

Manhattan Bridge Bicycle Access Network



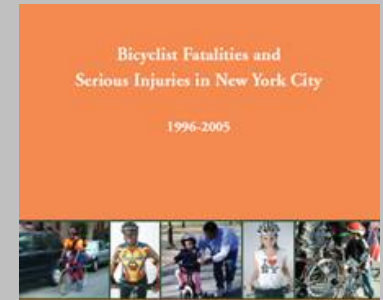
Presentation to Manhattan
Community Board 3



NYC Department of Transportation
Office of Alternative Modes
May 2008

Why are we here?

- Bicycle Fatality & Serious Injury Study – Improve Safety
- Senior Pedestrian Focus Area – Improve Senior Pedestrian Safety
- Mayor's PlaNYC – A Greener Transportation Network
- 1997 Bicycle Master Plan



NYC DOT Bicycle Program

- 200 Mile, 3 Year Bicycle Route Commitment
- Targeting Areas of High Demand & Key Connections
- Design Approach:
 1. Study Best Practices
 2. Develop Innovative Designs for Constrained NYC Environment
 3. “Complete Streets” Design Philosophy

History of Manhattan Bridge Bicycle Access Improvements

- 2001:
 - Manhattan Bridge south path opens
 - Shared Bicycle & Pedestrian Path
 - Bicycle Guide Signs to new path
 - New Bicycle Lanes: Allen, Pike, Ashland, Navy, Sands & Jay Streets
- 2004:
 - Manhattan Bridge north path opens
 - Shared Bicycle & Pedestrian Path (south path temp. closure)
 - Bicycle Guide Signs to new path
- 2005:
 - Sands Street bicycle path Capital Project announced
- 2006:
 - Clinton Street/Tillary Street/Adams Street Bridge Access Enhancements
- 2007:
 - Pearl Street & Jay Street DUMBO Bridge Access
 - Canal Street bicycle path & Canal/Forsyth intersection improvements constructed
- 2008:
 - Complete network of convenient routes on Manhattan Side planned for installation

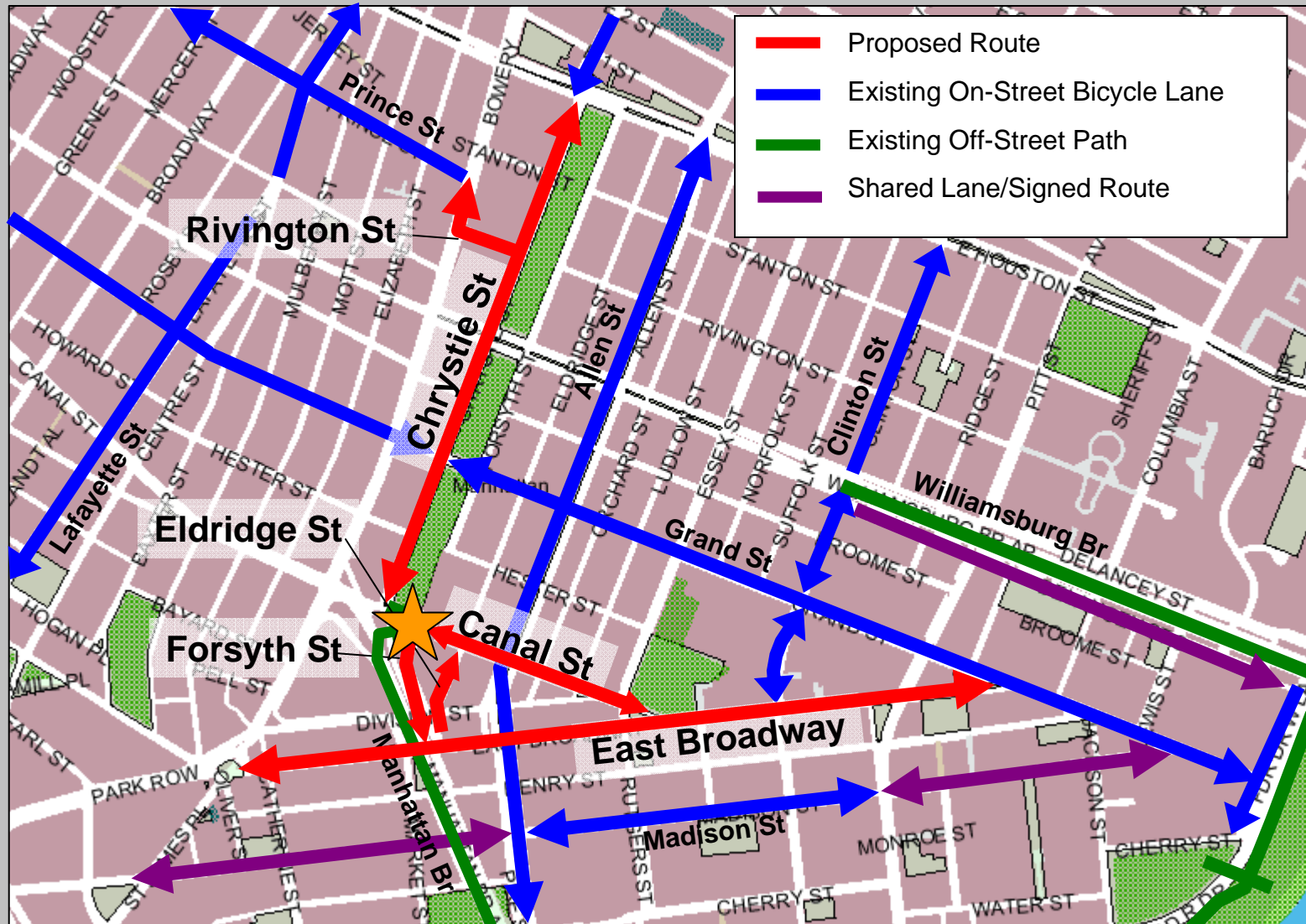
Manhattan Bridge Bicycle Access & Senior Pedestrian Safety: Design Objectives

1. Creating **Dedicated Cycling Space** on **Direct and Convenient Routes** to and from MN Br
2. Improving **Safety** for All Street Users, particularly **Senior Pedestrians**
3. Traffic Calming for **All Street Users**
4. Maintaining **Vehicular Access** and **Traffic Flow**



Project Goal: Safer and More Comfortable Streets for ALL Street Users

1. Creating Dedicated Cycling Space

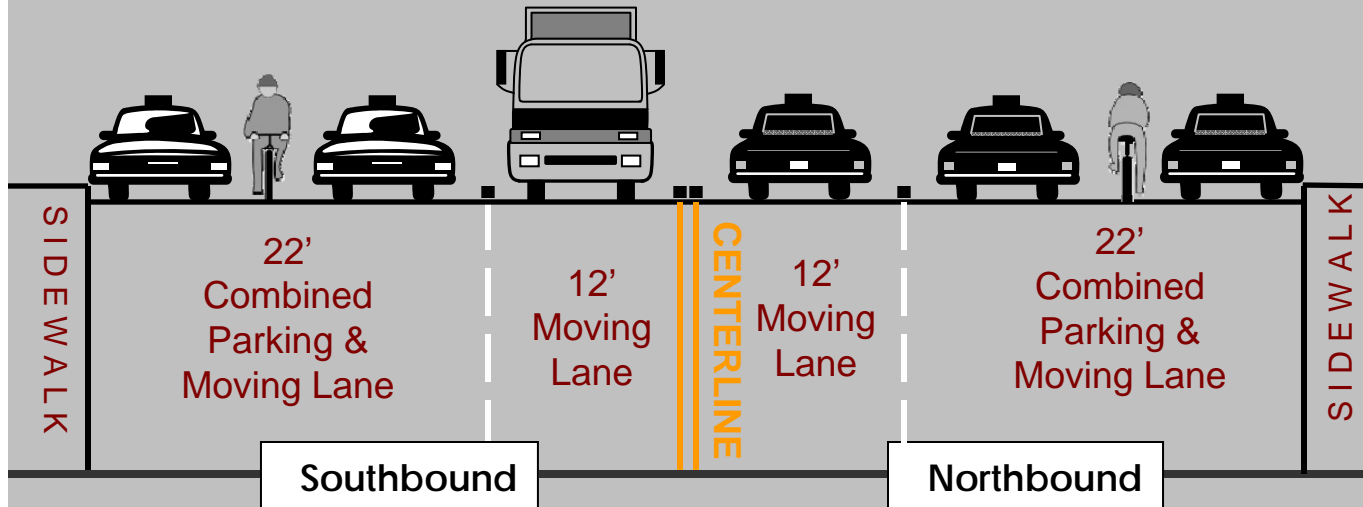


New Bicycle Lanes and Routes Will Provide Direct and Convenient Access to the Manhattan Bridge Bicycle Path

1. Creating Dedicated Cycling Space

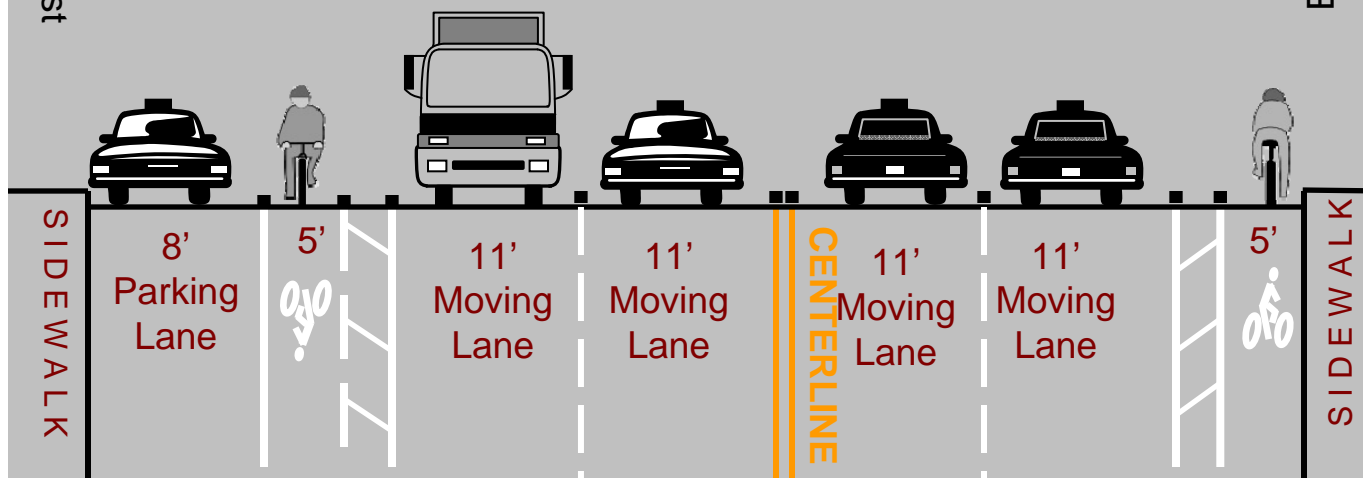
Chrystie Street

Existing Condition



- No dedicated space for cycling
- Uncomfortable cycling environment
- Insufficient room for safe passing by vehicles

Planned Condition



- Exclusive bicycle lanes
- Buffers from moving traffic

1. Creating Dedicated Cycling Space

Chrystie Street



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Planned Condition

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- Buffers from moving traffic

1. Creating Dedicated Cycling Space

East Broadway



Existing Condition

- No dedicated space for cycling
- Undefined lanes
- Uncomfortable cycling environment



Planned Condition

- Exclusive bicycle lanes
- Better Organization & Separation of Traffic

1. Creating Dedicated Cycling Space

Canal Street



Existing Condition

- No dedicated space for cycling
- No guidance for cyclists or motorists
- Uncomfortable cycling environment



Planned Condition

- Shared Bicycle/Vehicle Lanes
- Shared Condition emphasized by signs & pavement markings

2. Improving Safety for All Street Users

Safe Streets for Seniors – LES Pilot Area

- History of Crashes Involving Seniors
- Area-Wide Pedestrian Safety Improvements:
 - Increased Pedestrian Signal Time
 - Crosswalk Improvements
- Additional Improvements at Key Intersections:
 - Pedestrian Refuge Islands
 - Left-Turn Bays



2. Improving Safety for All Street Users

Chrystie Street Crash History: 2001-2006

Chrystie: Canal to E. Houston

Total Crashes: 864
Pedestrian Crashes: 116
Bicycle Crashes: 36
Bicycle Fatality: 1
Ped Fatality: 4 (2 Seniors)

Btwn Rivington and Stanton:

1 Ped Injury

Btwn Broome and Delancey:

1 Ped Injury
3 Bicycle Injuries

Btwn Grand and Broome:

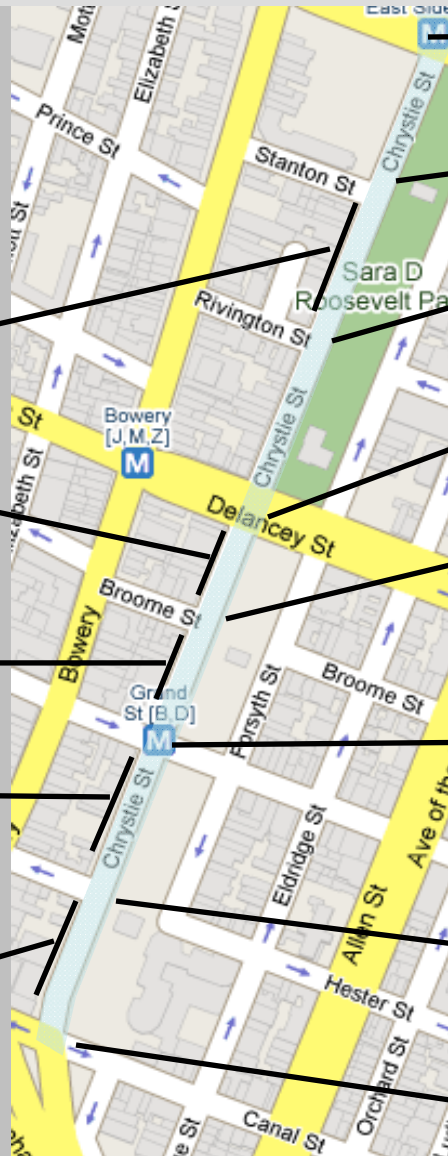
2 Ped Injuries

Btwn Hester and Grand:

3 Ped Injuries
1 Senior Fatal
1 Bicycle Fatal

Btwn Canal and Hester:

1 Ped Injury
1 Bicycle Injury



@Houston: 5 Ped Injuries
6 Bicycle Injuries

@Stanton: 4 Ped Injuries
1 Bicycle Injuries

@Rivington: 3 Ped Injuries
3 Bicycle Injuries

@Delancey: 12 Ped Injuries
1 Senior Severe Injury
6 Bicycle Injuries

@Broome: 7 Ped Injuries
3 Senior Severe Injuries
1 Senior Fatality
1 Ped Fatality

@Grand: 14 Ped Injuries
3 Senior Severe Injuries
2 Bicycle Injuries
1 Ped Fatal

@Hester: 5 Ped Injuries
1 Bicycle Injury

@Canal: 1 Ped Injury

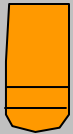
2. Improving Safety for All Street Users

Chrystie Street: Planned Improvements



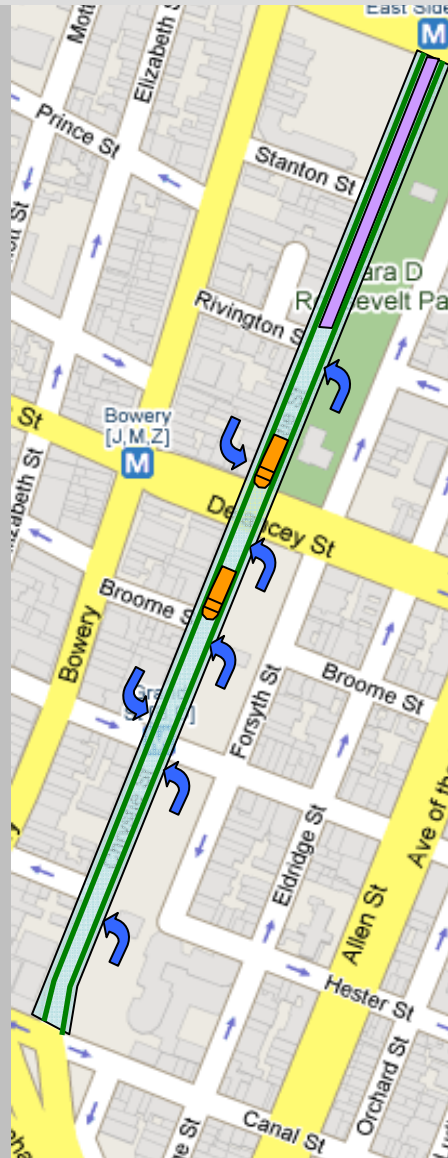
Dedicated Left Turn Bay:

- Organizes vehicular traffic
- Provides vehicle storage space
- Reduces queuing in crosswalks



Pedestrian Refuge Island:

- Provides mid- crosswalk pedestrian waiting area
- Reduces NB roadway to one thru lane, slowing traffic



Flush Painted Median:

- Narrows NB roadway to one thru lane, slowing traffic
- Provides pedestrian refuge



Bicycle Lane:

- Creates safe, on-street bicycle connection to/from Manhattan Bridge
- Heightens vehicle awareness of other roadway users

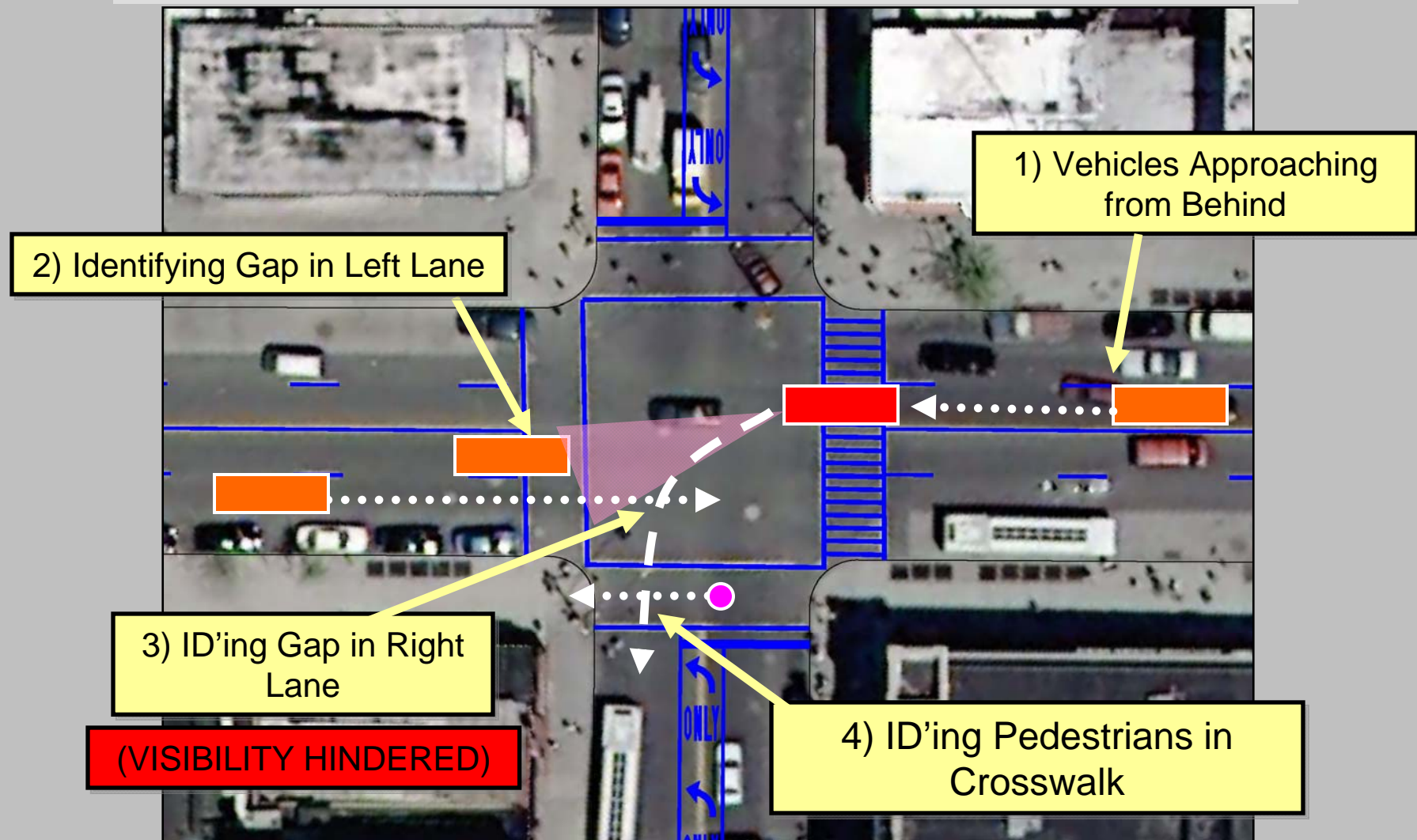


Traffic Calming:

- All Chrystie improvements will calm traffic along the entire corridor
- Vehicular traffic will be slowed and organized
- Ped and bicycle traffic will be safer and fully accommodated

2. Improving Safety for All Street Users

Without Left-Turn Bays Left-Turning Motorists Have 4 Concerns



2. Improving Safety for All Street Users

Safety Benefits of Left Turn Bays on Two-Way Streets

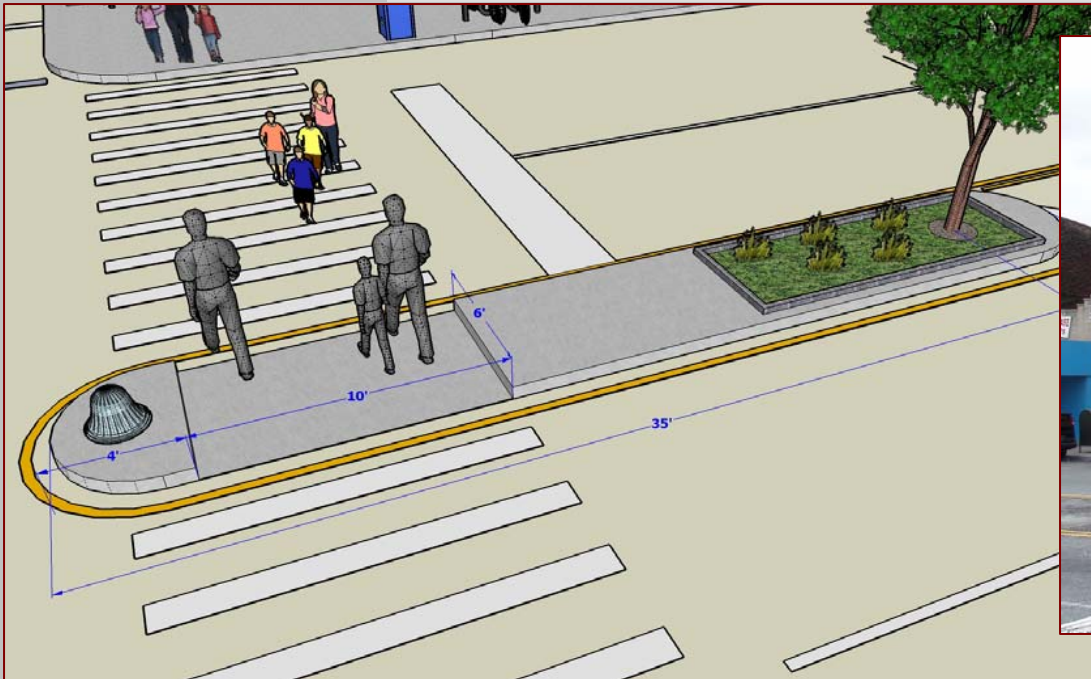
- Only 2 Points of Focus
- No Visibility Problem

Vehicles from behind in
different lane
No "Back Pressure"

Driver only needs ONE gap to
turn; can then look at crosswalk

2. Improving Safety for All Street Users

Safety Benefits of Pedestrian Refuge Islands



1. Shortens crossing distance, provides mid-crosswalk layover
2. Wide cut-thru allows two pairs of pedestrians to cross
3. Trees enhance visibility, safety, and streetscape
4. Enforce better driver behavior
5. ADA accessible

2. Improving Safety for All Street Users

Turning Conflicts at Intersections are Problematic for Cyclists

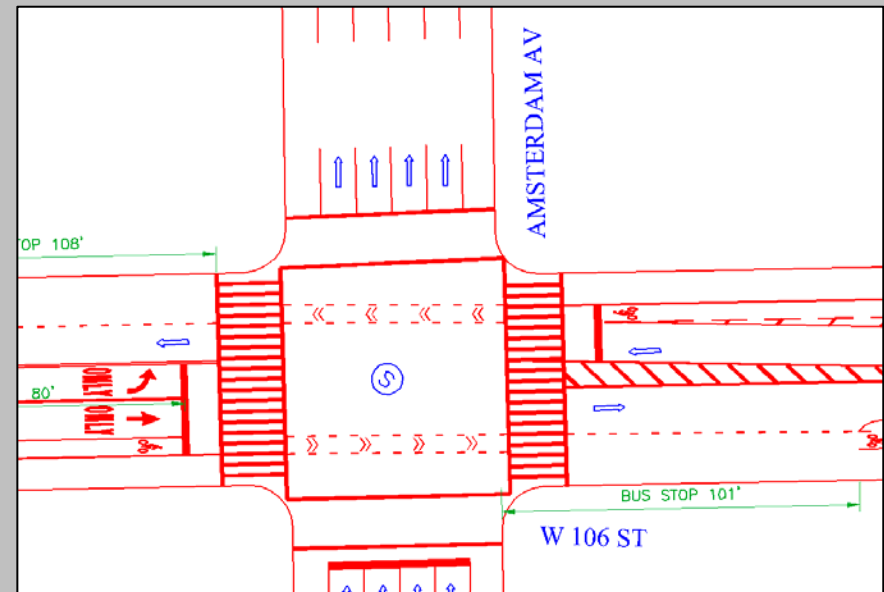
- 9 of 10 NYC cyclist fatalities
- 8 of 10 NYC cyclist serious injuries

Existing Conditions

- No Guidance at Intersections

Planned Conditions

- Bicycle lanes increase driver's visibility and awareness of cyclists
- Intersection markings highlight potential conflict



3. Traffic Calming for All Street Users

- Excess Road Space Can Encourage Speeding and Increase Crash Severity
- Project Removes Excess Lane from Chrystie Street
- Organizes & Separates Vehicles & Bicycles
- Reduces Oversized Lanes on East Broadway, Forsyth & Eldridge to Standard Width

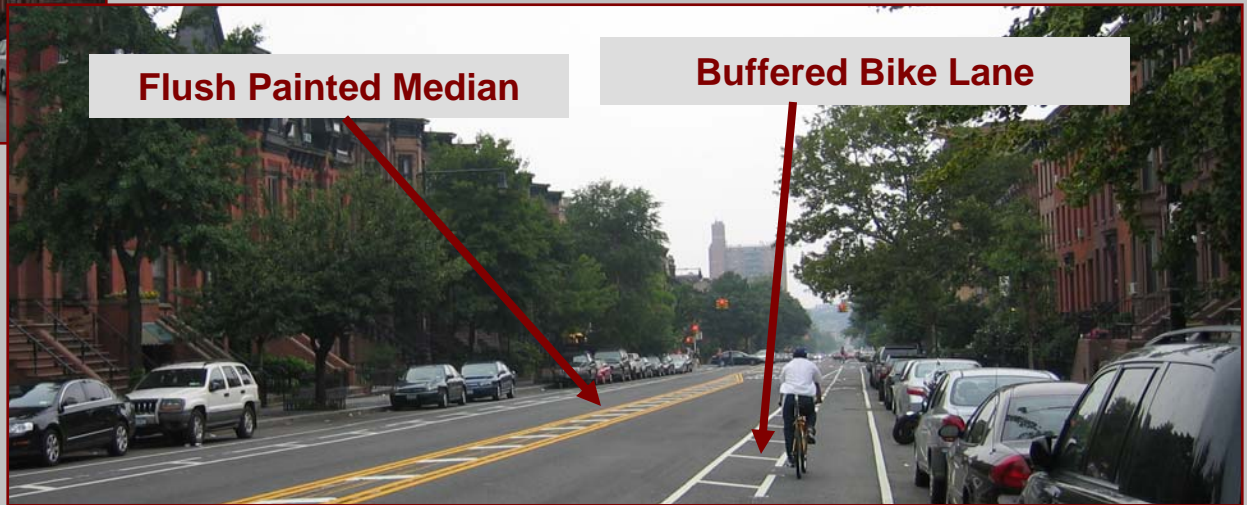


3. Traffic Calming for All Street Users



Before

Traffic Calming 9th Street, Brooklyn



Flush Painted Median

Buffered Bike Lane

Other Successfully Traffic Calmed Streets:

- Oriental Boulevard – Bk
- Vanderbilt Avenue – Bk
- E. 20th Street – Mn
- Gerritsen Avenue – Bk

After

1. Before: Multiple wide lanes encourage speeding, pedestrian crossing challenging
2. After: Fewer travel lanes and less speeding
3. Buffers create comfortable travel lanes and bike lane
4. Marked bicycle route raises awareness of bicycles in roadway
5. Flush painted median further narrows roadway to help slow traffic, provides space for dedicated turning bays

4. Maintaining Vehicular Access & Traffic Flow

- Design Tailored to Preserve Traffic Capacity on Key Access Routes
- Parking Preserved for Active Land Uses
- About 50 Parking Spaces to be Removed on East Side of Chrystie Street



4. Maintaining Vehicular Access & Traffic Flow

Parking Restricted: East Side of Chrystie between Grand & Stanton Streets

Block	Parking Removal	Current Reg	Capacity	Removed
Canal St to Hester Street	No	2 Hour Parking* 10a-7p, N/S 7a-10p	9	0
Hester Street to Grand Street	No	2 Hour Parking* 10a-7p, N/S 7a-10p	19	0
Grand Street to Broome Street	Yes	N/P Midnight to 3a, M, W, F	14	14
Broome Street to Delancey Street	Yes	N/P Midnight to 3a, M, W, F	12	12
Delancey Street to Rivington Street	Yes	2 Hour Parking** 9a-7p, Night Cleaning	19	19
Rivington Street to Stanton Street	Partial	N/P Midnight to 3a, M, W, F	20	7
Stanton Street to East Houston Street	No	N/P Midnight to 3a, M, W, F	19	0
Subtotal Time-Limited Parking			28	0
Subtotal All Day Parking			65	33
Subtotal Metered Parking			19	19
Total			112	52

Project Summary: Achieving Objectives

- | | | |
|---|---|---|
| 1. Creating Dedicated Cycling Space on Direct and Convenient Routes to and from MN Br | ⇒ | • Bicycle Lanes on Chrystie St, East Broadway, Forsyth St, Eldridge St |
| 2. Improving Safety for All Street Users, particularly Senior Pedestrians | ⇒ | • Left-Turn Bays & Refuge Islands on Chrystie St |
| 3. Traffic Calming for All Street Users | ⇒ | • Bicycle Lanes & Buffer markings to visually narrow roadways |
| 4. Maintaining Vehicular Access and Traffic Flow | ⇒ | • Parking Preserved at Active land Uses, No Reduction in Vehicle Capacity of Roadways |

Next Steps

- Community & Stakeholder Input
- Project Refinement
- Additional Senior Pedestrian Safety Improvements to Be Developed Throughout Study Area



End of Presentation

