



# SAFE STREETS FOR SENIORS

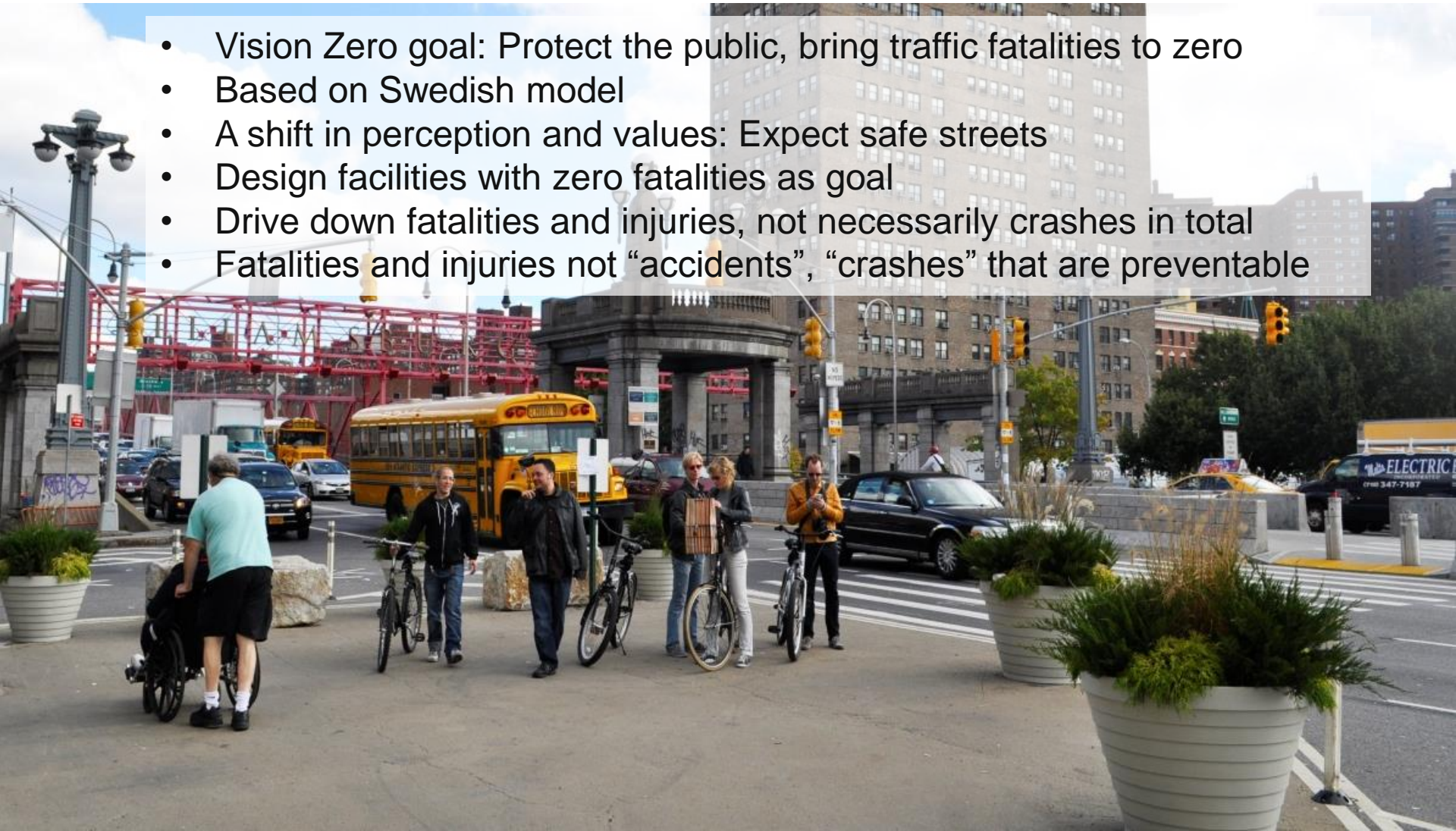
New York City Department of Transportation



# VISION ZERO SHIFT TO SAFETY FOCUS

## What is Vision Zero?

- Vision Zero goal: Protect the public, bring traffic fatalities to zero
- Based on Swedish model
- A shift in perception and values: Expect safe streets
- Design facilities with zero fatalities as goal
- Drive down fatalities and injuries, not necessarily crashes in total
- Fatalities and injuries not “accidents”, “crashes” that are preventable



# VISION ZERO IN NYC

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- Led by City Hall
- Prominent
- Multi-Agency
- Funded
- Comprehensive
  - Engineering
  - Enforcement
  - Education
  - Policy

## Year 1-3 Accomplishments:

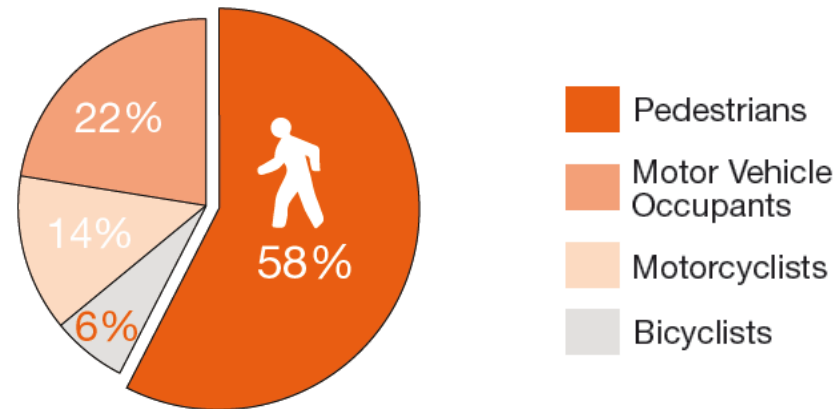
- 2016: Lowest year on record for traffic fatalities
- 1,145 new Speed Bumps
- 1,248 new Leading Pedestrian Intervals (LPIs)
- 25 mph new speed limit
- 140 Speed Cameras Deployed
- 242 Safety Engineering Projects
- 292% increase in failure to yield summonses
- 76% increase in speeding summonses



# WHY FOCUS ON PEDESTRIANS?

- Pedestrians represent the majority of traffic fatalities citywide
- Pedestrian fatalities have grown as a share of all traffic fatalities
  - Between 2007 and 2013 pedestrian fatalities grew from 51% of all traffic fatalities to 58%
  - Since 2007, fatalities of vulnerable road users increased by 1%, while fatalities of motor vehicle occupants fell by 37%

Fatalities by Mode: NYC 2011-2013 Average, Rounded



All NYC Fatalities

	Pedestrian	Bicyclists	Motorcyclists	Motor Vehicle Occupants	Total
All NYC	157	17	37	61	272

# WHY FOCUS ON SENIOR PEDESTRIANS?

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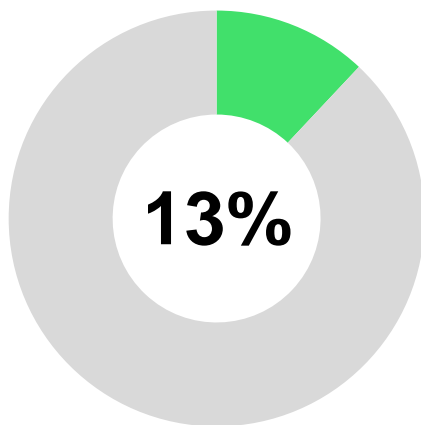


The challenge of an aging city:

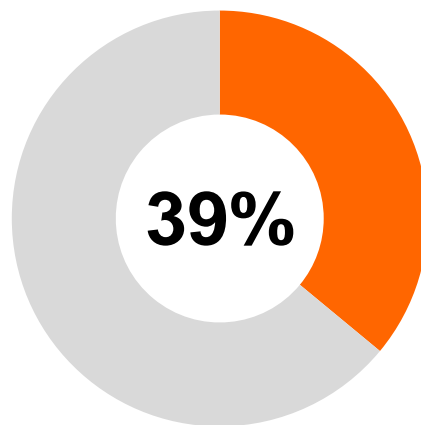
- Baby boomers are reaching retirement age
- Seniors in NYC walk much more than those elsewhere in the US
- Senior fatality rate 4x that of younger New Yorkers

# BACKGROUND

- 13% of the NYC population are seniors, but 39% of NYC pedestrian traffic fatalities are seniors
- NYC senior population is increasing

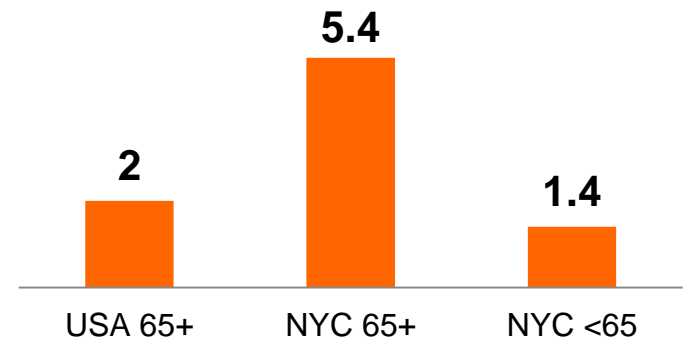


**Adults age 65+  
living in NYC  
(2016)**

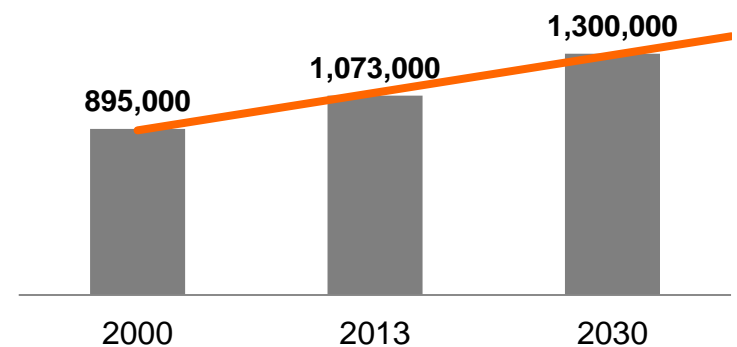


**Pedestrians  
age 65+ killed in  
traffic crashes\***

## Pedestrian Fatalities per 100,000\*\*



## People Age 65+ in NYC



# BACKGROUND

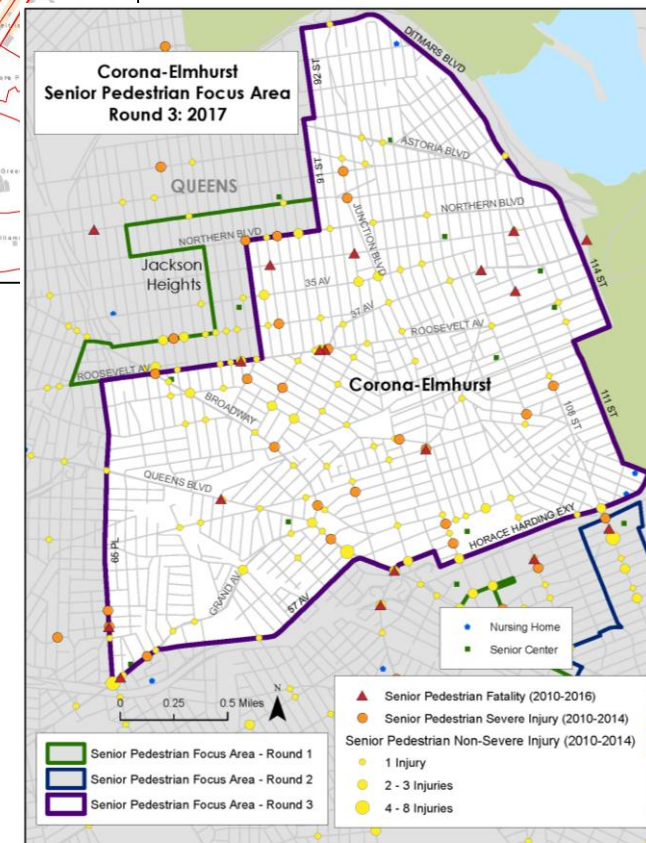
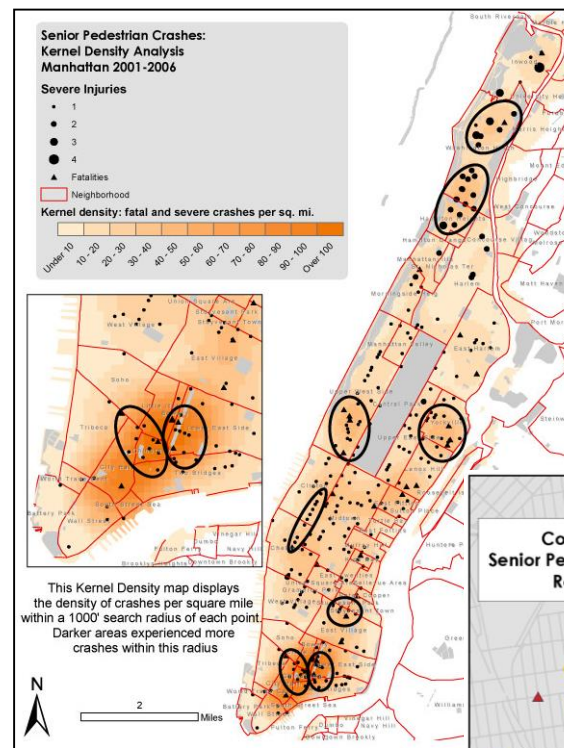
Program centers around defined Senior Pedestrian Focus Areas (SPFAs)

Initial 25 SPFAs (2008)

- Mapped pedestrians age 65+ killed and severely injured (KSI)
- Circled clustering on heat map to identify first focus areas

Remaining SPFAs

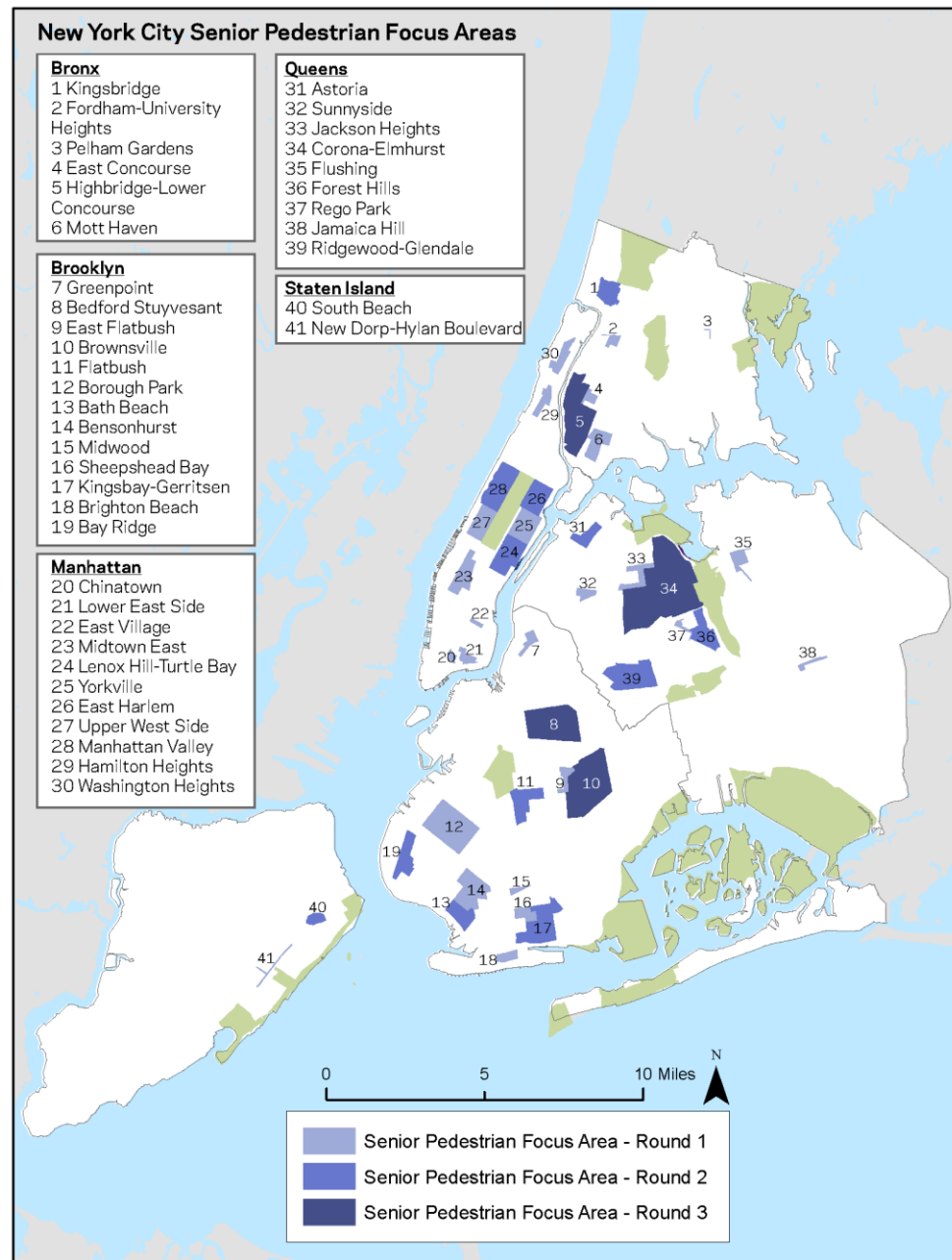
- Mapped pedestrians age 65+ killed and severely injured
- Mapped density of senior housing/population
- Also includes senior trip generators (e.g., NORCs, senior centers, nursing homes, etc.)



# FOCUS AREAS

## 41 Senior Pedestrian Focus Areas to date

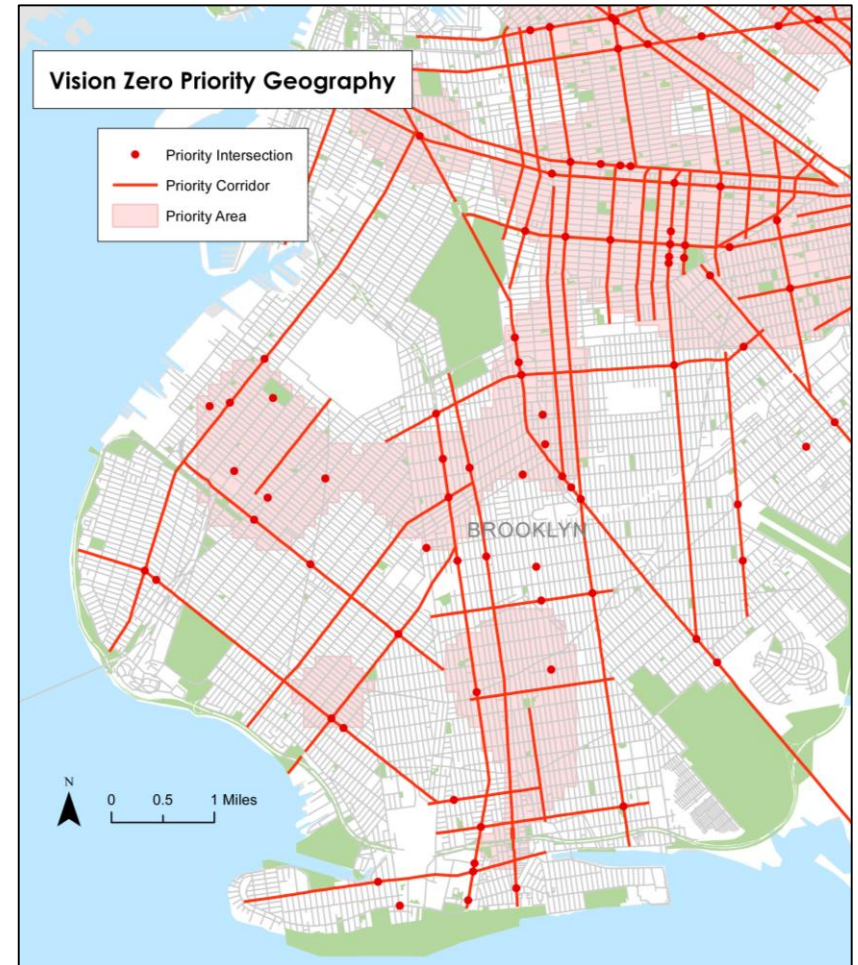
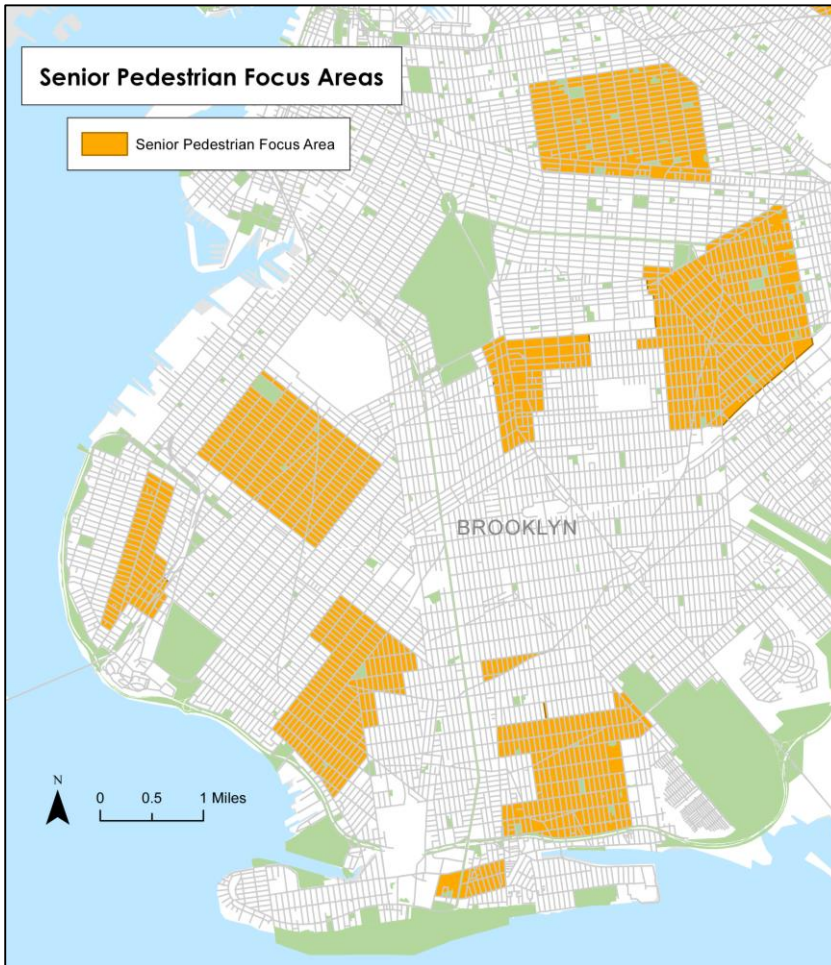
- Round I (2008): 25 Areas
- Round II (2012): 12 Areas
- Round III (2017): 4 New Areas
  - Bedford Stuyvesant
  - Brownsville
  - Corona-Elmhurst
  - Highbridge-Lower Concourse





# VISION ZERO AND SENIOR SAFETY

- Safe Streets for Seniors program predates Vision Zero
- Senior Areas provide another point of entry for traffic safety interventions for this vulnerable population



# INPUT FROM SENIOR PEDESTRIANS

- Not enough time to cross the street
- Broken or missing pedestrian ramps
- Hard-to-see or faded markings
- Poor drainage or ponding in crosswalks
- Turning vehicles failing to yield



# TOOLBOX OF TYPICAL SAFETY IMPROVEMENTS



**Daylighting:** better driver-pedestrian visibility



**Countdown signals:** tell pedestrians how much more time they have to cross



**Signal timing:** can add more time to cross where possible, LPIs, split phases, flashing amber turns



**Pedestrian safety islands:** shortens crossings on wide streets, provide safer crossings



**Road diet:** organizes traffic, less speeding



**Sidewalk extension:** shortens crossing distance, slows turning cars

# TOOLBOX OF TYPICAL SAFETY IMPROVEMENTS



**Accessible Pedestrian Signals (APS):** provide audible signal in areas with persons with vision impairments



**Repair pedestrian ramps:** repair pedestrian ramps on intersections with safety projects



**Close slips/normalize turns:** creates safer turns and improves driver to pedestrian visibility



**Bus Stop improvements:** improve pedestrian and driver safety and enhance connections to public transit



**Left Turn Traffic Calming:** Modifies turning angle from cross street to create safer, slower left turn



**Raised crosswalks/intersections:** allows for pedestrians to cross at grade and reduces vehicle speeding

# PARTNERING WITH NYCDOT CITY BENCH

- Working with DOT's City Bench program
- Placement at strategic locations, e.g.:
  - Senior centers
  - Bus stops without shelters
  - Public libraries
  - Municipal facilities



*2<sup>nd</sup> Avenue bus stop, Manhattan*



*Self Help Austin St Senior Center in Forest Hills, Queens*

# SAFETY IMPROVEMENT PROJECTS

## West 6th Street, Brooklyn – 2010

- 4 fatalities before and **zero** fatalities after implementation

### Bensonhurst Senior Area



Typical 4-to-3 lane road diet with pedestrian islands



# SAFETY IMPROVEMENT PROJECTS

## 7<sup>th</sup> Ave and W 23 St, Manhattan – 2011

- Pedestrian injuries decreased by **68%**

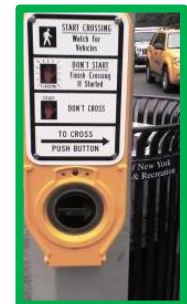
### Midtown West Senior Area



Modified signal timing to add protected pedestrian crossing

Constructed two pedestrian safety islands

Created separated left turns



Accessible Pedestrian Signal (APS) installed

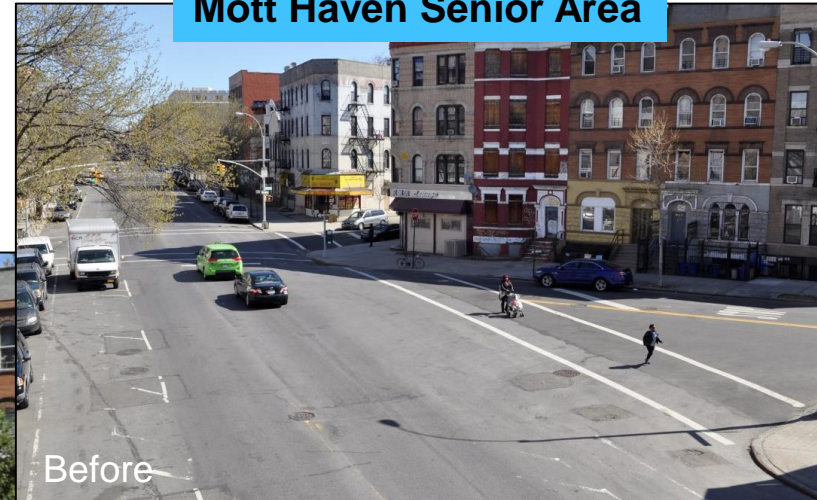
# SAFETY IMPROVEMENT PROJECTS

## Mott Haven Senior Area

### Prospect Ave, Bronx – 2015

- Pedestrian injuries decreased by **44%**

Reconfigured traffic flow better organizes and calms traffic



Concrete pedestrian safety islands and painted curb extensions shortened crossing distances



# SAFETY IMPROVEMENT PROJECTS

## Sheepshead Bay Rd, Brooklyn – 2016

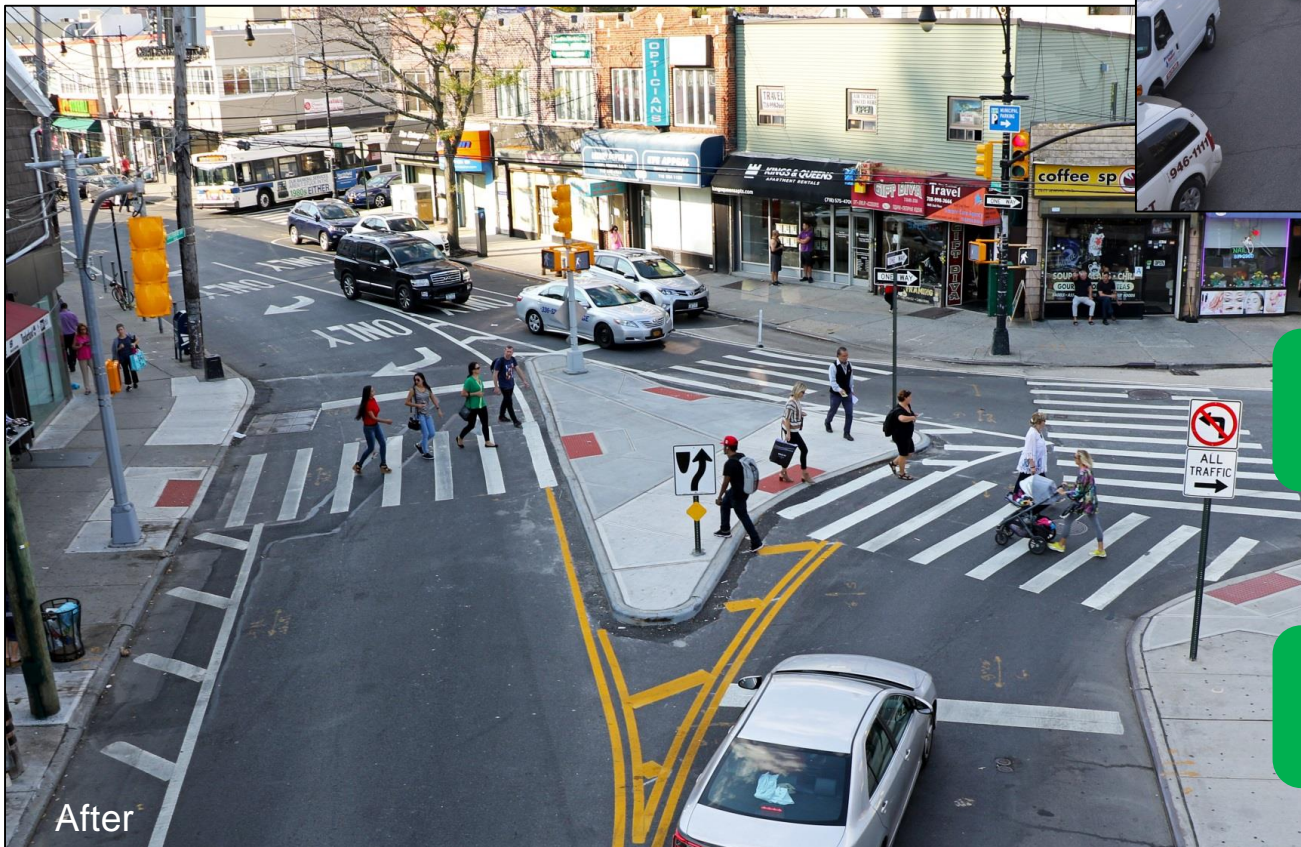
- Pedestrian injuries decreased by **21%**

### Kings Bay-Gerritsen Senior Area



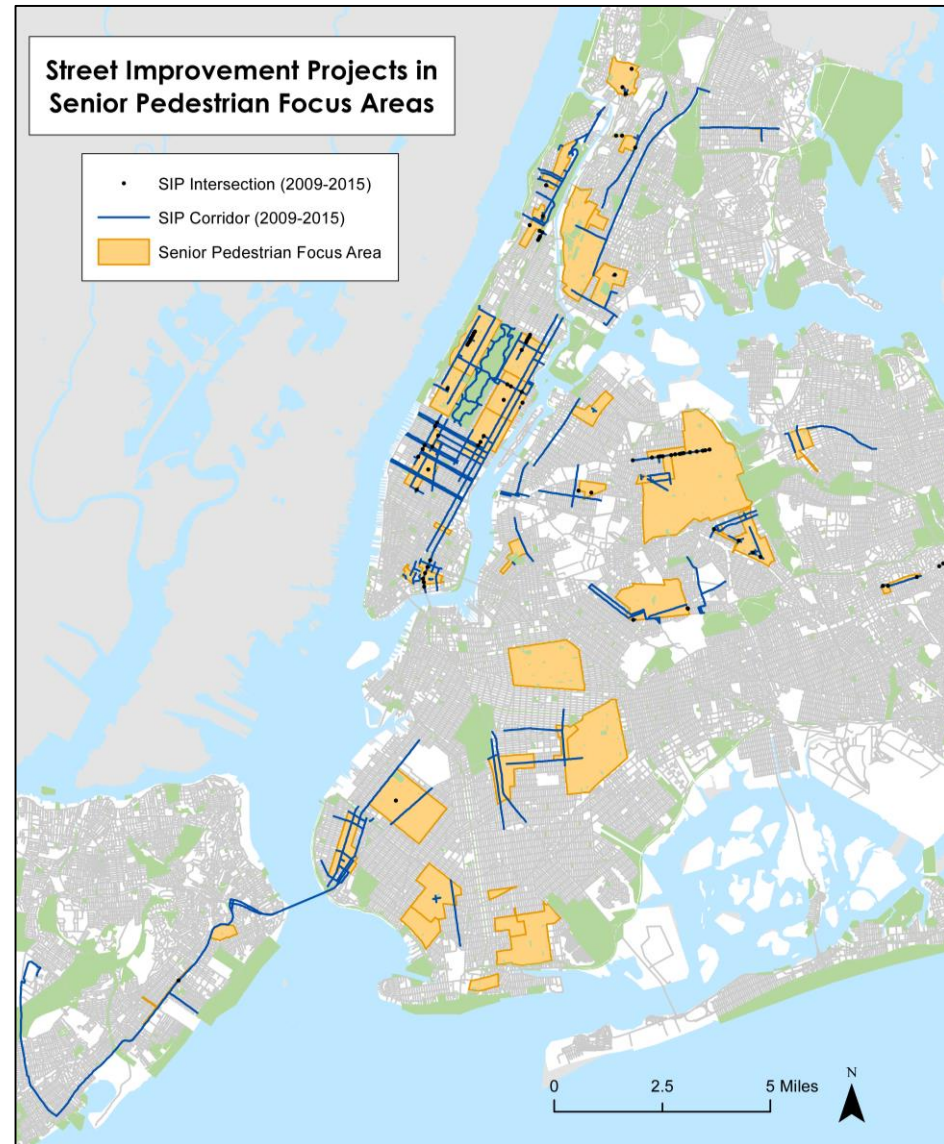
More predictable and organized traffic flow

Shortened pedestrian crossings and new ramps



# SAFETY IMPROVEMENTS IN SENIOR AREAS

- Since 2009, 182 Street Improvement Projects (SIPs) have been implemented in Senior Areas
- Of which, 121 SIPs have at least two years of post-implementation crash data available for analysis\*:
  - 15% decrease in pedestrian injuries
  - 9% decrease in total injuries



\*Based on before and after crash analysis of 121 SIPs from 2009-2015 with 2 years of after data which are within or on the border of a SPFA.

# HOW ARE PROJECTS BUILT SO QUICKLY?

- SSFS projects are funded through Federal (FTA, FHWA) and local sources
- [Public Interest Finding](#): Use federal funds for in-house construction
- In-house construction is faster and lower cost than capital construction
  - Temporary materials (e.g., paint)
  - In-house concrete construction
- PIF allows NYCDOT to respond to street safety locations faster

U.S. Department of Transportation  
Federal Highway Administration

*FHWA's Livable Communities Case Study Series*

**New York City Department of Transportation – Safe Streets for Seniors Program**

**Challenge**—High rate of pedestrian traffic fatalities among older adults

Using maps to identify clusters of various types of crashes, the New York City Department of Transportation (NYCDOT) found that older adults represented a disproportionate share of pedestrian fatalities in the city. Although those over 65 years of age make up only 12 percent of the population in New York City, they account for 36 percent of pedestrian fatalities according to an NYCDOT analysis. According to New York City demographic projections, as the baby boomer generation ages, the city's older adult population is expected to grow to 16 percent of the population in 2030, compared to 11 percent in 2010. Without action, the number of pedestrian fatalities involving older adults could continue to grow among this vulnerable population.


**Solution**—Focus on the conditions that contribute to pedestrian crashes involving older adults

In response to these troubling statistics, NYCDOT's safety group created the Safe Streets for Seniors program in 2008 and began reviewing crash data and police reports to identify potential infrastructure or operational problems at the crash sites. The program is part of a larger suite of NYCDOT pedestrian and bicycle safety programs focusing on Safe Routes to School, high crash corridors, and automobile speeding in neighborhoods. Safety analysts in NYCDOT's Office of Research, Implementation, and Safety used historical data and site observations to identify the following prime factors that contribute to pedestrian crashes involving older adults:

- Insufficient pedestrian signal time to cross wide streets
- Unclear or faded street markings
- Turning vehicles not yielding to pedestrians
- Pedestrian ramps missing or in disrepair
- Poor storm drainage in crosswalks


NYCDOT then conducted statistical analyses to help map and better understand traffic fatalities and serious injuries involving older adults, leading to the identification of 25 geographic focus areas for special attention. Through a detailed safety audit, NYCDOT identified and developed a set of infrastructure and operational strategies tailored to older adults:

- Adjust signal timing and install countdown signals to accommodate slower walking speeds and give pedestrians more information at crosswalks
- Implement road diets to reduce speeding and create more predictable vehicular movements
- Install pedestrian safety islands and build curb extensions to shorten crossing distance and slow turning cars



*Shortened crossing and planted median at Bowery and Canal Street intersection*

Creating more livable communities through transportation choices



[http://www.fhwa.dot.gov/livability/case\\_studies/newyork/](http://www.fhwa.dot.gov/livability/case_studies/newyork/)

# TAKING INPUT FROM NYC SENIORS

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- Going into Senior Centers to get feedback
- Coordinating with NYCDOT's Safety Education Team and Street Ambassador Unit
- Working with the NYC Department for the Aging
- Working in coordination with Age-Friendly NYC





# Thank you!

## Questions?

More at [nyc.gov/dot](https://www.nyc.gov/dot)



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