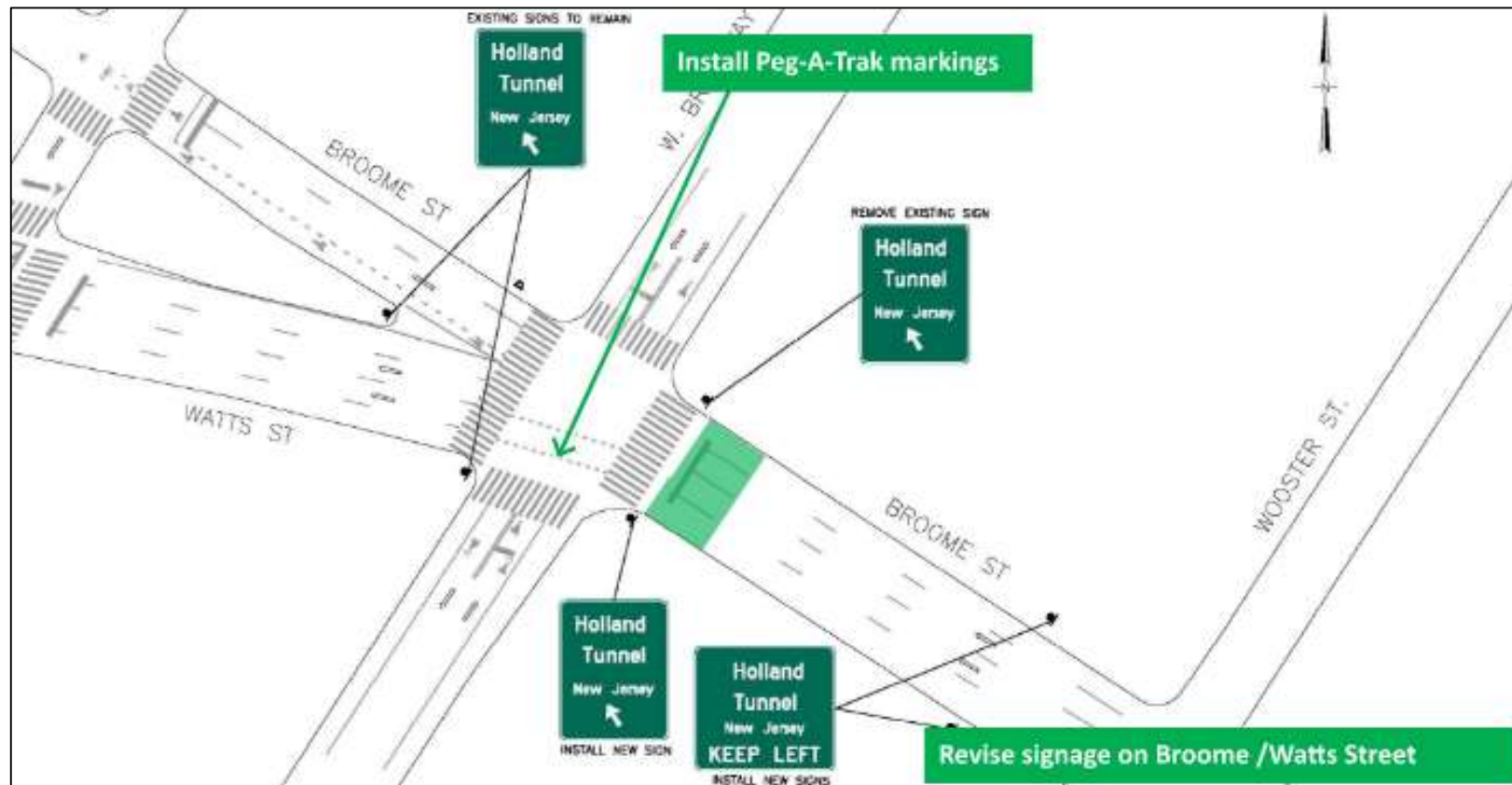


Source: Google Maps.

BROOME ST / WATTS ST / WEST BROADWAY (Cont'd)

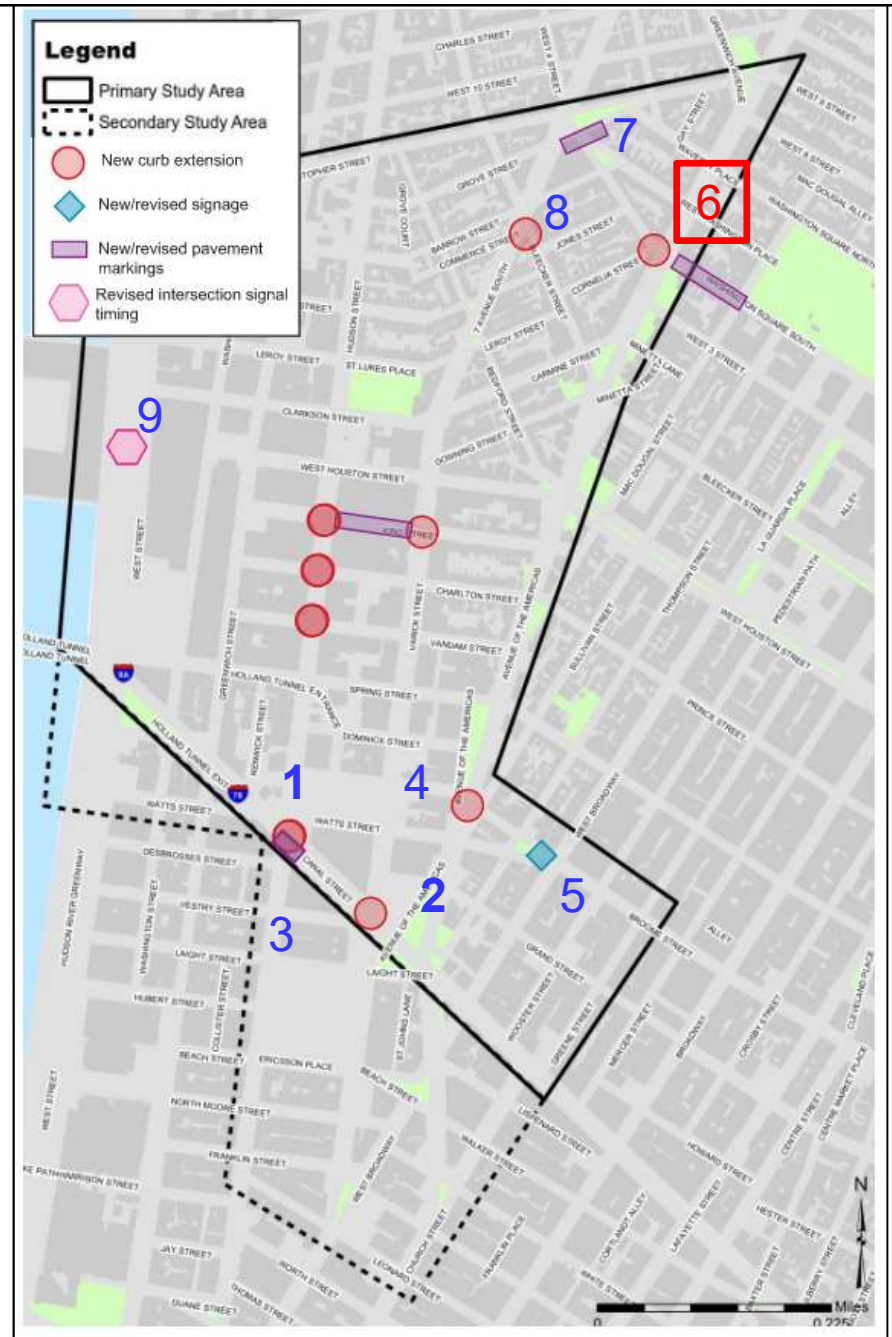
PROPOSED IMPROVEMENTS:

- Revise signs on Broome St approaching diverge for greater clarity.
- Add Peg-A-Trak markings to improve guidance for motorists.



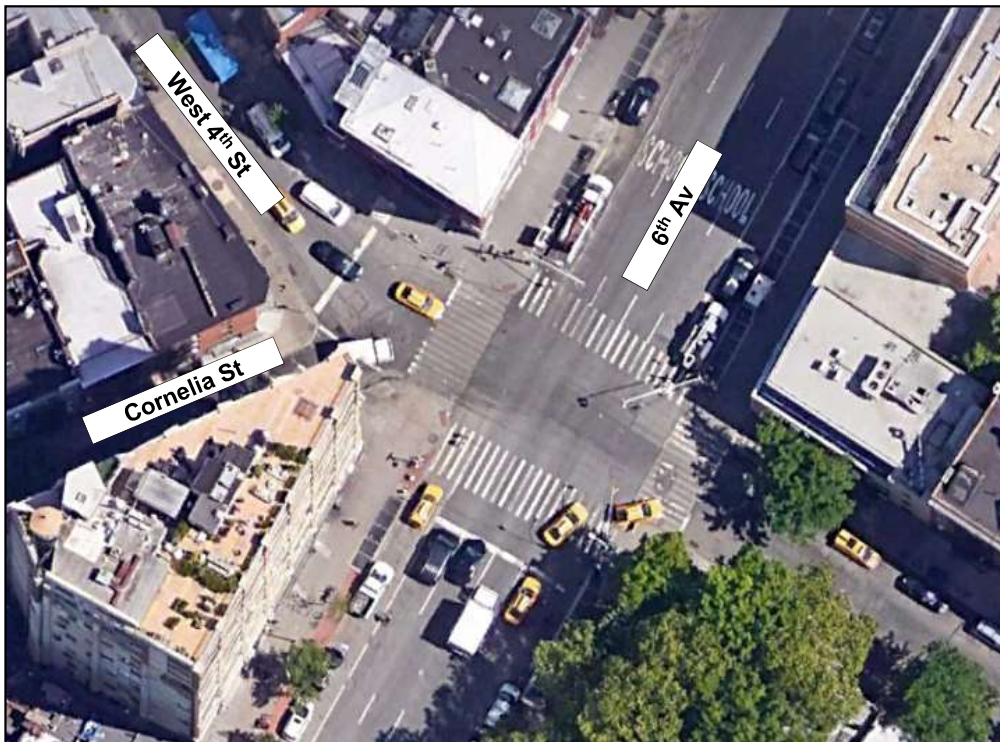
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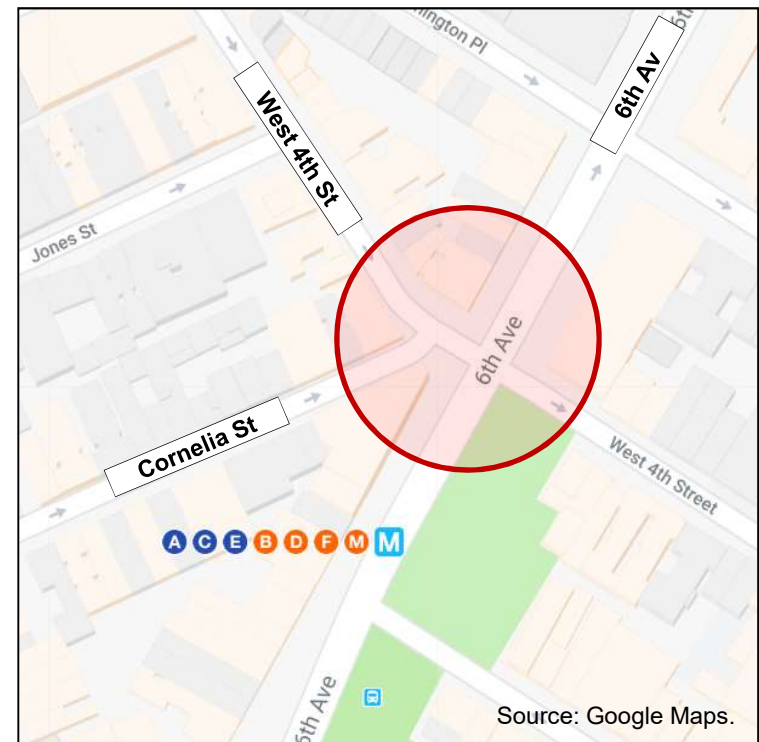
6TH AV / WEST 4TH ST / CORNELIA ST

ISSUE: Proximity of Cornelia St to West 4th St/ 6th Av intersection poses safety issues for vehicles and pedestrians.



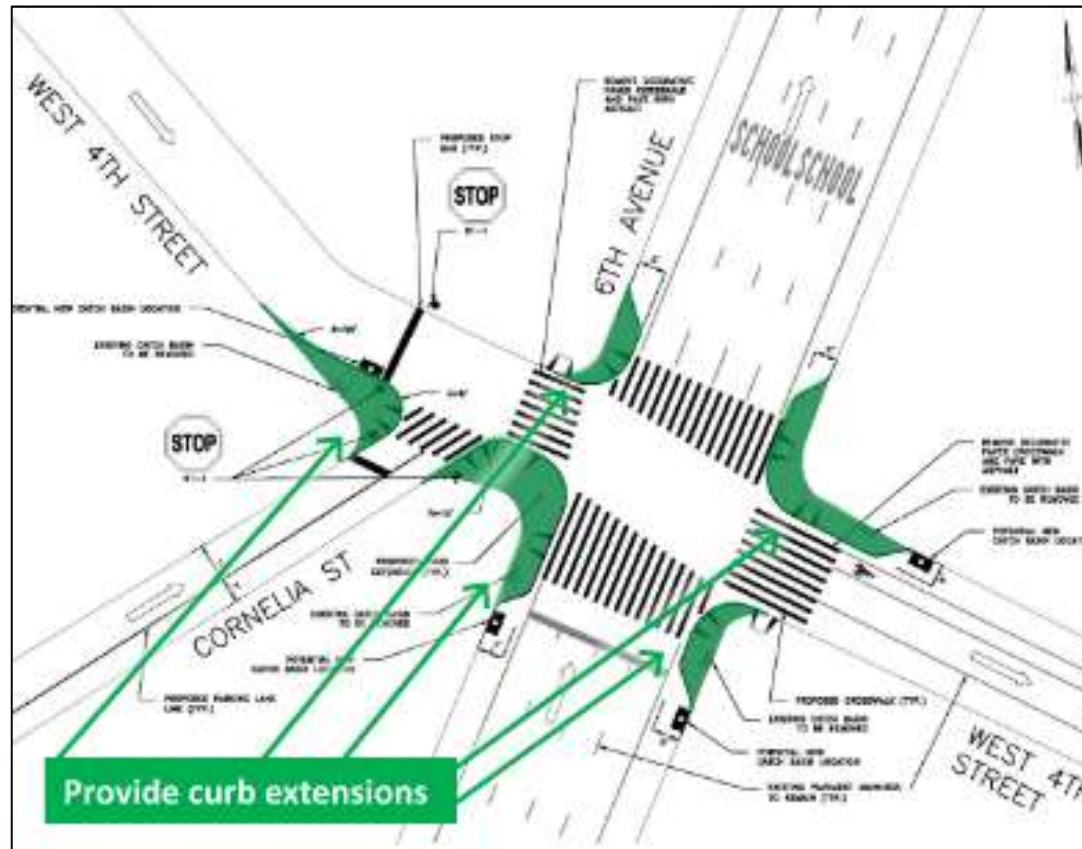
Source: Google Maps.

Aerial view of 6th Av, West 4th St and
Cornelia St intersection



6TH AVE / WEST 4TH ST / CORNELIA ST (Cont'd)

PROPOSED IMPROVEMENT: Install curb extensions at 6th Av with the intersection of Cornelia St and West 4th St

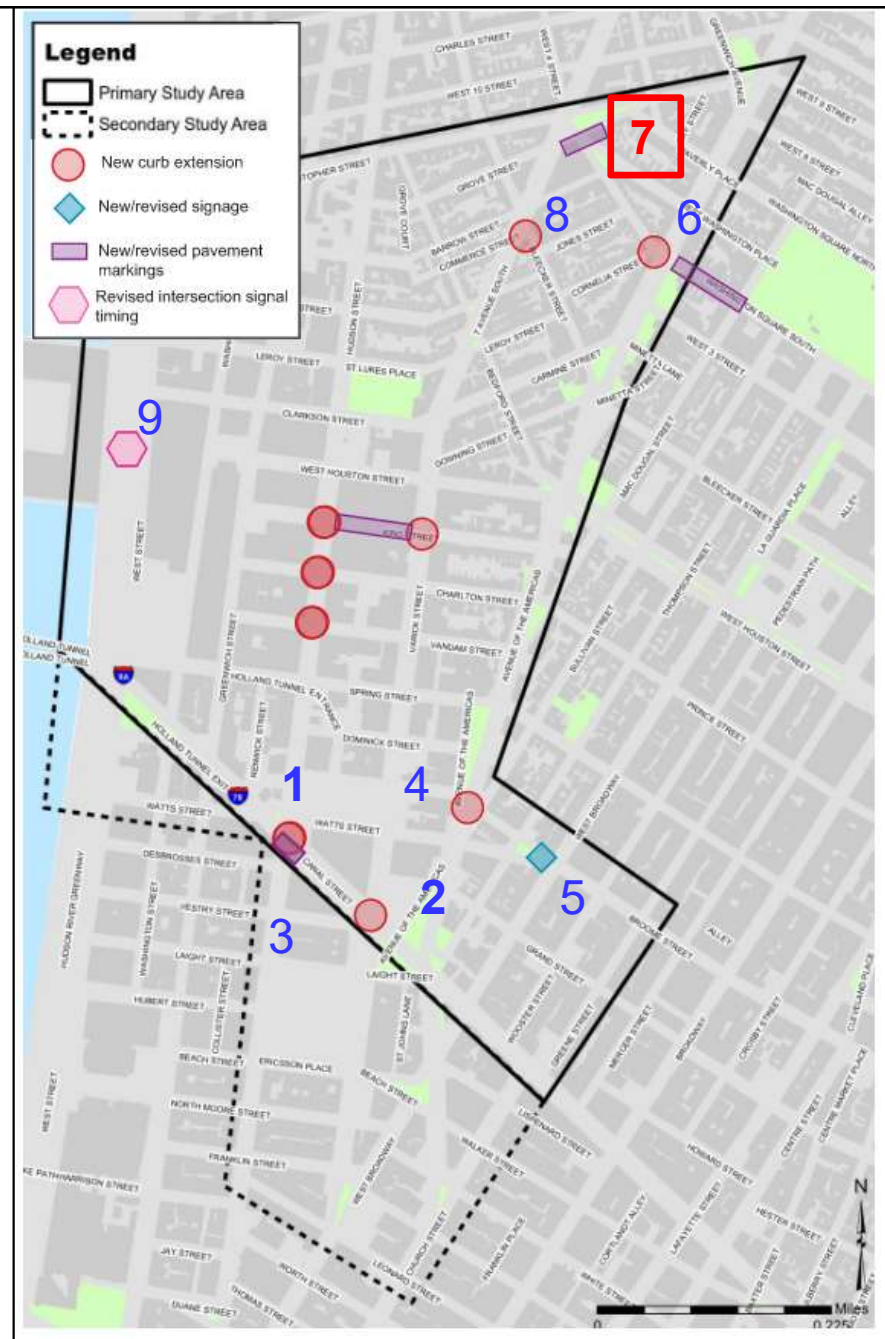


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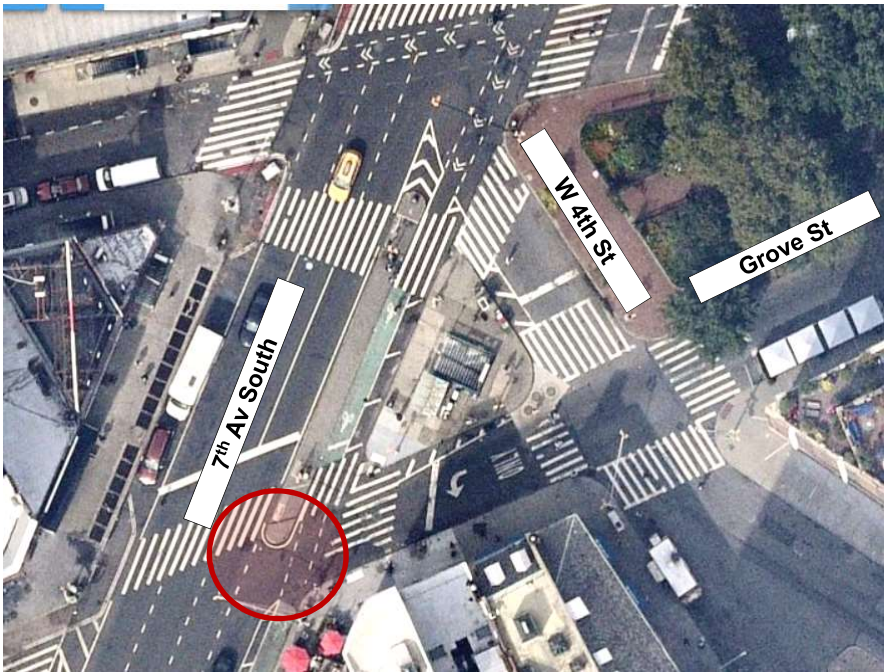
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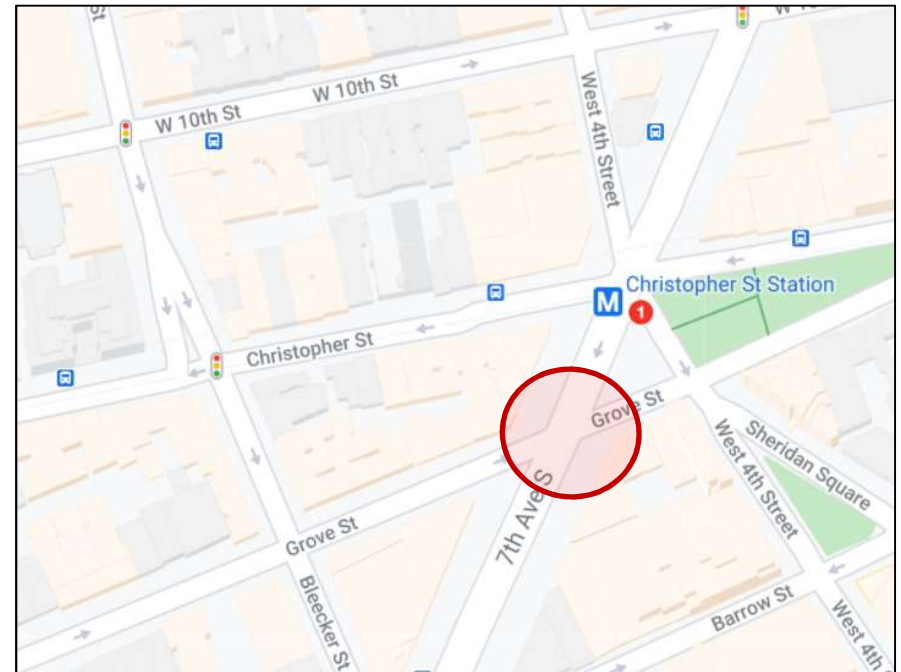


WEST 4TH ST / 7TH AV / GROVE ST

ISSUE: The median tip on 7th Av extends into Grove St travel lane, making left-turns difficult and guiding vehicles toward the pedestrian cut-through in the median.



Intersections of 7th Av/ W 4th St/ Grove St

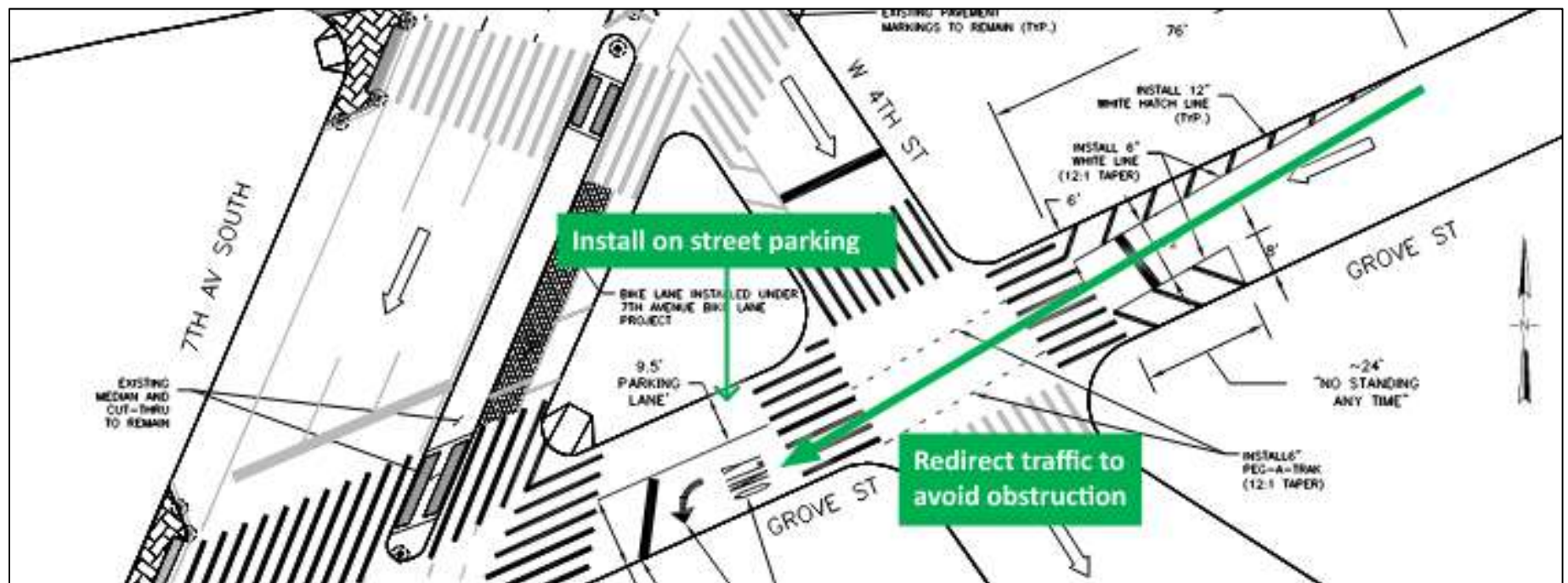


Source: Google Maps.

WEST 4TH ST / 7TH AV / GROVE ST (Cont'd)

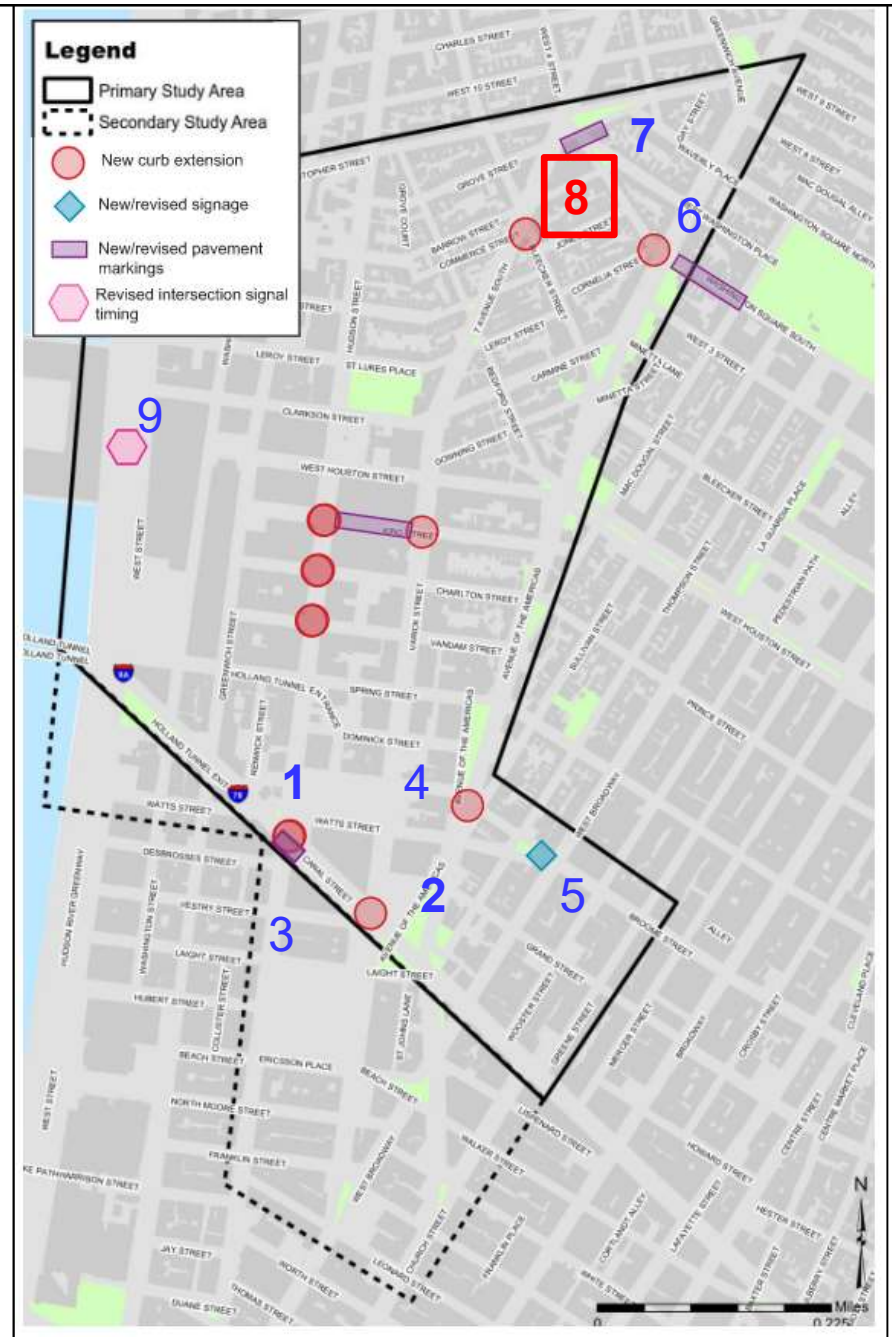
PROPOSED IMPROVEMENTS:

- Restripe westbound Grove St to direct traffic away from median tip.
- Provide on-street parking (1 car space) on the north side of Grove St between West 4th St and 7th Av South.



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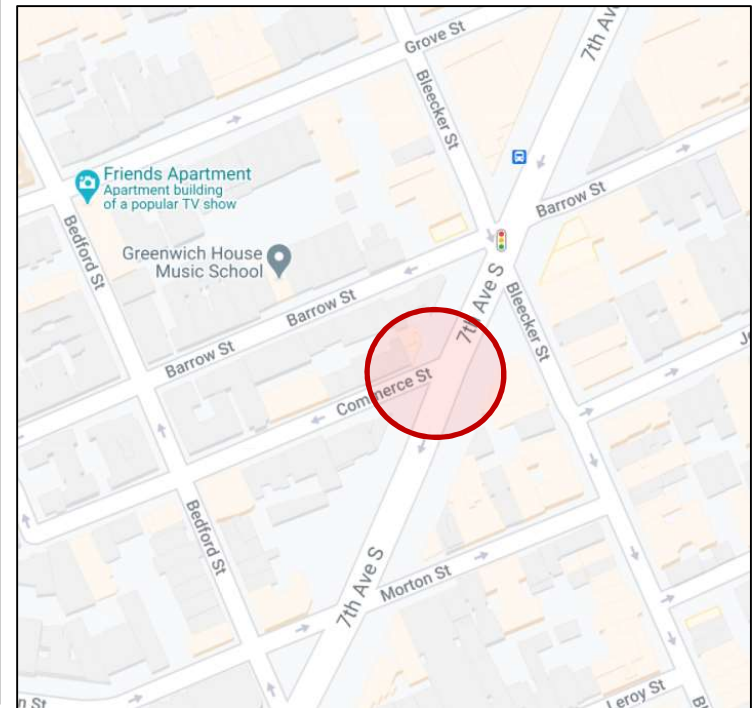


7TH AV SOUTH / COMMERCE ST

ISSUE: Intersection geometry encourages right-turning vehicles to turn at high speeds through west crosswalk.



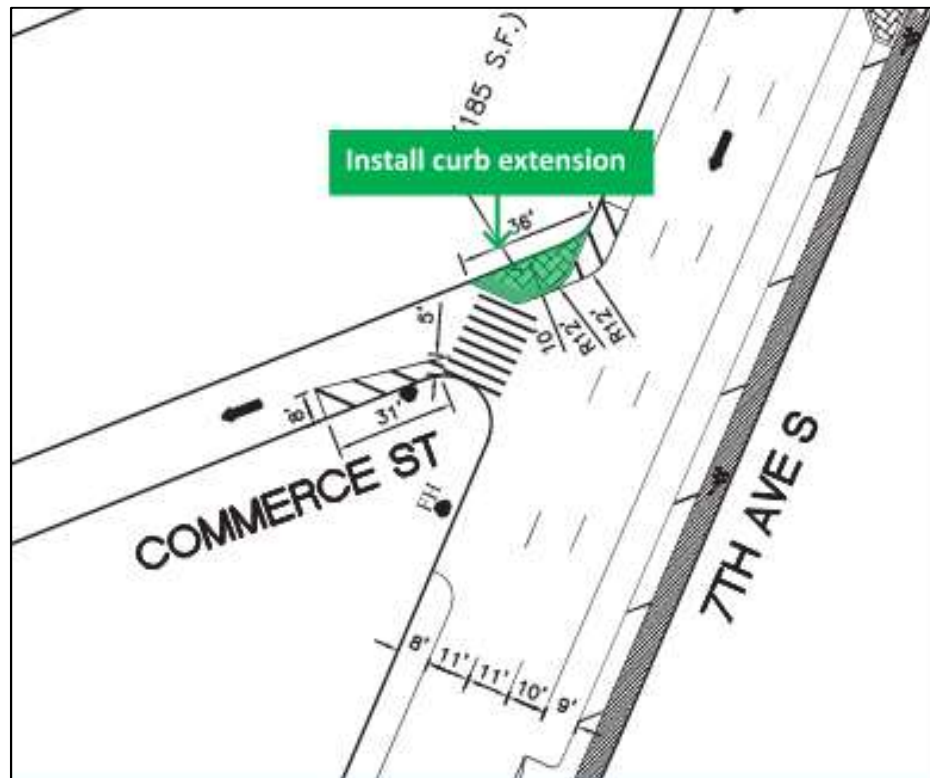
Looking south on 7th Av South at Commerce St,
to west crosswalk



Source: Google Maps.

7TH AV SOUTH / COMMERCE ST (Cont'd)

PROPOSED IMPROVEMENT: Install curb extension on northwest corner to ensure slower-speed turns through west crosswalk.

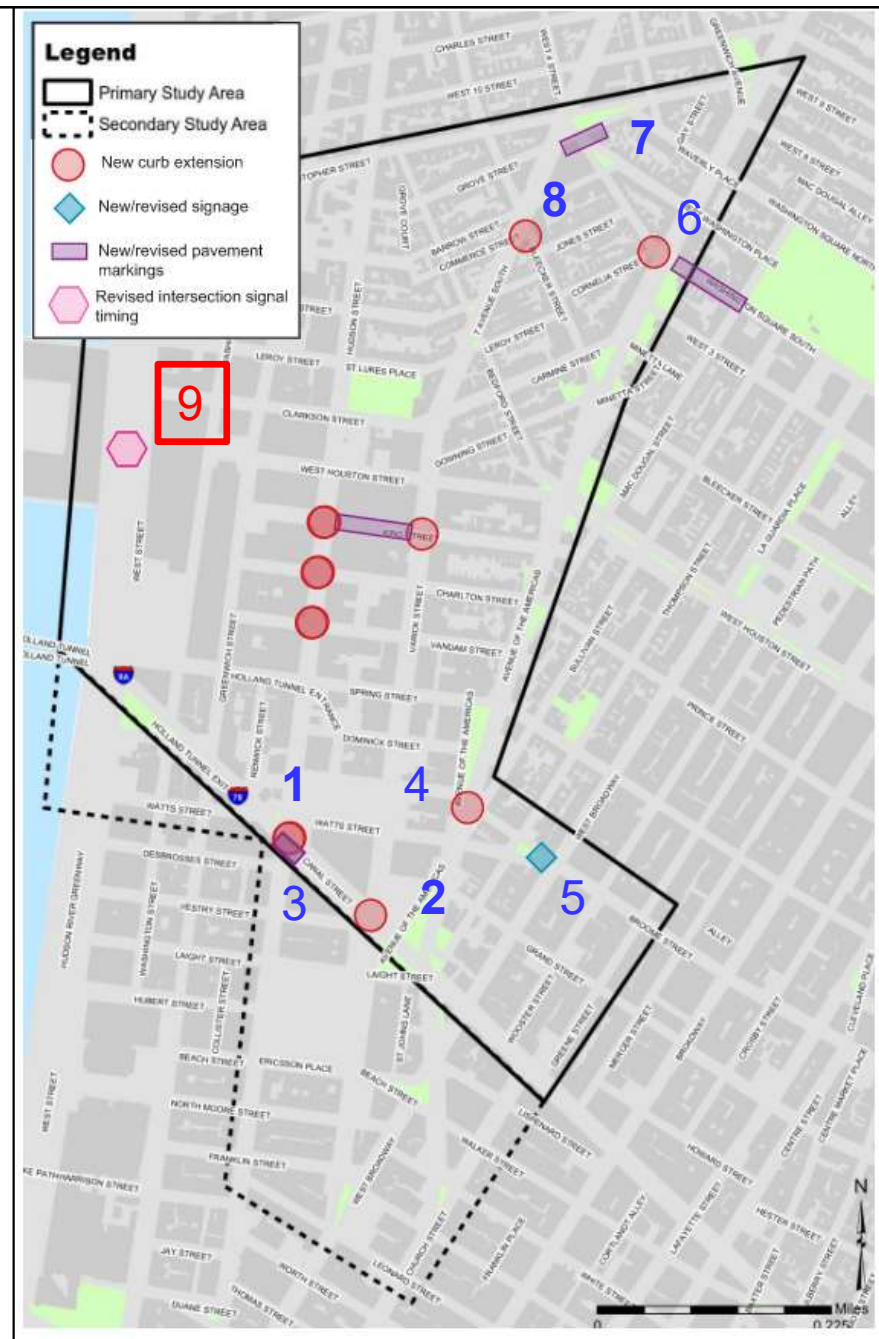


*Curb extensions under 11 ft wide require maintenance partner

** The temporary curb extensions will be made permanent as part of a future improvement

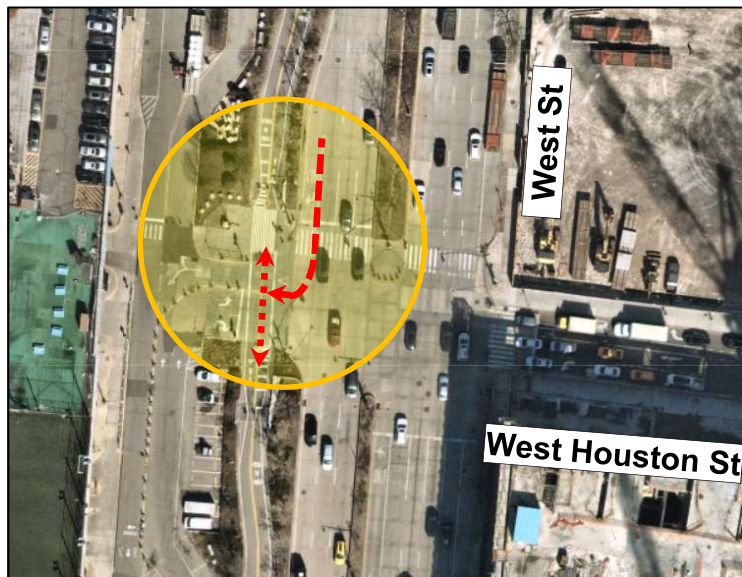
EARLY ACTION IMPROVEMENTS (TO BE IMPLEMENTED IN 2021)

1. Canal St/Hudson St
2. Canal St/Varick St
3. Canal St, Hudson St to 6th Av (Bus Access to Holland Tunnel)
4. 6th Av/Broome St
5. Broome St/Watts St/West Broadway
6. West 4th St /6th Av/Cornelia St
7. West 4th St /7th Av/Grove St
8. 7th Av South/Commerce St
9. **West St/West Houston St**

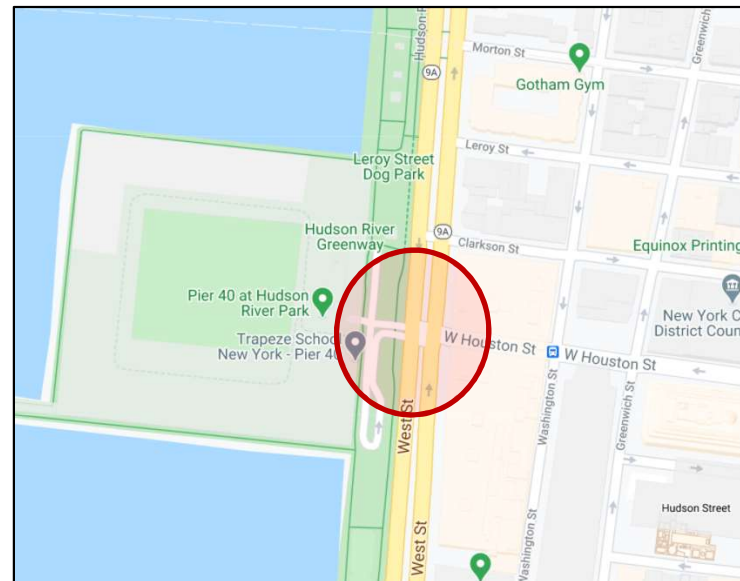


WEST ST / WEST HOUSTON ST

ISSUE: Concerns about high volume of turning vehicles conflicting with people walking in the west crosswalk by Hudson River Park/ Pier 40.



Aerial view of West Houston St and West St



Source: Google Maps.

PROPOSED IMPROVEMENT: Install a new pedestrian-only phase for the west crosswalk at Pier 40 Driveway/West Houston St

Longer-Term Improvements (2022 and beyond)

4

CHARLTON ST AND VANDAM ST ALONG HUDSON ST

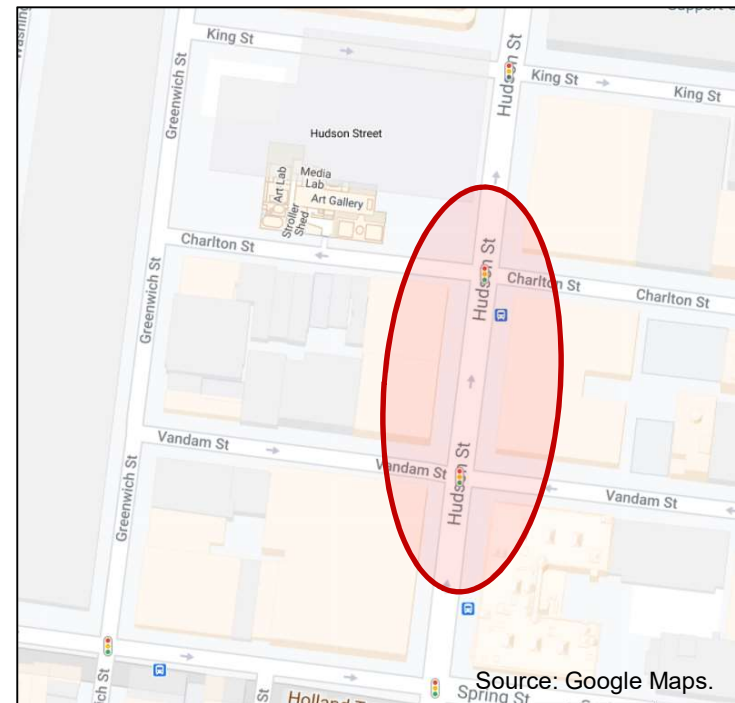
ISSUE: Long pedestrian crossing distances at Charlton St and Vandam St along Hudson St



Looking north at Hudson Street on Charlton Street



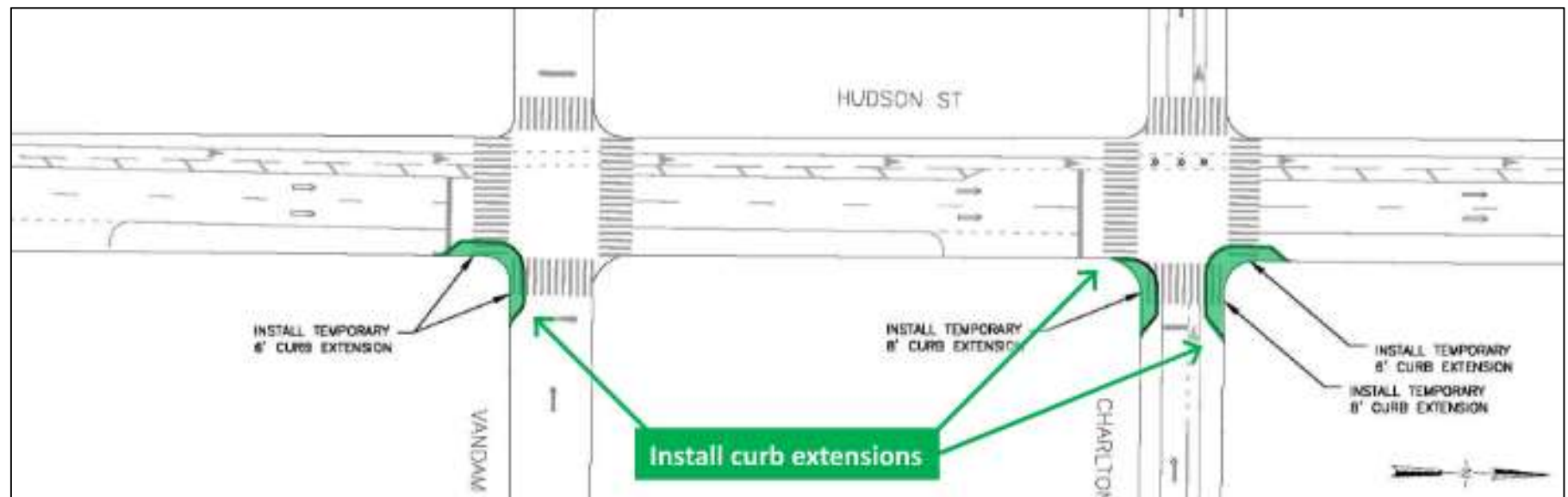
Looking north at Hudson Street on Vandam Street



CHARLTON ST AND VANDAM ST ALONG HUDSON ST (Cont'd)

PROPOSED IMPROVEMENTS:

- Install one curb extension at Hudson St/Vandam St (SE corner).
- Install two curb extensions at Hudson St/Charlton St intersection (NE and SE corners).

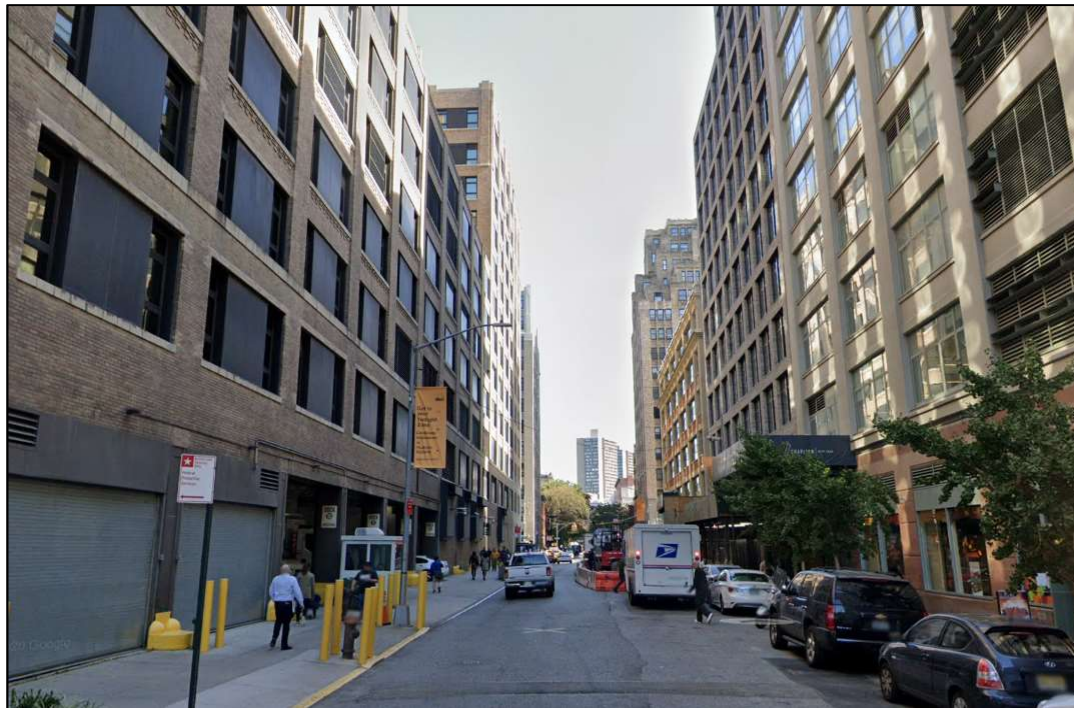


*Curb extensions under 11 ft wide require maintenance partner

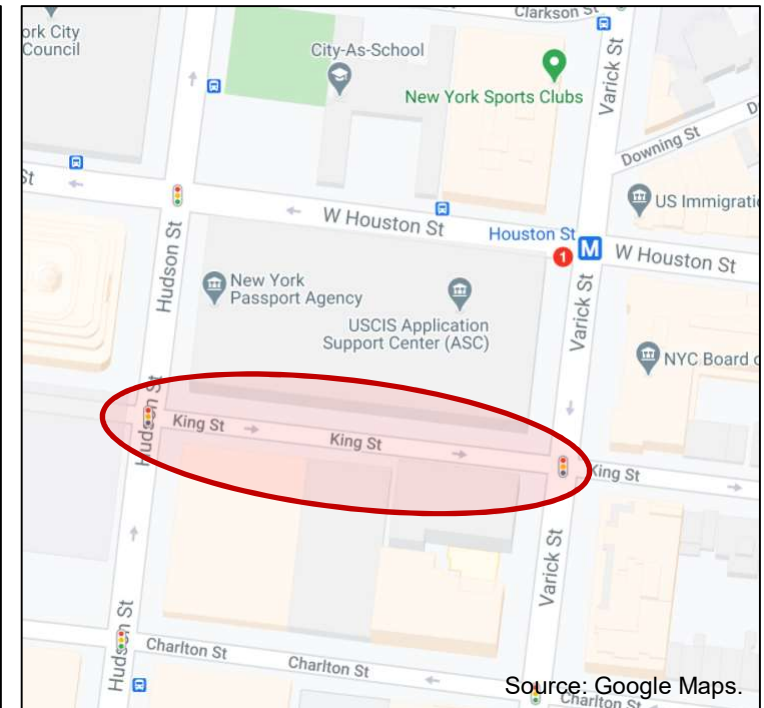
** The temporary curb extension will be made permanent as part of a future improvement

KING ST BETWEEN HUDSON ST AND VARICK ST

ISSUE: Unmarked loading docks interfering with moving traffic and crossing pedestrians.



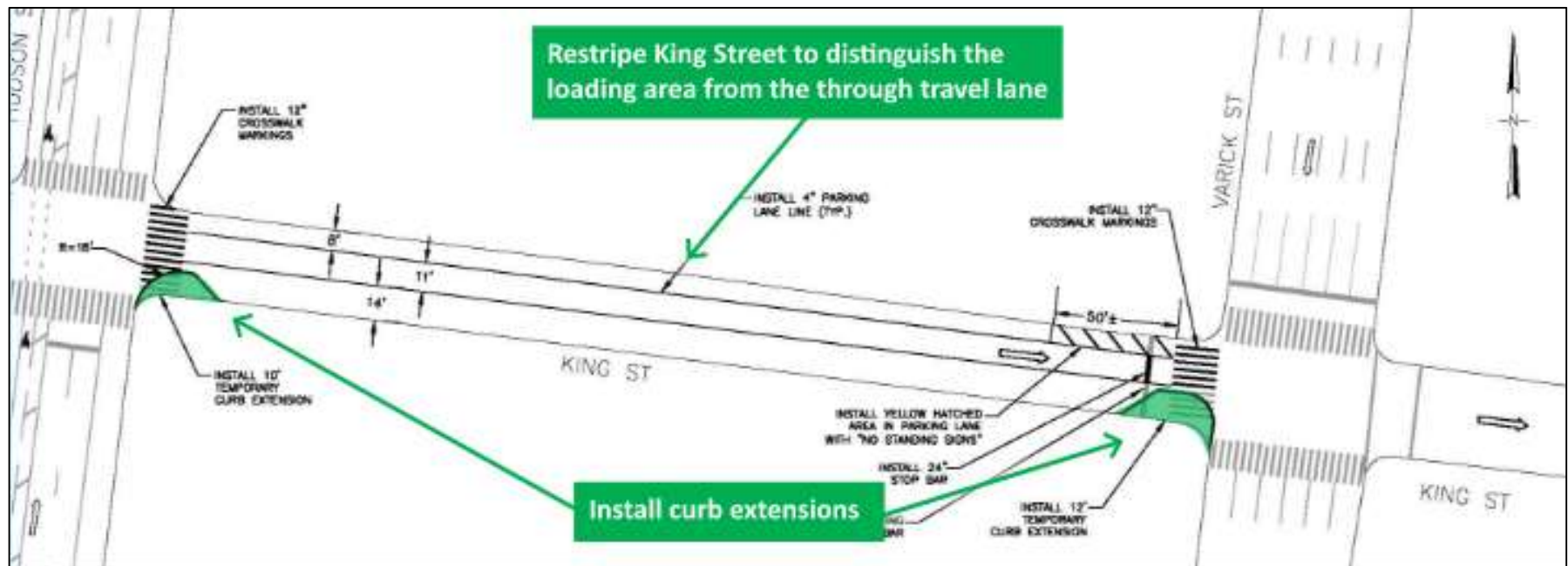
Looking east on King St from Hudson St



KING ST BETWEEN HUDSON ST AND VARICK ST (Cont'd)

PROPOSED IMPROVEMENTS:

- Restripe King St to separate moving traffic from loading area along south curb.
- Install curb extension on SE corner at Hudson St.
- Install curb extension on SW corner at Varick St.



*Curb extensions under 11 ft wide require maintenance partner

** The temporary curb extension will be made permanent as part of a future improvement

6TH AV BETWEEN WEST HOUSTON ST AND KING ST

ISSUES: Traffic and safety issues at 6th Av and Houston St, particularly on the northbound 6th Av approach. Difficulty accessing eastbound West Houston St from eastbound King St along 6th Av.



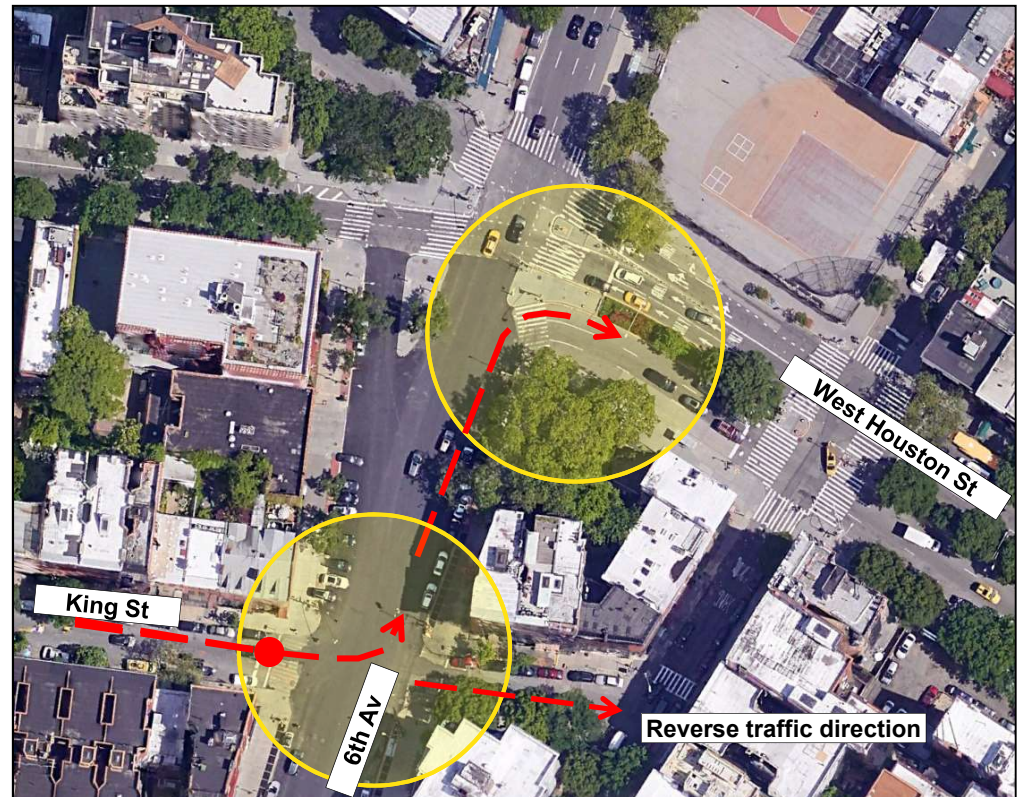
Cars from King St merging into the right-turn lane on 6th Av towards West Houston St



6TH AV BETWEEN WEST HOUSTON ST AND KING ST (Cont'd)

PROPOSED IMPROVEMENTS:

- Reverse direction of King St between 6th Av and Macdougall St
- Install new STOP control sign on the reconfigured, eastbound King St approach to Macdougall St



Aerial view of intersection

Source: Google Maps.

WEST ST/LEROY ST

ISSUE: Unauthorized pedestrian crossings of West St at Leroy St through low median opening (no crosswalks or traffic signal).



Facing west across West St from Leroy St

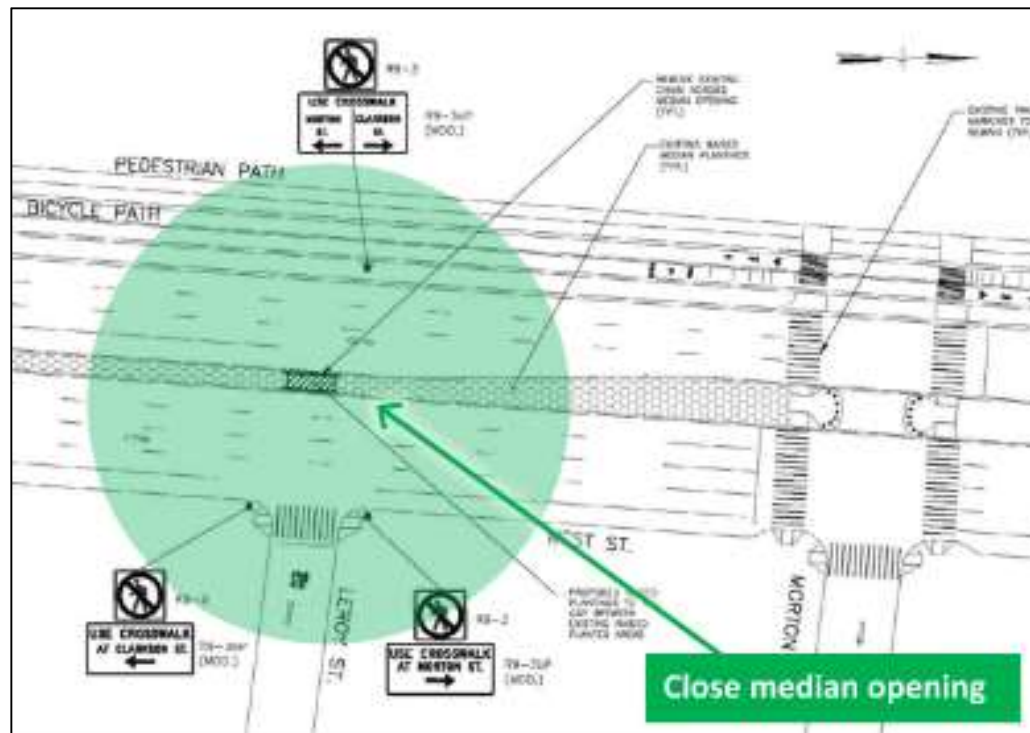


Source: Google Maps.

WEST ST/LEROY ST (Cont'd)

PROPOSED IMPROVEMENT: Close median opening to guide pedestrians toward signalized crosswalks at Morton St (to the north) or Clarkson St (to the south).

Note: NYPD, FDNY and NYSDOT expressed support for median closure.

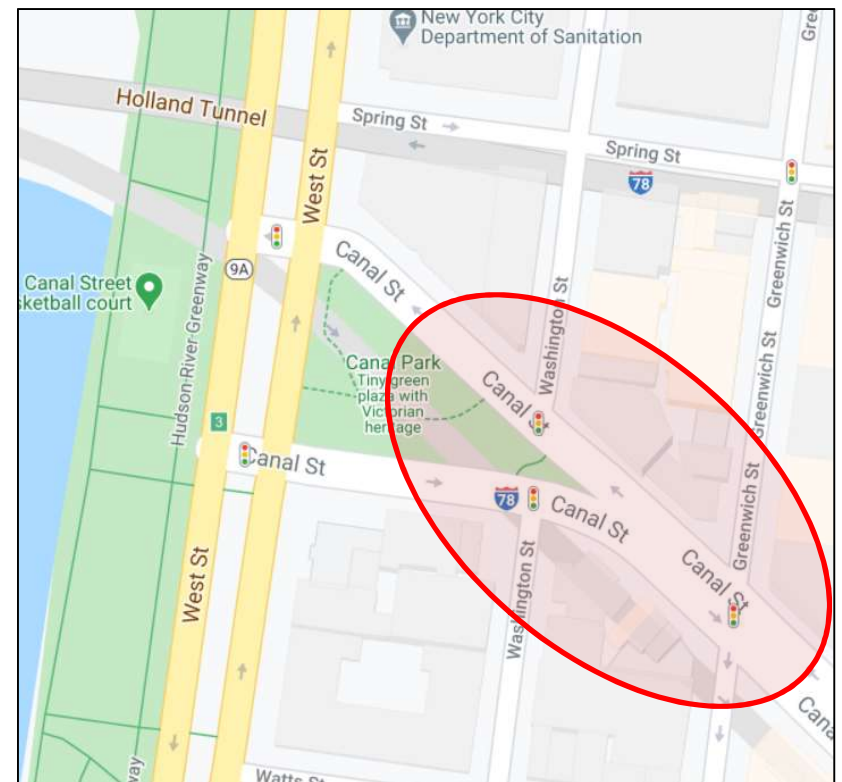


CANAL ST BETWEEN WASHINGTON ST AND GREENWICH ST

ISSUE: Need to improve pedestrian environment near west end of Canal St in the vicinity of Canal Park



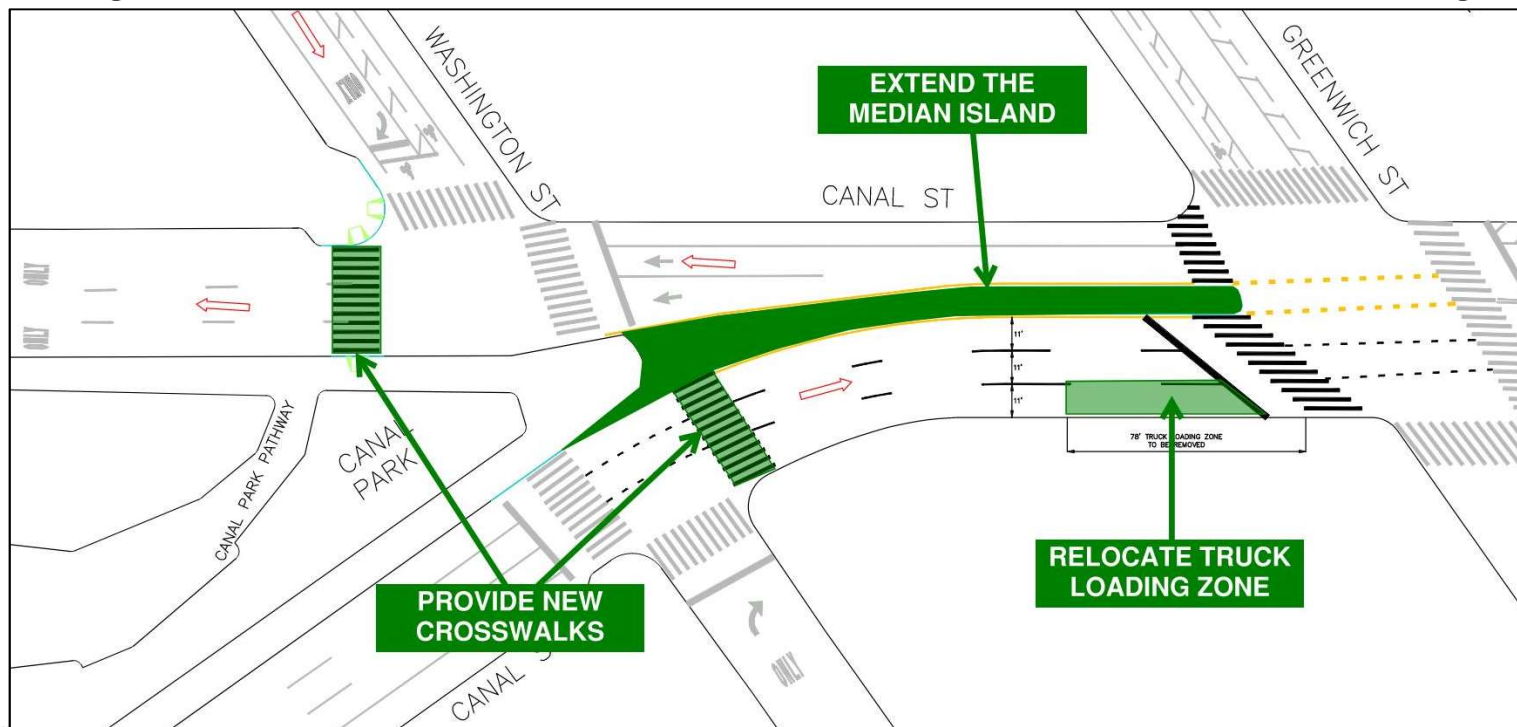
Facing west on Canal St at Washington St



CANAL ST BETWEEN WASHINGTON ST AND GREENWICH ST (Cont'd)

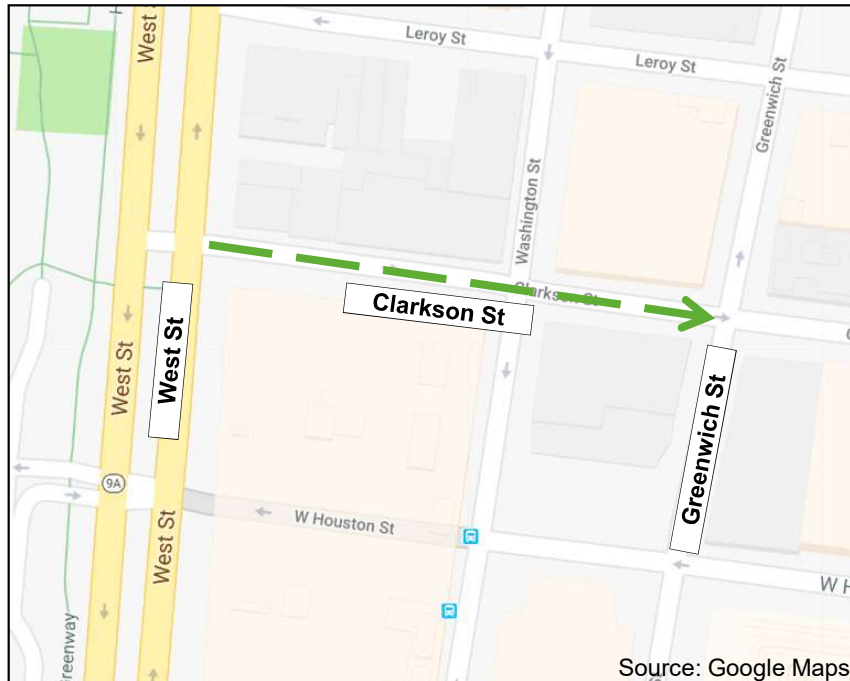
PROPOSED IMPROVEMENTS: Improve pedestrian accessibility in the vicinity of Canal Park by:

- Extending concrete median island on Canal St to Greenwich St.
- Providing new crosswalk on eastbound Canal St, east of Washington St.
- Providing new crosswalk on westbound Canal St, west of Washington St.



CLARKSON ST BETWEEN WEST ST AND GREENWICH ST

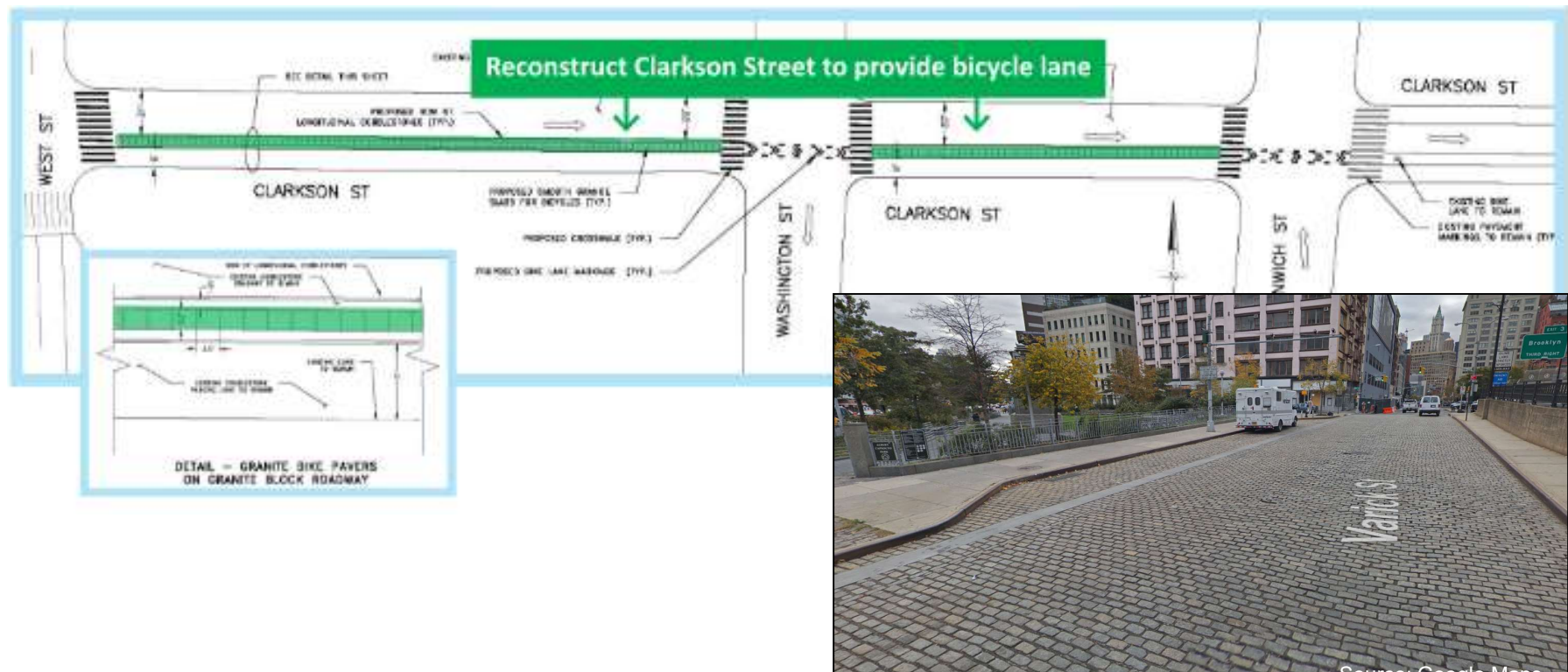
ISSUE: Bicycle network connectivity issues due to cobblestones along Clarkson St between West Street and Greenwich Street



Looking east on Clarkson St

CLARKSON ST FROM WEST ST AND GREENWICH ST (Cont'd)

PROPOSED IMPROVEMENT: Extend the existing eastbound bicycle lane on Clarkson St from Greenwich St to West St, including granite slabs for bicycle lane



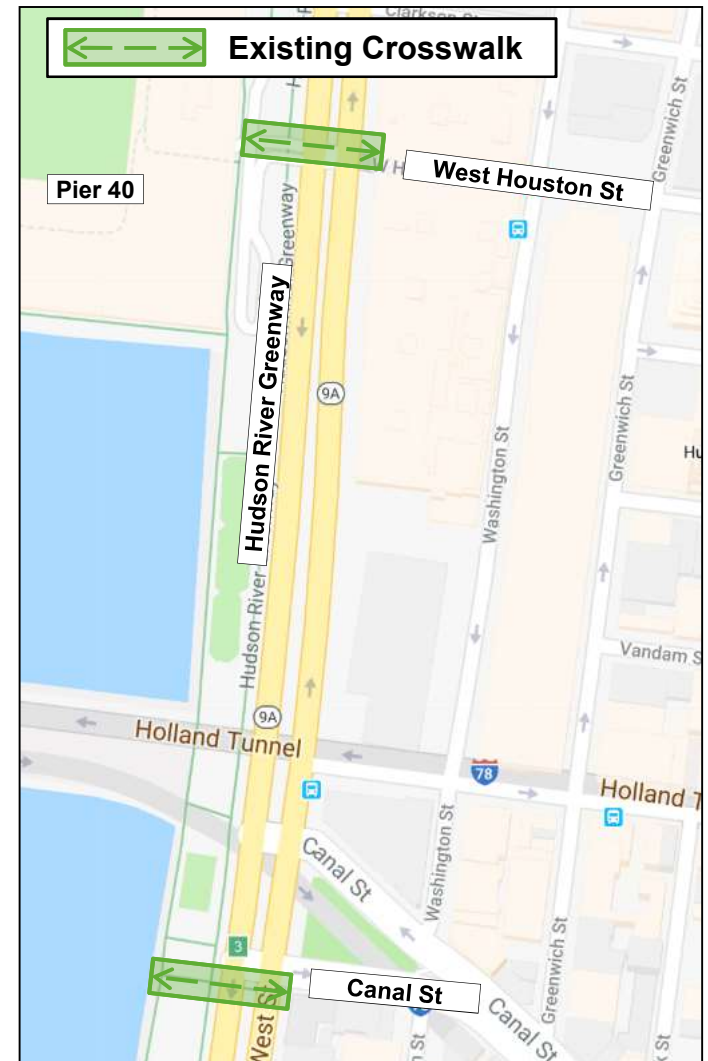
Example treatment: granite "bike strip"
Looking south on Varick St from Canal St

WEST ST BETWEEN WEST HOUSTON ST AND CANAL ST

ISSUE: Additional pedestrian access to the Hudson River Greenway is needed between Canal St and West Houston St/Pier 40



Facing north from Spring St along West St



WEST ST BETWEEN WEST HOUSTON ST AND CANAL ST (Cont'd)

PROPOSED IMPROVEMENT: Provide additional signalized pedestrian crossing on West St between Charlton St and West Houston St.

Notes:

- *Meets signal warrant with future development of 550 Washington St.*
- *Signal currently undergoing NYC DOT design reviews/ approvals.*



BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST

ISSUES: Congestion and confusion at the intersections along Broome/Watts St approaching the Holland Tunnel.

A lane imbalance issue occurs along several blocks from east of the Broome/Watts Sts split to the Holland Tunnel entrance on Varick St.



Looking west on Watts St, approaching 6th Ave

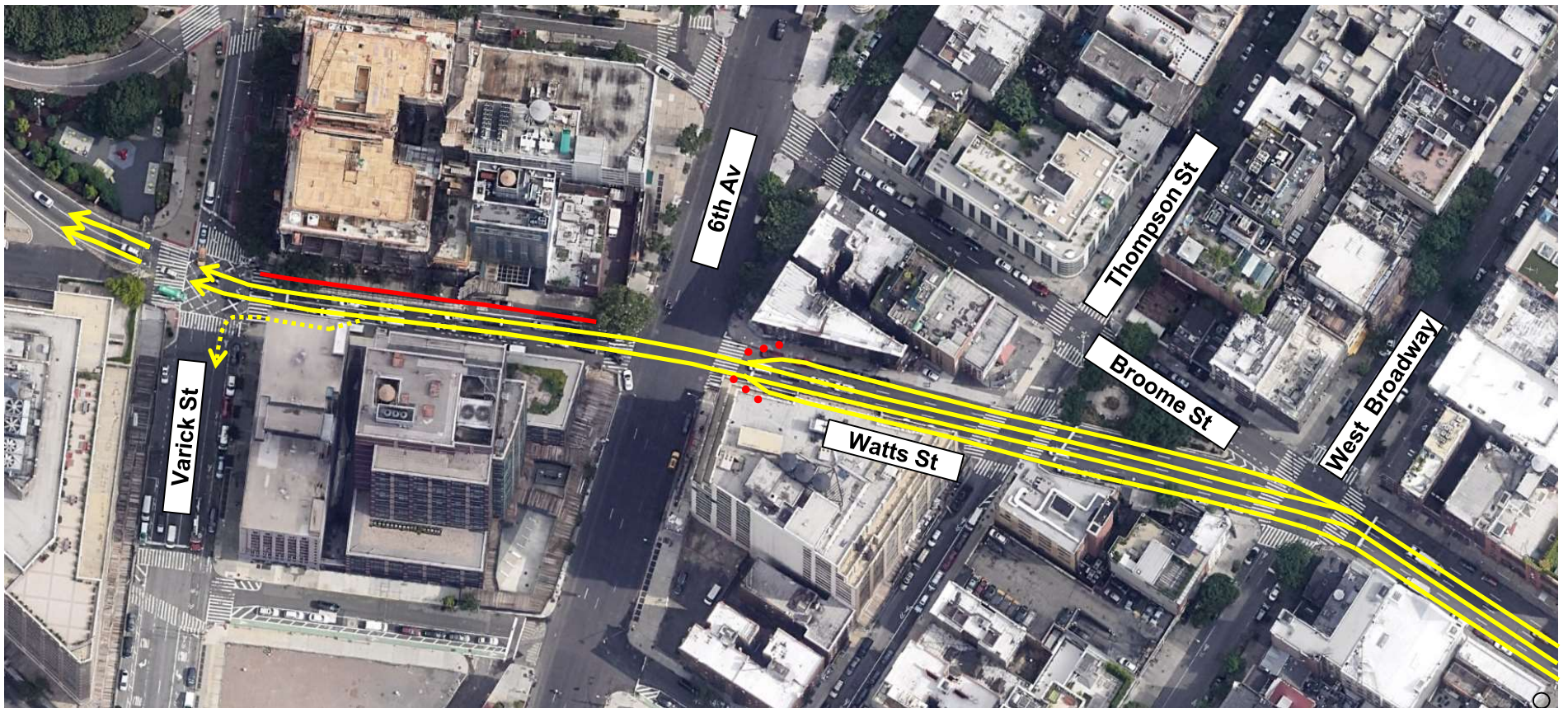
Source: Google Maps.



BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

ISSUE: Congestion and confusion at the intersections along Broome St/Watts St approaching the Holland Tunnel

Existing Condition Weekday PM Peak – Primary Traffic Flow

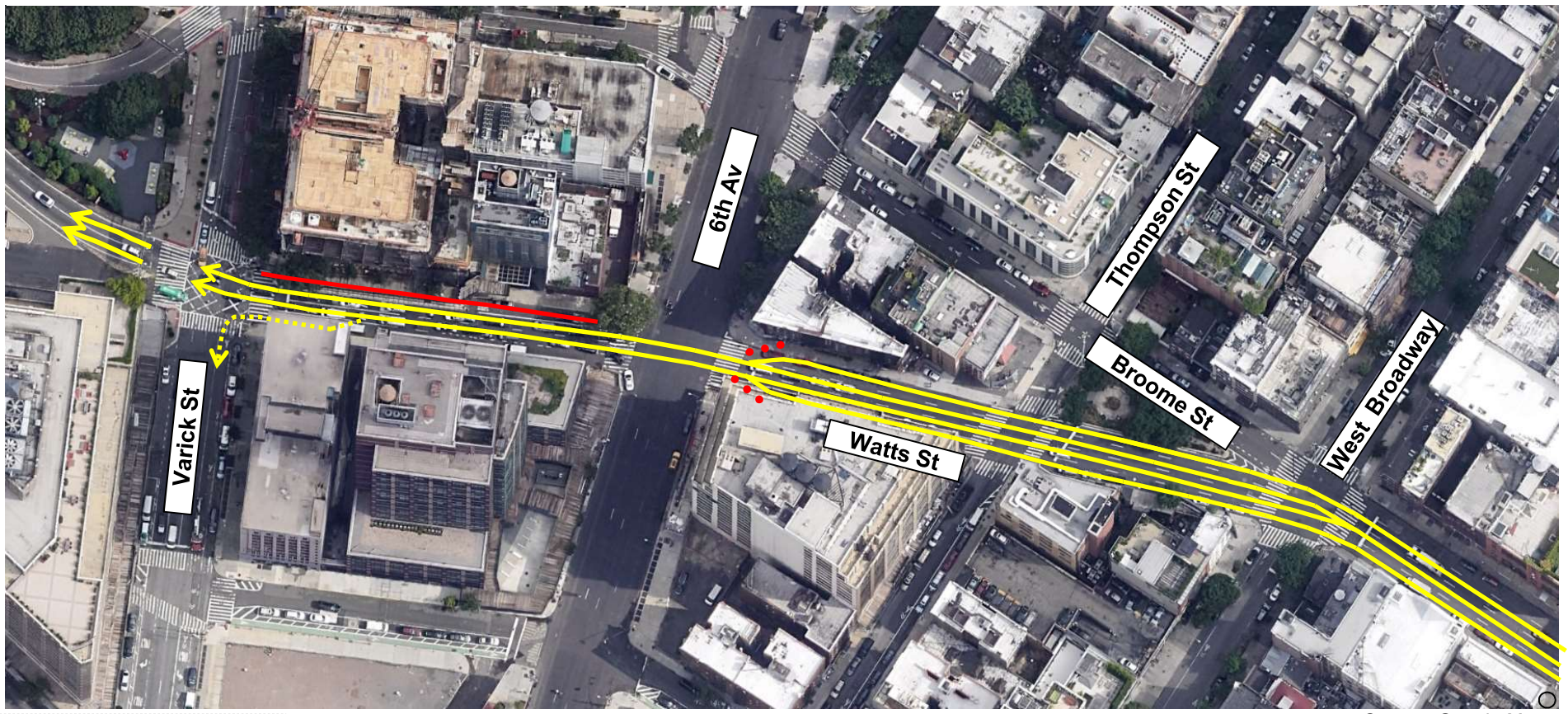


Source: Google Maps

BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

ISSUE: Congestion and confusion at the intersections along Broome St/ Watts St approaching the Holland Tunnel

Existing Condition Weekday PM Peak – Alternate Traffic Flow



Source: Google Maps.

BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

PROPOSED IMPROVEMENT, OPTION #1: Construct concrete curb extensions along Watts St at NE corner of Varick St & SE corner of 6th Av

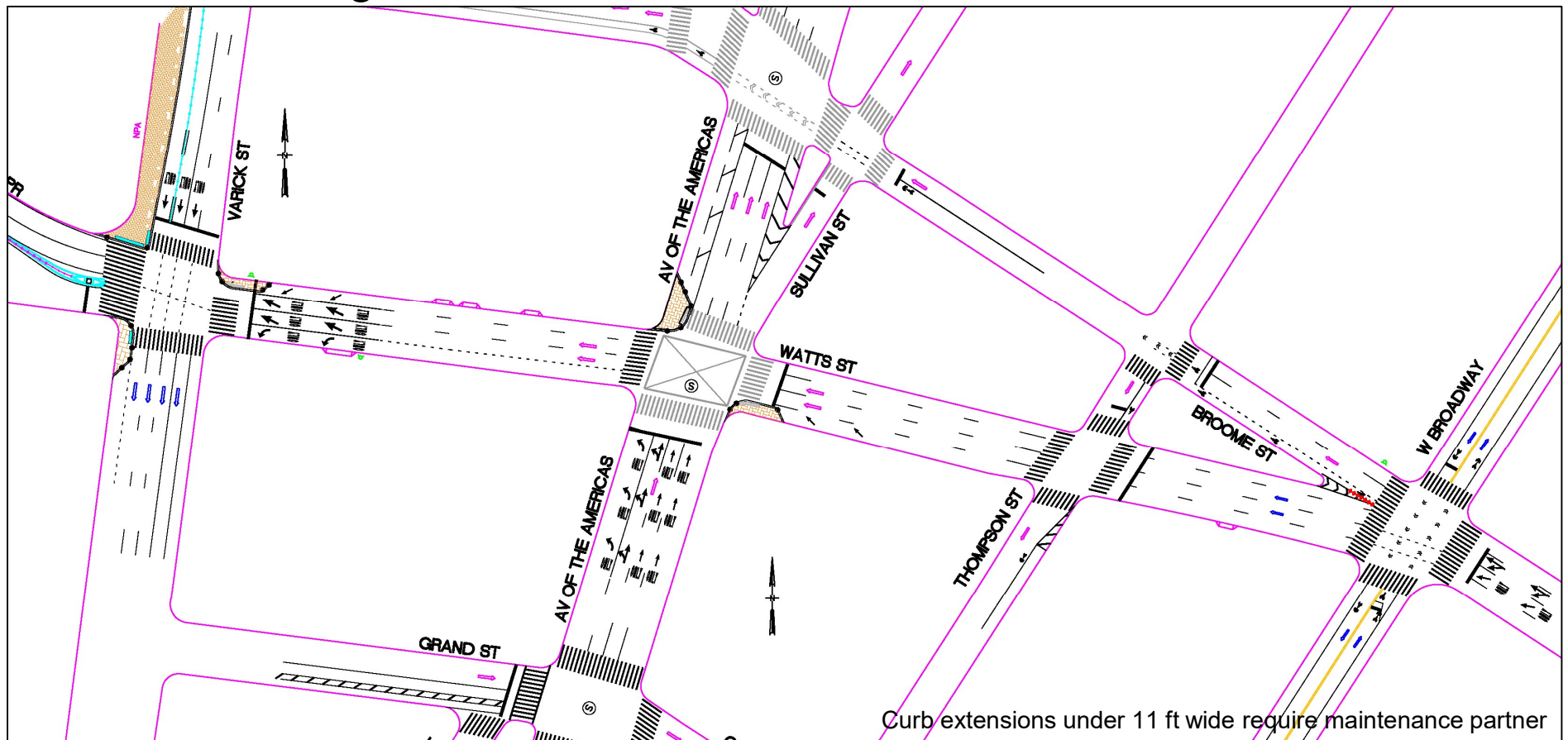


Source: Google Maps.

Source: Google Maps.

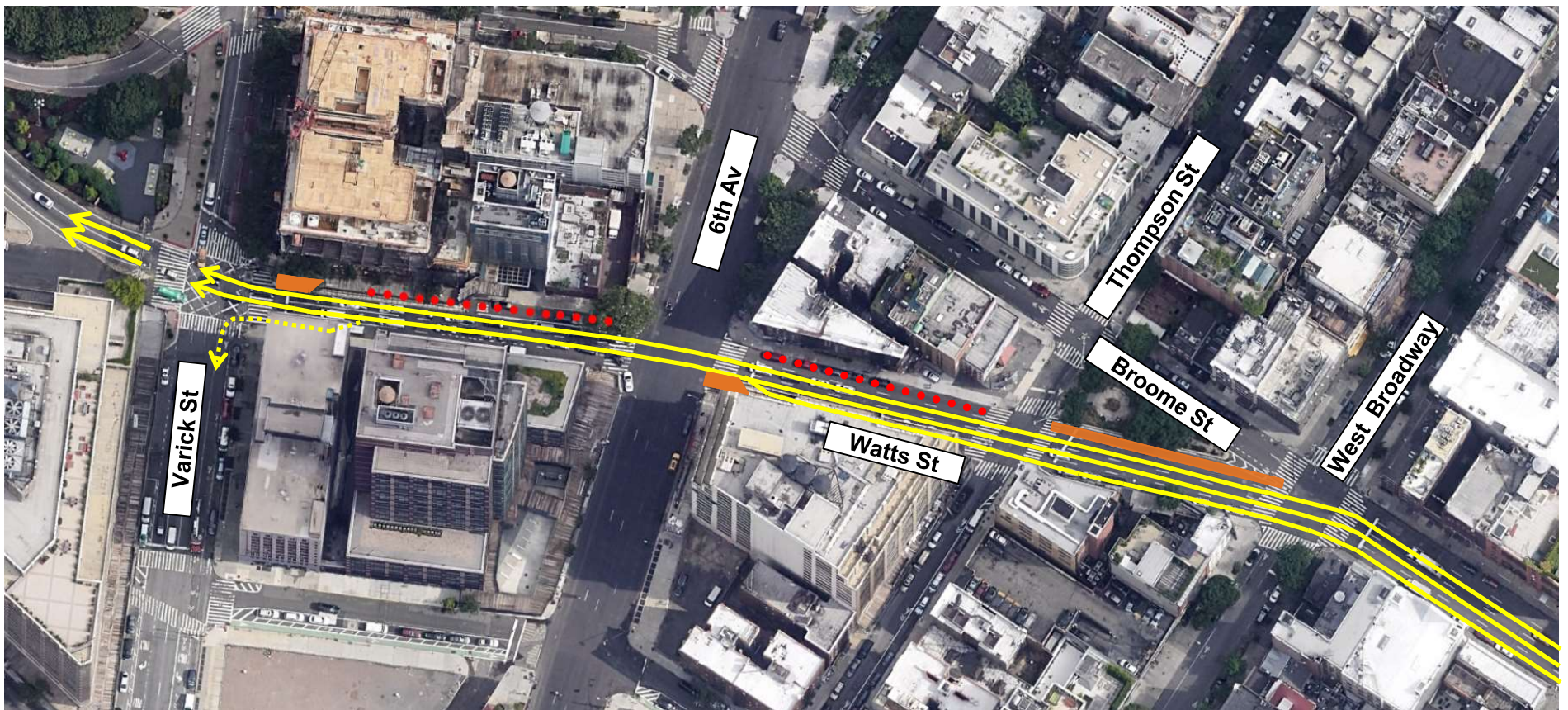
BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

PROPOSED IMPROVEMENT, OPTION #1: Construct concrete curb extensions along Watts St at NE corner of Varick St & SE corner of 6th Av



BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

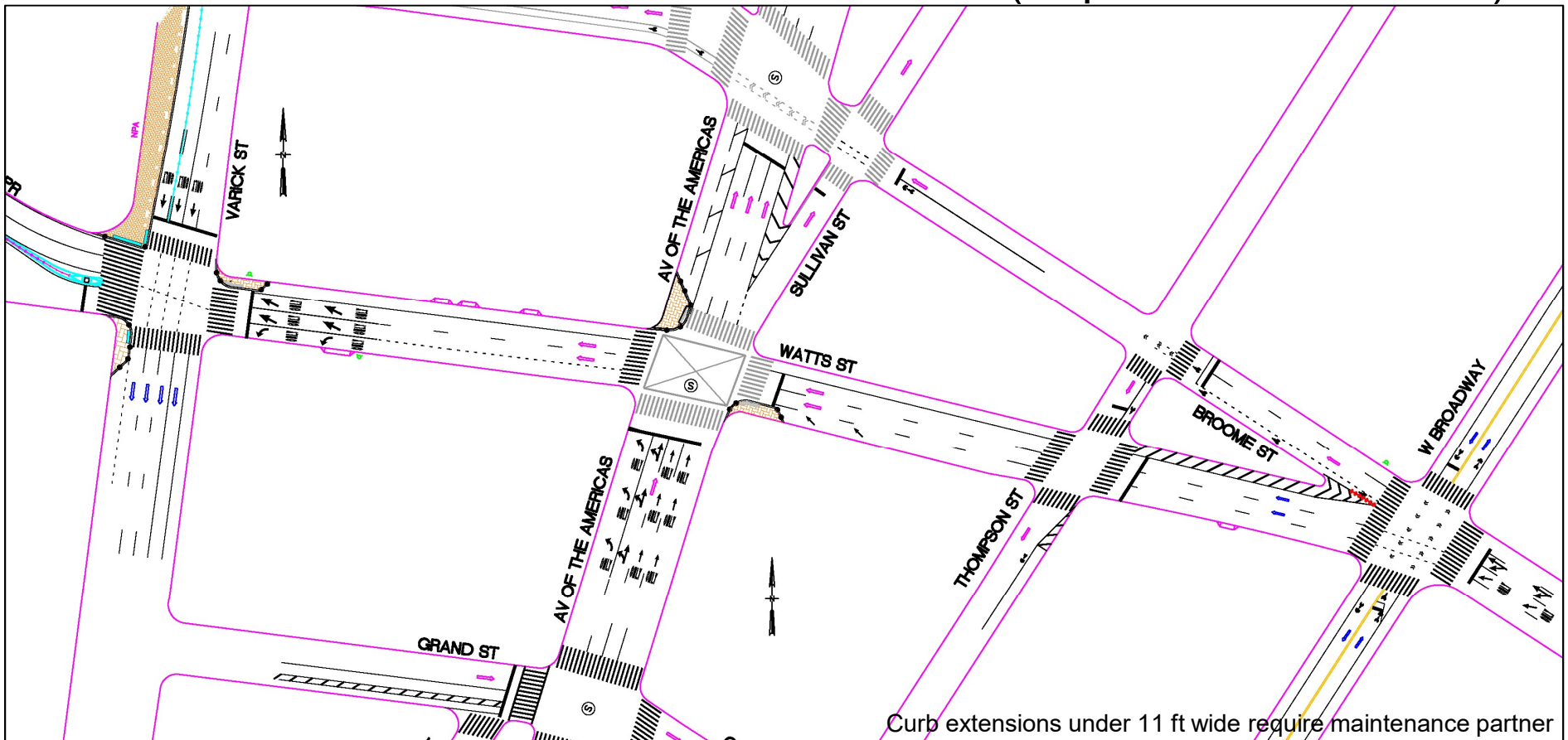
PROPOSED IMPROVEMENT, OPTION #2: Same as Option #1, plus traffic cones to streamline traffic flow to tunnel (requires NYPD action).



Source: Google Maps.

BROOME/WATTS ST BETWEEN WEST BROADWAY AND VARICK ST (Cont'd)

PROPOSED IMPROVEMENT, OPTION #2: Same as Option #1, plus traffic cones to streamline traffic flow to tunnel (requires NYPD action).

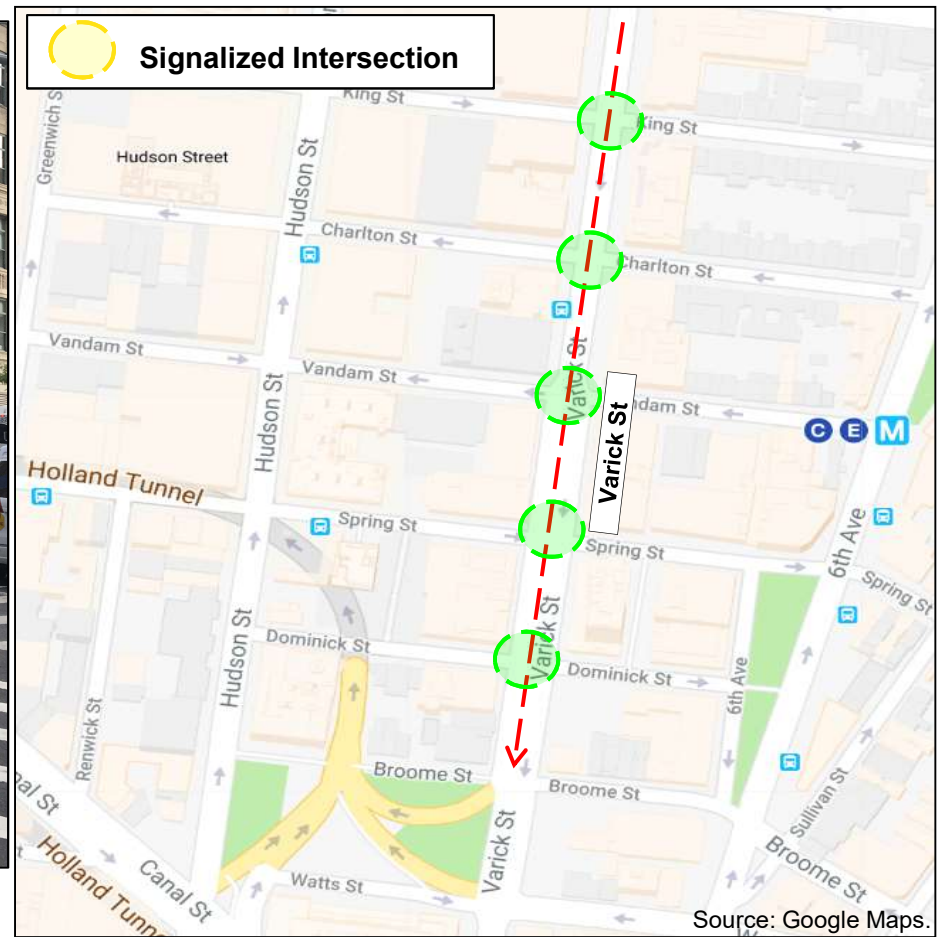


VARICK ST BETWEEN KING ST AND SPRING ST

ISSUE: Improve safety for pedestrian crossings of Varick St approaching Holland Tunnel.



Looking south along Varick St from Charlton St



Source: Google Maps.

VARICK ST BETWEEN KING ST AND SPRING ST (Cont'd)

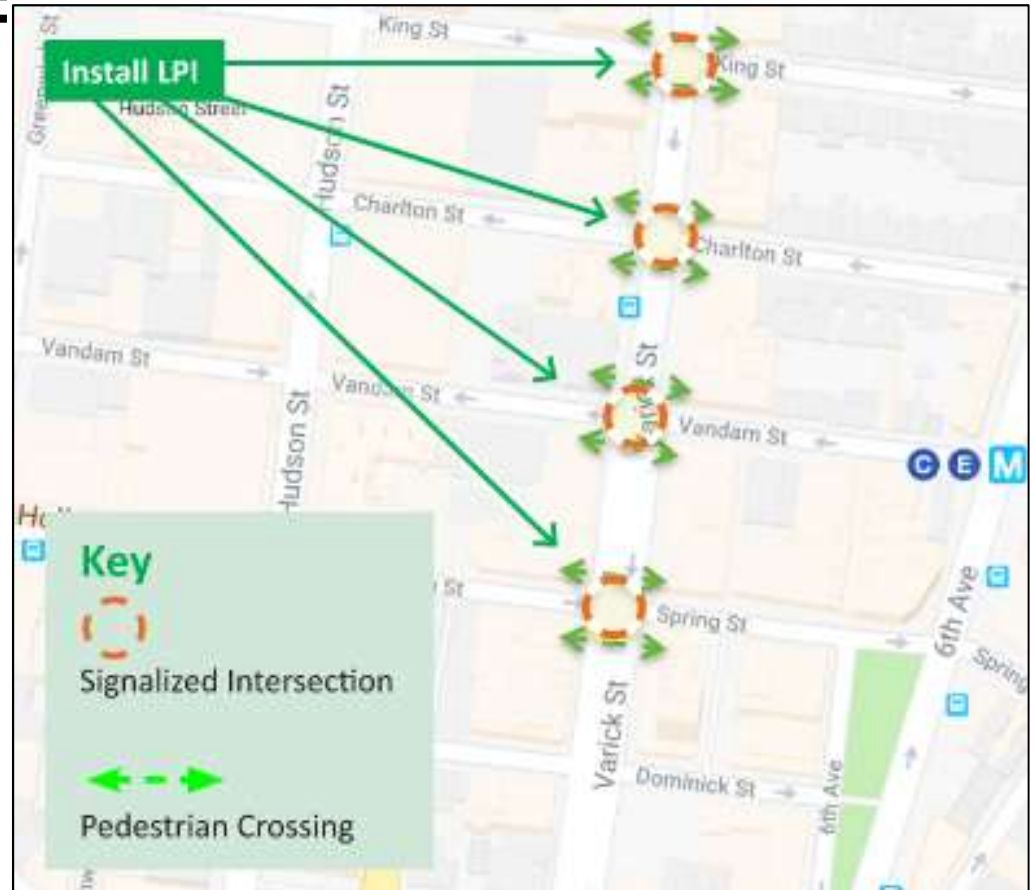
PROPOSED IMPROVEMENTS:

Provide Leading Pedestrian Intervals (LPIs) at the following locations along Varick St:

- King St
- Charlton St
- Vandam St
- Spring St

Notes:

- *LPIs provide pedestrians with a head-start, without any vehicle conflicts, when entering an intersection.*
- *Primary benefit expected during the off-peak periods.*



Next Steps

5

NEXT STEPS

- Solicit CB2 T&T Committee approval
- DOT to proceed with Early-Action Improvements in 2021
- Finalize study report



THANK YOU!

Questions?



NYC DOT



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