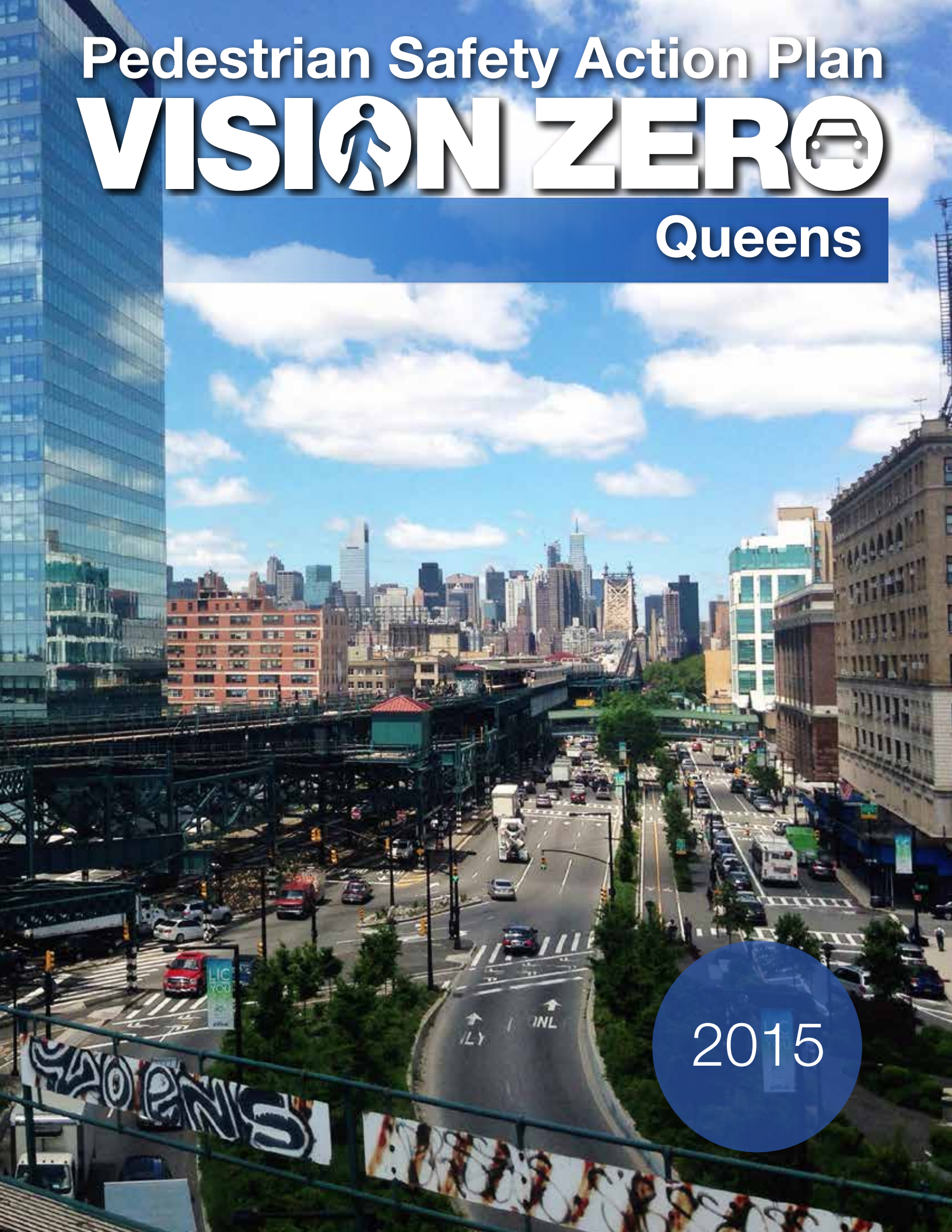


Pedestrian Safety Action Plan

VISION ZERO

Queens



2015



High School for Arts and Business - Corona, Queens (2012)

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FROM MAIN ROAD FROM SERVICE ROAD

NO STANDING Anytime

NO PARKING



Letter from the Mayor



Dear Friends,

Every life in New York City is precious. It is our responsibility, as residents, workers, and visitors of this great city, to save every life we can.

This administration made Vision Zero, and the elimination of traffic fatalities, a priority from day one. The fundamental message of Vision Zero is that death and injury on city streets is not acceptable, and that we will no longer regard severe crashes as inevitable. This is reflected in the Vision Zero Action Plan that set out directives for city agencies, including the New York City Department of Transportation, the New York Police Department, and the Taxi and Limousine Commission.

Traffic crashes can claim the lives of anyone in New York City. They kill people who drive and those who bike, but overwhelmingly, the deadly toll is highest for pedestrians. This Plan acknowledges this injustice toward pedestrians and the synergies that can be realized by improving pedestrian safety for overall traffic safety, well-being, and urban livability.

In close partnership with our community and advocacy groups and our families and friends of lost loved ones, we are dedicating ourselves to ending this epidemic. NYCDOT and NYPD representatives were out in our communities this past summer listening to us, preparing us for the changes that are taking place, and explaining how to be more conscious—and conscientious—street users. Meanwhile, we have been working to improve our collection and understanding of the data behind traffic fatalities, where the ‘hot spots’ are, and what can be done to erase them from the map. The Pedestrian Safety Action Plans help us do just that.

Our recent success in reducing the citywide speed limit to 25 MPH, redesigning intersections and corridors and increasing enforcement of the most dangerous driving behaviors are just some of the ways we are making our city’s streets safer. The Pedestrian Safety Action Plans are the next step in achieving Vision Zero in your community.

New Yorkers deserve to feel safe on their streets. Thank you for your input into this process, together we will save lives.

A handwritten signature in black ink that reads "Bill de Blasio". The signature is written in a cursive, slightly informal style.

Bill de Blasio
Mayor

SPEED

LIMIT

25

SR-2147

DEPT OF TRANSPORTATION

Northern Blvd
SLOW ZONE

SI-1605G

DEPT OF TRANSPORTATION

39

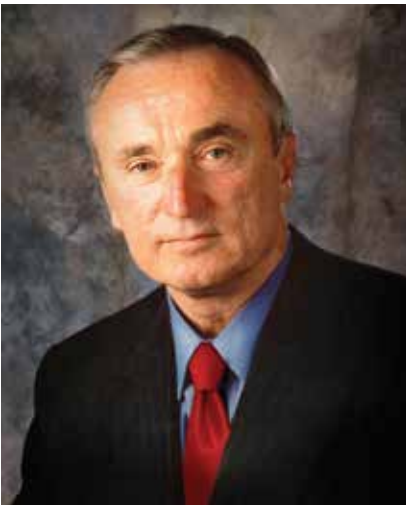
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Letter from the Commissioners



Dear fellow New Yorkers,

We are proud to bring you the Vision Zero Borough Pedestrian Safety Action Plans. These documents represent the highly detailed combination of DOT and NYPD crash data and analysis, over 10,000 online comments via the Vision Zero Public Input Map, and nine public pedestrian safety workshops across the five boroughs. These borough-specific plans outline our current progress and help define the next phase of Vision Zero.



The first year of Vision Zero in New York City proved successful; after two years of increases, the city experienced the lowest number of pedestrian fatalities since record keeping began in 1910. In 2014, the city lowered its speed limit to 25 MPH, completed over 50 major safety engineering projects, and expanded traffic enforcement dramatically, with speeding summons increasing 42% and failure-to-yield summons increasing 126%. DOT and NYPD partnered to form the Vision Zero Street Team, launching a series of two-phase, two-week campaigns focused on pedestrian safety. The first phase of the campaigns included distributing traffic safety literature to the public at collision-prone locations to promote traffic safety. These weeklong efforts to educate the public were then followed by a week of focused, safety-related enforcement to address persistent violations.

With the Borough Pedestrian Safety Action Plans, we will build on this success and continue to improve the way we monitor, design, and govern our streets. The Borough Priority Maps will serve as a guide for our agencies to systematically improve streets with the highest rates of pedestrian fatality and severe injury. By coordinating our planning, engineering, education, and enforcement efforts in these areas, DOT and NYPD can make significant progress toward the vision of eliminating pedestrian fatalities across the five boroughs.

Over the past 30 years, we have made tremendous progress in traffic safety. We have seen large decreases in the number of fatal crashes, including fatal pedestrian crashes. Motor vehicles, however, continue to seriously injure or kill a New Yorker about every two hours. Each of these tragedies compels us to come together and deliver a safer future for our city. There is plenty of work still ahead of us.

Polly Trottenberg
DOT Commissioner

William Bratton
NYPD Commissioner

Executive Summary

Queens Borough Profile

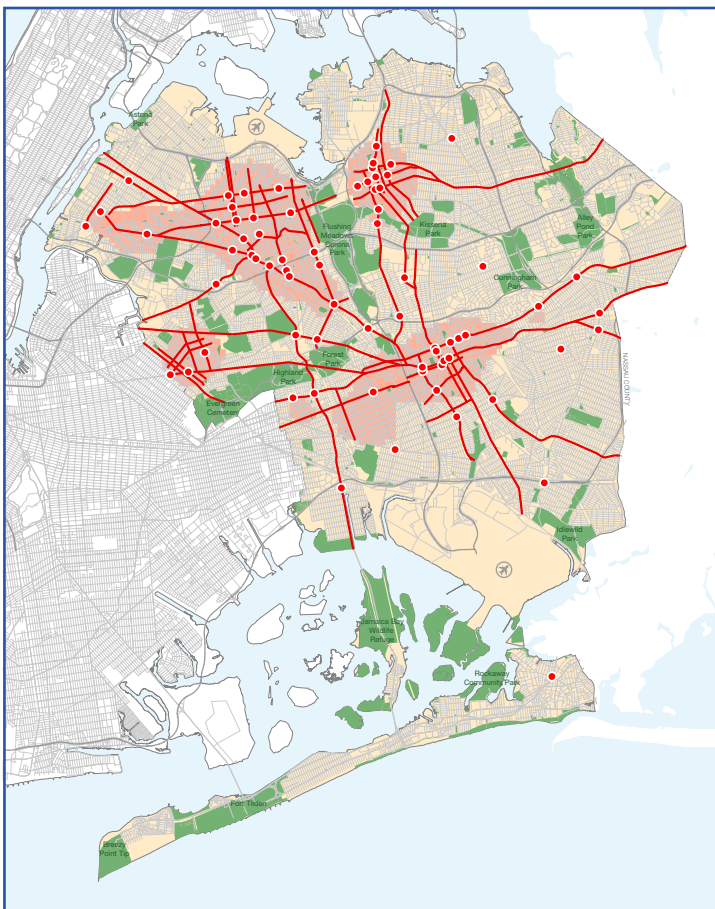
Findings

- Pedestrian fatalities in Queens have fallen by 44% in the past three decades but have risen recently
- The pedestrian fatality rate in Queens is 1.92 fatalities per 100,000 residents, slightly higher than the citywide average
- **Where:** High-crash locations in Queens tend to be concentrated around the high-density, historic town centers (e.g., Flushing, Jamaica, Elmhurst), often corresponding to elevated train tracks
- **When:** Roughly 40% of Queens pedestrian travel occurs during rush hour, but only 24% of Queens pedestrian fatalities occurred during this period
- **Who:** While seniors represent just 13% of the Queens population, they account for 35% of the borough's pedestrian fatalities
- **What:** 70% of pedestrian fatalities in Queens involved a passenger vehicle
- **How:** Dangerous driver choices are the primary cause or a contributing factor in 75% of pedestrian fatalities on Queens Priority Corridors

Priority Corridors, Intersections, and Areas

	Share of Borough	Borough	% of Borough	Share of Ped KSI*	Total Ped KSI	% of Total Ped KSI	% of Total Ped Fatalities
Priority Corridors	47 corridors (127 miles)	2,169 miles	6%	695	1,366	51%	47%
Priority Intersections	72 intersections	18,150 intersections	1%	211	1,366	15%	12%
Priority Areas	17 sq miles	110 sq miles	15%	683	1,366	50%	39%
Combined Total	—	—	—	948	—	69%	61%

*Ped KSI: Pedestrians Killed or Severely Injured



Queens Priority Map

Community Dialogue and Input

-
- 2,346 Queens pedestrian safety issues were shared and mapped digitally
 - Speeding (26%) and failure to yield (18%) were the most frequently cited issues
 - 67% of workshop attendees viewed wide arterial streets as the most important areas for pedestrian safety improvements
 - 56% of issues shared fall outside of the Priority Corridors, Intersections, and Areas
-

Action Plan

Engineering and Planning

-
- Implement at least 50 Vision Zero safety engineering improvements annually at Priority Corridors, Intersections, and Areas citywide, informed by community input at project locations
 - Significantly expand exclusive pedestrian crossing time on all Queens Priority Corridors by the end of 2017
 - Add exclusive pedestrian crossing time to all feasible Queens Priority Intersections by the end of 2017
 - Modify signal timing to reduce off-peak speeding on all feasible Queens Priority Corridors by the end of 2017
 - Install expanded speed limit signage on all Queens Priority Corridors in 2015
 - Drive community input and engagement at Queens Priority Corridors, Intersections, and Areas
 - Install additional lighting under elevated trains and at other key transit stops
 - Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
 - Expand a bicycle network in Queens that improves safety for all road users
 - Proactively design for pedestrian safety in high-growth areas in Queens including locations in the *Housing New York* plan
-

Enforcement

-
- Implement the majority of speed cameras at Priority Corridors, Intersections, and Areas
 - Focus enforcement and deploy dedicated resources to Queens NYPD precincts that overlap substantially with Priority Areas
 - Prioritize targeted enforcement at Queens Priority Corridors, Intersections, and Areas annually
-

Education and Awareness Campaigns

-
- Target child and senior safety education at Queens Priority Corridors and Priority Areas
 - Launch multilingual public information campaigns in Queens Priority Areas
 - Target Street Team outreach at Queens Priority Corridors, Intersections, and Areas
-

Why a Pedestrian Plan?

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%

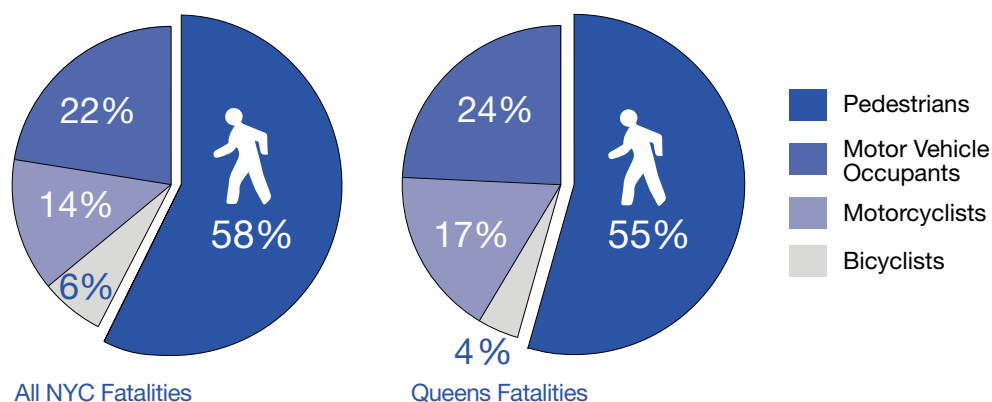
Vision Zero seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. This Borough Plan is one of 63 Vision Zero initiatives advancing that goal for all street users. Despite aggressive pedestrian-oriented street re-engineering between 2007 and 2013, citywide pedestrian fatalities have not declined. In fact, they increased in 2012 and 2013 while fatalities to other street users fell. Comparing the periods of 2005-2007 to 2011-2013, pedestrian fatalities actually rose by 2% while fatalities to all other users fell by 24%. At the same time, the pedestrian share of overall fatalities rose from 51% to 58%. Nationwide, pedestrians make up just 14% of all traffic fatalities.¹ In Queens, pedestrians are 55% of all fatalities.

The challenge of an aging city

Additionally, the baby-boom generation has begun to hit retirement age and New York City will soon experience a rapid growth of its senior citizen population. The city's seniors walk much more than those elsewhere in the United States, and their pedestrian fatality rate is four times that of younger New Yorkers. Without a focused strategy on pedestrian safety to address this need, New York City could potentially see an alarming rise in pedestrian fatalities.



Fatalities by Mode: Queens Compared to NYC, 2011-2013 Average, Rounded



	Pedestrian	Bicyclists	Motorcyclists	Motor Vehicle Occupants	Total
All NYC	157	17	37	61	272
Queens	43	3	14	19	79

Most pedestrian and cyclist fatalities and severe injuries occur in the same areas of NYC



Since 2007, fatalities of vulnerable road users increased by 1%, while fatalities of motor vehicle occupants fell by 37%



Pedestrian focus improves safety for all users

Street design based around pedestrian safety is also proven to make travel safer for other street users, including bicyclists and motor vehicle occupants. Slower vehicle speeds, less chaotic, better organized traffic, and narrower vehicle lanes make streets safer (and easier to use) for cyclists. A pedestrian oriented project on Delancey Street in Manhattan contributed to a 20% reduction in injuries to cyclists. Similarly, projects and programs aimed at improving safety for pedestrians often improve motor vehicle safety as well. The pedestrian focused re-design of the Madison Square/Flatiron area contributed to a 46% reduction in injuries among motor vehicle occupants. The areas of New York City that accounted for 71% of pedestrians killed or severely injured (KSI) also accounted for 66% of cyclist KSI. Safety interventions at these locations can address safety concerns for both groups of street users.

A comprehensive strategy addressing all modes

New York City will need to go beyond the actions in this plan to address all traffic fatalities, particularly for vulnerable road users: the pedestrians, bicyclists, and motorcyclists that use the streets without the protection of a closed vehicle. These vulnerable road users account for the vast majority (78%) of New York City's traffic fatalities. Again, comparing 2005-2007 to 2011-2013, vulnerable road user fatalities increased by 1%, while fatalities of motor vehicles occupants fell by 37%. In other words, the entire decline in traffic fatalities between 2007 and 2013 came from reductions in fatalities of drivers and passengers inside motor vehicles. Furthermore, there is significant overlap between the high-crash locations for pedestrian and cyclists.

For bicyclists, DOT will work with the New York City Department of Health and NYPD in 2015 to develop a comprehensive update to its 2006 Bicyclist Fatality and Serious Injuries study, highlighting current issues in cyclist safety in New York City and developing new recommendations. DOT is aggressively seeking to increase the amount of cycling in the city by expanding the bike network where it can generate the most ridership and expanding its Citi Bike bike sharing program. More cyclists using city streets has been shown to have a "safety in numbers" effect; while cycling in New York City has approximately quadrupled since 2000, serious injuries have remained low, representing a 75% decrease in the average risk of a serious injury. Also, DOT will release their first motorcyclist safety study in 2015, which will analyze New York City motorcycle crashes and will also put forward a safety action plan. Finally, New Yorkers with disabilities are also pedestrians. As DOT designs safer streets for all vulnerable users, the agency will continue to work with advocacy groups and members of the disabled community to ensure that the City continues to address the needs of New Yorkers with disabilities. A safer city is a more accessible City.

About This Plan

This strategic pedestrian safety plan for Queens is one of five borough-level plans created to advance the goals laid out in the 2014 Vision Zero Action Plan

Beginning with a borough wide community dialogue and input process, DOT and NYPD worked with community members to identify local pedestrian safety issues. By re-engineering these high-crash streets and intersections, employing strategic enforcement practices, and stepping up education efforts, DOT and NYPD can effectively change the way we perceive city streets and deter the most dangerous behaviors, such as speeding and failure to yield to pedestrians.

This Queens Pedestrian Safety Action Plan is one of a set of five documents, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. This plan pinpoints the conditions and characteristics of Queens' pedestrian fatalities and severe injuries; it also identifies corridors, intersections, and areas that disproportionately account for Queens' pedestrian fatalities and severe injuries and strategically prioritizes them for safety interventions. Finally, the Queens Pedestrian Safety Action Plan recommends a series of actions to alter the physical and behavioral conditions on Queens' streets that lead to pedestrian fatality and injury.

A Five Borough Approach



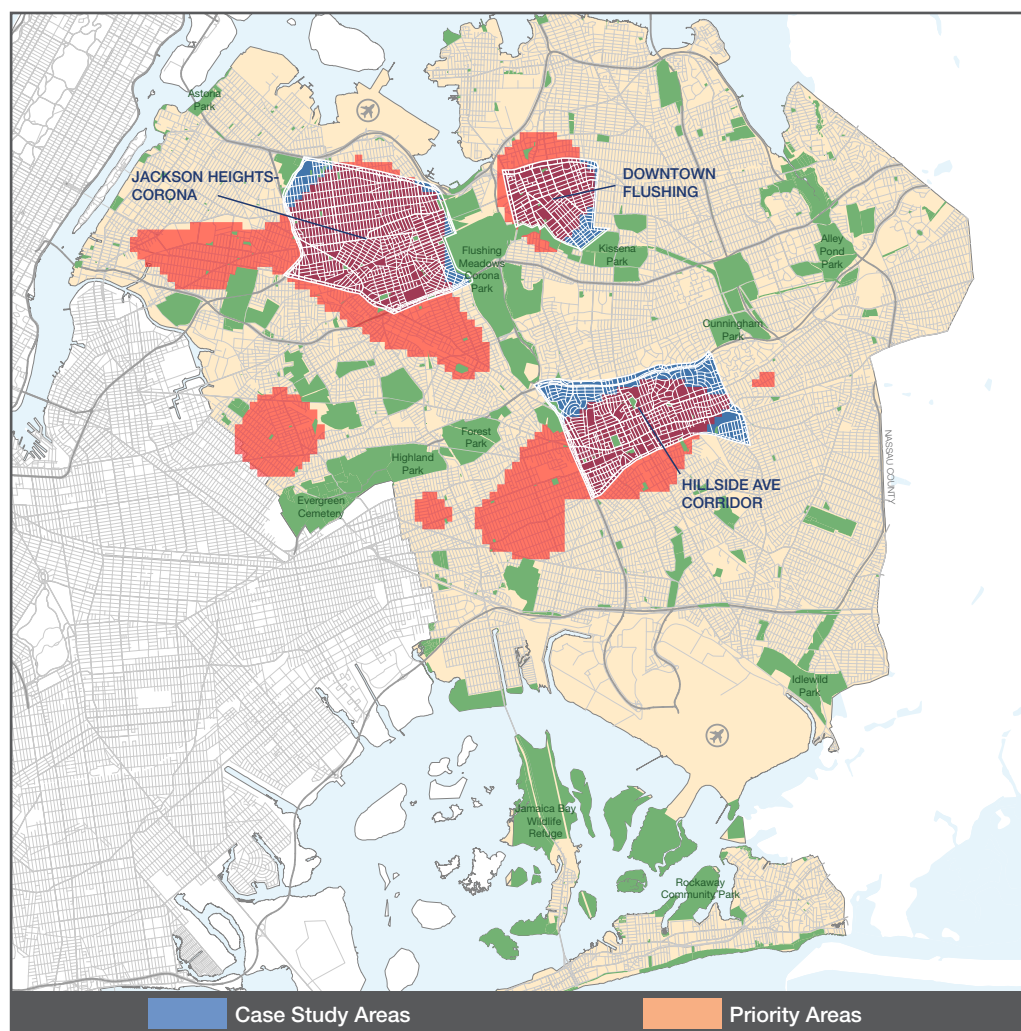
In each borough, heat maps were created to highlight locations with the highest density of pedestrian fatalities and severe injuries. These maps were then used to create borough Priority Maps. Both maps were built on borough crash data, rather than citywide data. Since each borough has a different overall number and density of pedestrian crashes, each borough map is drawn at a different scale. For example, the “red” we observe in the Staten Island maps represents far fewer crashes than the “red” in the Manhattan maps. DOT and NYPD are tasked with addressing road safety for all residents in all boroughs, so creating five separate action plans was the most practical way to develop a robust set of focused, effective actions for each borough.

Case Studies

Three case studies have been selected to represent particular communities that are identified as pedestrian safety priority locations in Queens. The case studies enable a more localized look at data, issues, and recommendations that may be difficult to contextualize on a borough-wide level. These case studies are located throughout this plan. The locations (shown in the map below) are:

- Downtown Flushing
- Hillside Ave Corridor
- Jackson Heights-Corona

The case studies also explore location-specific comments received from community members via the Vision Zero Public Input Map and Pedestrian Safety Workshops.





Queens Borough Profile



Queens is the largest borough in size

Queens, the largest of the five boroughs in size, accounts for approximately 38% of New York City’s total area. With nearly half of its residents born outside of the United States, Queens is among the world’s most diverse urban areas, representing more than 100 countries and over 130 languages. It has the highest share of Asian residents of any borough (24%) and contains some of the largest communities of Indians and Pakistanis in the United States.

The urban landscape of Queens exhibits nearly as much diversity as its population, a mix of densely populated, transit-oriented urban nodes; lower-density, suburban-style neighborhoods; and a string of beach communities dotting the roughly 11-mile Rockaway peninsula. In addition, two of the New York City Metropolitan Area’s three international airports are located in Queens, each connected to the city and the region by a web of interstate highways that crisscross the borough. Accordingly, Queens’ streetscapes include networks of tightly gridded streets, curving local roads, wide arterials, and multi-lane expressways, often in close proximity.

Once composed of a number of distinct incorporated towns and villages, the area merged with Greater New York in 1898 to become one borough. Vast swaths of farmland remained in the eastern part of the borough through the 1920s, until growing car ownership spurred a rush to development. The population of the borough tripled between 1920 and 1950, adding nearly a million people. Like much of the United States in this period, this building boom was largely based around single-family housing and extensive highway construction, such as the Long Island Expressway and the Van Wyck Expressway.



Queens is among the most diverse urban areas in the world

The borough’s high-crash corridors and pedestrian fatalities tend to be most heavily concentrated in and around the downtown areas of its original towns and villages, as well as along its wide arterial streets and subway lines. For instance, the mini-downtowns of Flushing, Elmhurst, and Jamaica, all densely populous and bustling business and retail districts as well as major destinations for new immigrants, account for a large share of Queens pedestrian fatalities, and Queens Boulevard is a 7.2-mile, 12-lane corridor that cuts across more than half the borough.



**On average,
one pedestrian
is killed or
severely injured
in Queens every
weekday**

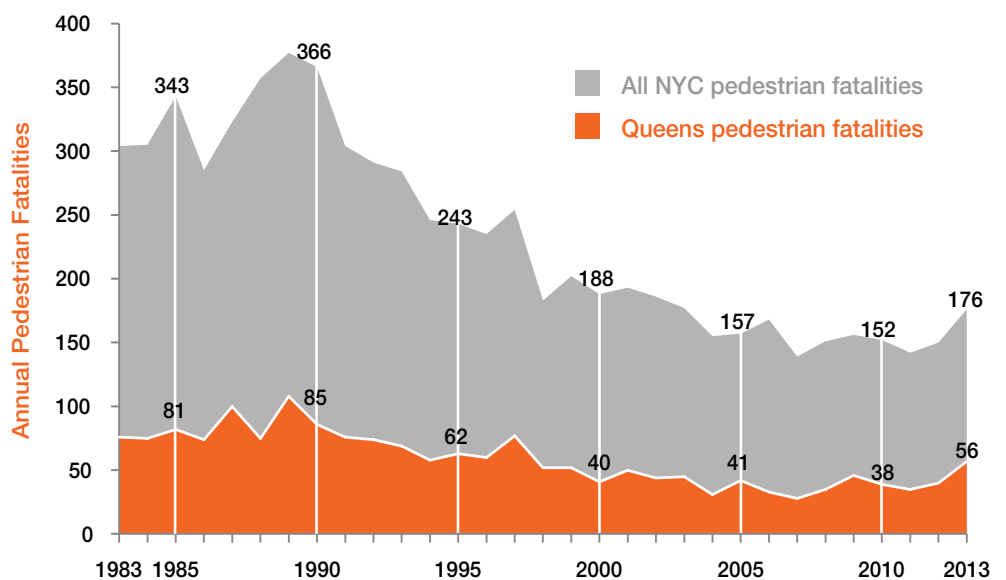
Queens Pedestrian Safety Findings

The Queens Borough Profile combines demographic data with crash and fatality data to provide an overview and contextual narrative for Queens. Demographic information was collected from the US Census Bureau. Crash and fatality data used throughout this report is based on 2011-2013 fatality data (NYPD/NYCDOT) and 2009-2013 Killed or Severely Injured (KSI) data (DMV/NYS DOT).² Estimates of pedestrian activity are based on transit ridership, which is generally proportional.

On average, more than 250 pedestrians are killed or severely injured in Queens traffic each year. Though the number of pedestrian fatalities in Queens has declined by 44% over the past three decades, it has begun to rise again in recent years, and 2013 saw 56 pedestrians killed in Queens, the highest number since 1997 and a staggering 51% increase over the previous three-year average.³ Moreover, at 1.92 pedestrian fatalities per 100,000 residents, Queens is second only to Manhattan in terms of its per-capita pedestrian fatality rate.

Queens pedestrian fatalities have decreased by 49% over the past 30 years

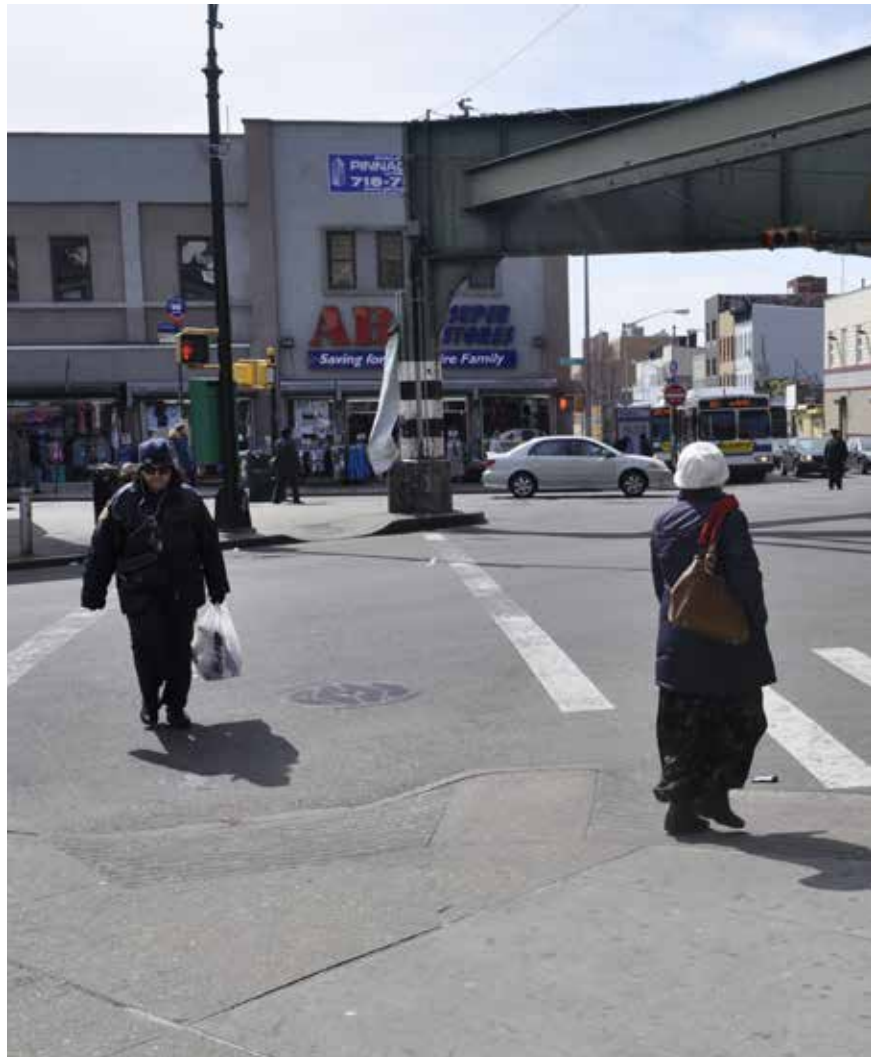
Pedestrian Fatalities, 1983-2013



Queens's pedestrian fatality rate is slightly above the NYC average

Pedestrian Fatalities, 2011-2013, Rounded

Borough	Average Annual Fatalities	Percent Pedestrian Fatalities	Pedestrian Fatality Rate/100,000
Bronx	27	54%	1.91
Brooklyn	46	55%	1.79
Manhattan	34	73%	2.10
Queens	43	55%	1.92
Staten Island	7	48%	1.41
All NYC	157	58%	1.88



Where?

Neighborhoods

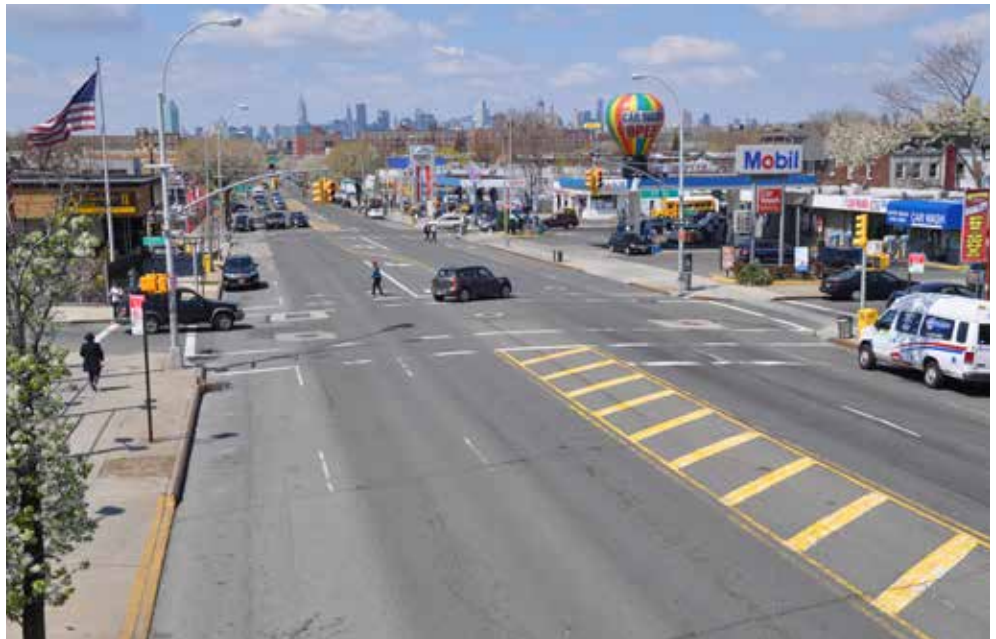
Pedestrian KSI crashes in Queens are most densely concentrated in and around the early towns and villages of Queens County, such as Jamaica, Flushing, and Elmhurst (see Queens Heat Map, on the facing page). In contrast to the borough’s many suburban-style neighborhoods to the north and east, these urban nodes are characterized by high population densities and bustling commercial corridors and are often served by elevated subway or Long Island Railroad tracks. Combined, these factors contribute to a high degree of conflict between vehicles and pedestrians, limited visibility between them, and a greater likelihood of crashes.

Arterial Streets

Though comprising just 11% of Queens’ total street network, 61% of the borough’s pedestrian fatalities occur on arterial roadways. Queens, Northern, and Woodhaven Boulevards are all examples of arterials in Queens. Compared to local streets, arterials are typically wider, carry higher volumes of both vehicles and pedestrians, accommodate faster speeds, and have more complex traffic patterns. As a result, arterial streets tend to create particularly high-crash pedestrian environments and can be challenging to redesign.

However, many safety improvements can be made. Achieving slower speeds by reducing speed limits and increasing enforcement reduces the risk of injury. Larger-scale engineering projects can provide pedestrians with shorter crossing distances and safer routes to cross the street, while more effectively managing all traffic movements.

**Arterials
comprise 11%
of Queens’
streets but
60% of its
pedestrian KSI
crashes**





76% of Queens' pedestrian weekday fatalities occur during non-rush hour periods



16% of Queens' pedestrian fatalities occur from 12-6am

When?

Off-Peak

Just 24% of pedestrian fatalities in Queens occur during peak times (rush hour), although 40% of the borough's pedestrian travel occurs during rush hour. This discrepancy may be related to rush hour (7–10am and 4–7pm) congestion, which constrains vehicle speeds, as well as the “safety in numbers” phenomenon, whereby motorists make safer choices in the presence of higher volumes of pedestrians.

Overnight

In Queens, 16% of all pedestrian fatalities occurred overnight (12–6am), though less than 4% of pedestrian activity takes place during these hours. Although street lighting in Queens is generally robust, pedestrians are still less visible during these hours. Most importantly, low overnight traffic volumes allow vehicles to accelerate rapidly and reach high speeds. Specific overnight signal timing can help regulate speeds when few vehicles are on the road.



Seniors make up 13% of Queens' population but 35% of its pedestrian fatalities

Who?

Seniors

Seniors (aged 65 and older) represent just 13% of the Queens population but 35% of its pedestrian fatalities. Seniors often require more time and protection when crossing the road than younger pedestrians, and they are also more susceptible to fatal and severe injuries when struck by a vehicle. Through its Safe Streets for Seniors initiative, DOT visits senior centers and community boards to get local feedback on senior pedestrian issues. DOT also implements mitigation measures to improve safety for seniors and other pedestrians, such as extending pedestrian crossing times to accommodate slower walking speeds and making engineering improvements to create safer pedestrian crossings.

Vision Zero means creating streets that are safe for even the most vulnerable road users, including seniors and children. While seniors and children benefit in general from DOT's broad efforts to engineer safer streets, DOT also specifically engages with these populations through special safety education programs.



70%

of Queens' pedestrian fatalities involve passenger vehicles

What?

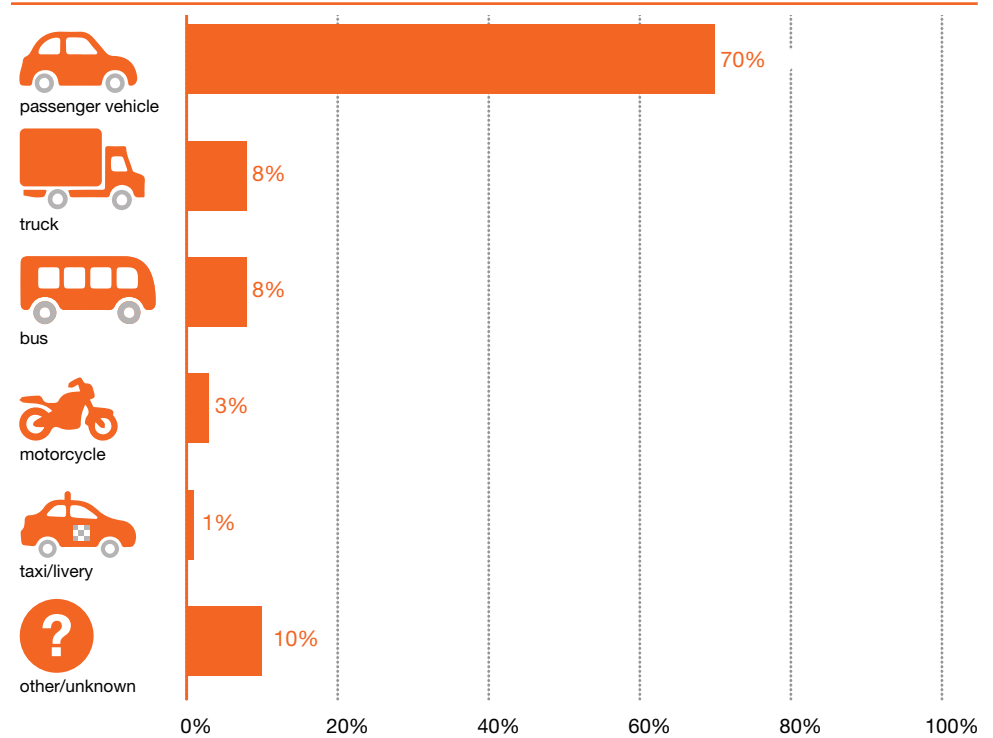
Passenger Vehicles

Seventy percent (70%) of Queens' pedestrian fatalities are the result of a crash with a passenger vehicle—the cars, SUVs, and minivans driven by ordinary New Yorkers. Not only do these vehicles outnumber other vehicles on the road by a wide margin, but their drivers are subject to limited regulation and oversight compared with the professional drivers of trucks, buses and taxi/livery vehicles.

Trucks and Buses

Just 8% of pedestrian fatalities in Queens involve a truck, a lower rate than New York City as a whole (12%), and another 8% involves a bus, a rate slightly higher than the city's overall (5%). Trucks and buses both pose special safety concerns for pedestrians due to their larger weight and size, which increase the force and severity of crashes and reduce the visibility of pedestrians from the driver's seat.

Percent of Pedestrian Fatalities by Mode, Queens





75% of Queens' pedestrian fatalities involve dangerous driver choices

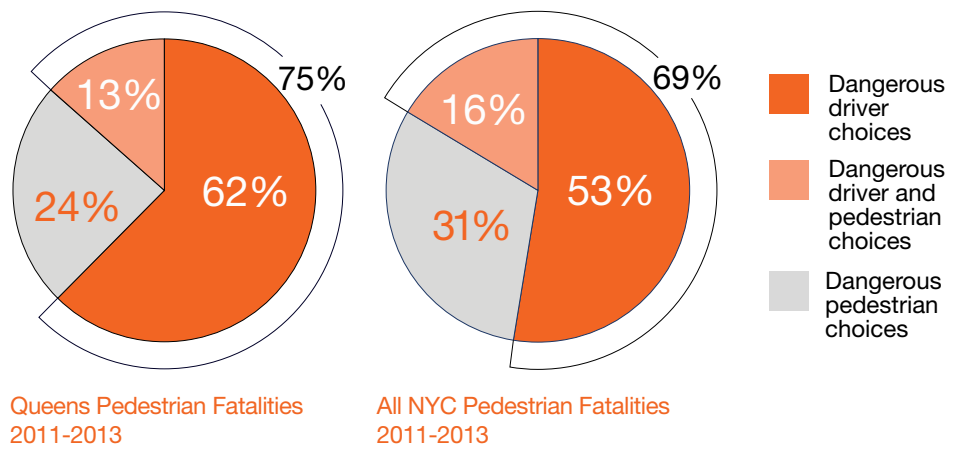
How?

Dangerous Driver Choices

Dangerous driver choices are the primary cause or a contributing factor in three out of four pedestrian fatalities in Queens. These driver choices—including speeding, failing to yield to pedestrians, red light running, distracted driving, and driving under the influence—primarily occur when the pedestrian is following the law (crossing with the signal, in a crosswalk at an unsignalized intersection, walking on the sidewalk, etc.).

The City is working to create a culture of safety through education and public information campaigns that are changing the citywide dialogue on traffic injuries and fatalities. However, street design and traffic enforcement that directly encourage safer choices (or discourage dangerous choices) are also key to reaching Vision Zero. Street design can help to lower vehicle speeds, eliminate conflicts between pedestrians and vehicles, reduce unpredictable traffic movements, and guide road users toward more responsible choices. More visible, targeted, and consistent enforcement reminds street users of the laws of the road and provides a powerful disincentive to risk-taking.

Driver & Pedestrian Choices, Queens compared to NYC



CASE STUDY: Downtown Flushing

As evidenced by the Queens Heat Map (page 5), Downtown Flushing and its vicinity account for among the densest concentration of pedestrian KSI crashes in the borough. Between 2009 and 2013, there were 835 crashes in the area involving pedestrians, resulting in 80 severe injuries and 11 fatalities.

Nearly three out of four residents of Flushing were born outside of the United States, with almost half coming from China and about 10% from Korea. Accordingly, about eight out of 10 Flushing residents speak a language other than English at home. Though Flushing's employment rate is comparable to that of Queens overall, incomes tend to be somewhat lower, with nearly one-third of households earning less than \$25,000 per year (vs 22% for Queens overall). Finally, with a median age just over 40 and a sizable population of senior citizens, Flushing is home to a slightly older population than the borough as a whole.



835



Total crashes involving pedestrians between 2009-2013

These crashes resulted in 91 pedestrian KSI:



80
severe
injuries



11
fatalities

79%



of all traffic fatalities were pedestrians



Community Input

Not Enough Time to Cross @ Northern & Union: "...Signal timing is poor as it does not allow pedestrians opportunity to either make it to the ped island or the other side of the crosswalk...latest restriction of left turns onto Northern Blvd from NB Union Street is great but NYC DOT needs to do more for this intersection and the entire Northern Blvd corridor..."

Long Wait to Cross @ College Point & Roosevelt: "There is a long wait for pedestrians to cross College Point Blvd while cars make right turns from Roosevelt Ave heading east bound onto College Point. Pedestrians don't heed the don't walk sign once they see the green light for cars. It would make more sense to allow pedestrians to cross first and then let cars turn."

Failure to Yield @ Main & Blossom: "No traffic light or stop sign here, multiple incidents here where vehicles failed to yield to pedes[trians]."

Downtown Flushing Case Study Area



Priority Corridors



Priority Intersections



Priority Areas



Subway Stations



Pedestrian KSI



Black outline represents the approximate boundary of the case study area.

CASE STUDY: Downtown Flushing

Pedestrian Safety

With proximity to the local and express 7 trains, a dense network of bus routes, and the Long Island Railroad, residents of Flushing have access to a variety of public transit options. Roughly half use transit to commute to work, about equivalent to the share of the total population of Queens. Yet, more than 10% walk to work, about double the total Queens share. Car ownership is relatively low in Flushing and residents carpool to work at roughly double the rate of the Queens population overall.

As a major transit hub, the crossroads of a number of immigrant communities, and the fourth-largest business district in New York City, Downtown Flushing consistently accommodates concentrations of both vehicles and pedestrians. On congested commercial corridors such as Main Street, Roosevelt Avenue, and Kissena Boulevard, pedestrian demands exceed sidewalk capacity, encouraging unsafe pedestrian behaviors such as crossing the street mid-block and walking in the roadbed.

Community Dialogue and Input

Overcrowding on the streets and sidewalks of Downtown Flushing leads to a greater chance for conflicts to arise between vehicles and pedestrians. In fact, some Flushing intersections rank among the borough's most dangerous in terms of the rate of pedestrian KSI collisions.

In 2010, DOT launched the Downtown Flushing Mobility and Safety Improvement Project to plan for the holistic improvement of pedestrian and vehicular circulation across Flushing.⁴ The planning process relied heavily on community feedback to inform street improvements. After developing a draft plan, DOT presented recommendations to the Community Board 7 full board and transportation committee, Councilmember Peter Koo, local media, and a consortium of local businesses. Community concerns ranged from on-street parking



regulations and street vendor locations to intense sidewalk congestion. DOT incorporated this feedback into a detailed alternatives analysis that considered three possible paths toward improved pedestrian and vehicular circulation. The selected plan improved level of service, travel times, and pedestrian safety across the neighborhood.

DOT Safety Improvements

DOT has implemented a number of projects around Flushing to increase the supply of pedestrian space and reduce the likelihood of conflict between pedestrians and vehicles.

Downtown Flushing

Total injuries declined by 29%, while pedestrian injuries dropped by 18-29%



Main Street, Flushing (before)

total injuries
↓29%



Main Street, Flushing (after)

Downtown Flushing Mobility and Safety Improvement Project

Safety improved for all road users following project implementation.

- DOT installed painted, bollard-protected curb and sidewalk extensions at particularly high-volume pedestrian corridors to supply additional space for safe pedestrian circulation.
- To reduce erratic vehicle movements and better organize traffic flow, DOT banned turns and modified signal timing at multiple intersections on Northern Boulevard, Main Street, Roosevelt Avenue, and Union Street.
- Safety for all road users following project implementation was improved. During the subsequent year, the total injuries fell by 29% and injuries to motor vehicle occupants fell by 55%. Pedestrian injuries at the intersections of Northern Boulevard/Union Street and Roosevelt Ave/Main Street fell by 18% and 29%, respectively.



Priority
Corridors,
Intersections,
and Areas

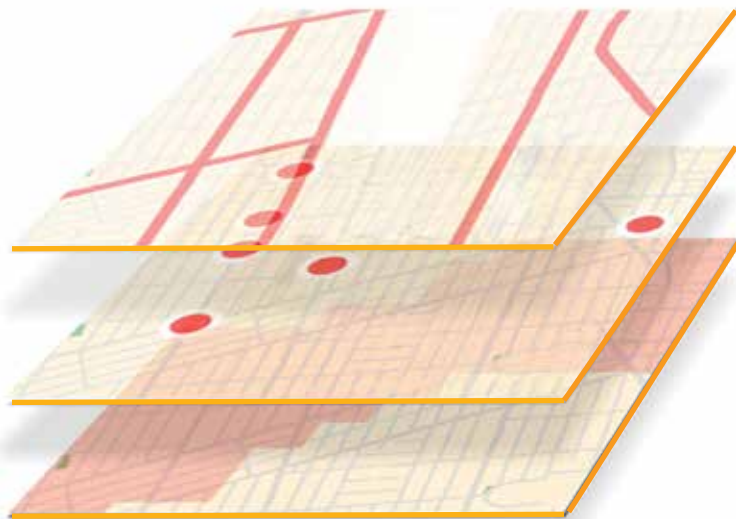
2.

Queens claims the largest roadway network of all five boroughs, consisting of nearly 2,200 miles of streets and more than 18,000 intersections. Since resources are always finite, it is necessary for New York City to focus its safety efforts on a reasonable number of high-crash locations that demonstrate a need for focused interventions. Using pedestrian KSI data from the last five available years (2009-2013), DOT developed a process for selecting Priority Corridors, Priority Intersections, and Priority Areas. These locations account for 61% of all pedestrian fatalities in Queens.

Pedestrian KSI data was employed in this analysis for two reasons. First, a pedestrian who has been severely injured typically departs the crash scene in an ambulance and often experiences life-changing injuries (e.g., loss of mobility, brain function, limbs). A comprehensive street safety program must address these types of pedestrian injuries as well, not just fatalities. Second, severe injuries are more numerous and less randomly dispersed than traffic fatalities. Thus, severe injuries are more useful and reliable in terms of ranking one corridor, intersection or area.

61%

of Queens' pedestrian fatalities occur on Priority Corridors, at Priority Intersections, or in Priority Areas

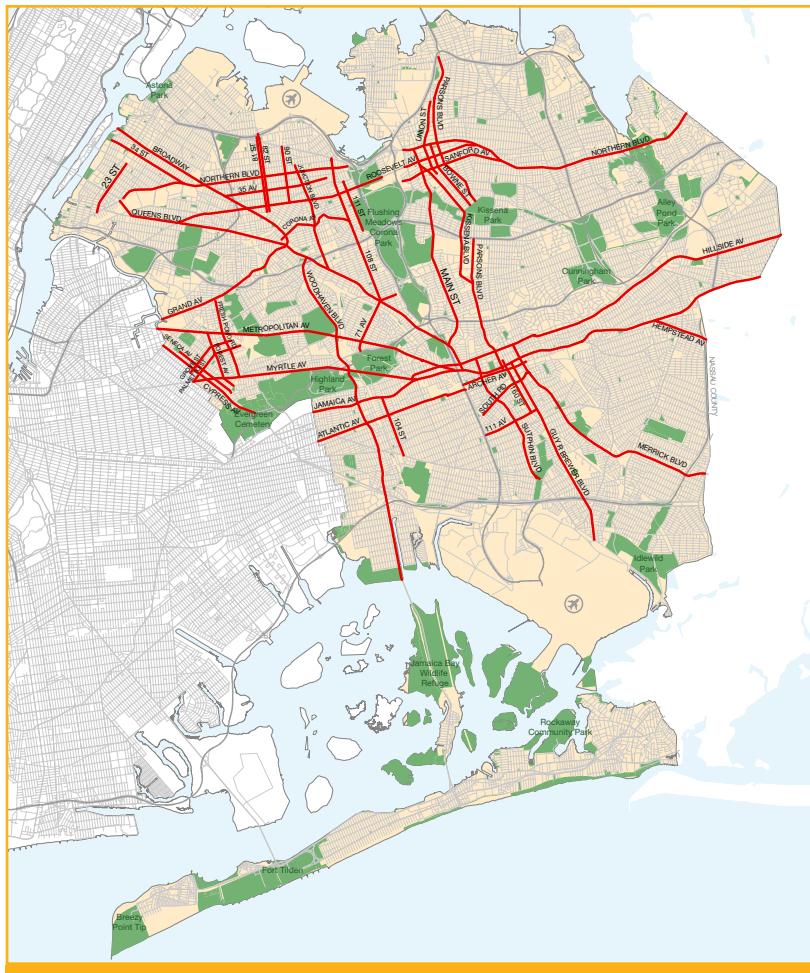


Priority Corridors

Prioritizing corridors (streets measuring at least one mile in length) reflects the fact that pedestrian KSI crashes are concentrated on particular streets (61% of Queens pedestrian fatalities are on arterials) and that strings of intersections along certain streets often exhibit similar safety concerns and should be considered together. In addition, an intersection-only analysis would not account for the large share (31%) of Queens pedestrian fatalities that occur midblock.

To determine the Priority Corridors, all corridors in Queens were ranked on a pedestrian KSI per-mile basis. Corridors were selected from the top of this list until the cumulative number of KSI reached half of the borough's total. Together, Queens' 47 Priority Corridors constitute 6% of the borough's total street network but account for 51% of the borough's total pedestrian KSI. See appendix for a complete list of the Priority Corridors.

51% of Queens' pedestrian KSI occur on just 6% of the borough's total street mileage



Priority Corridors



BUS LANE
7:00 A.M. - 6:00 P.M.
\$160
BUSES ONLY

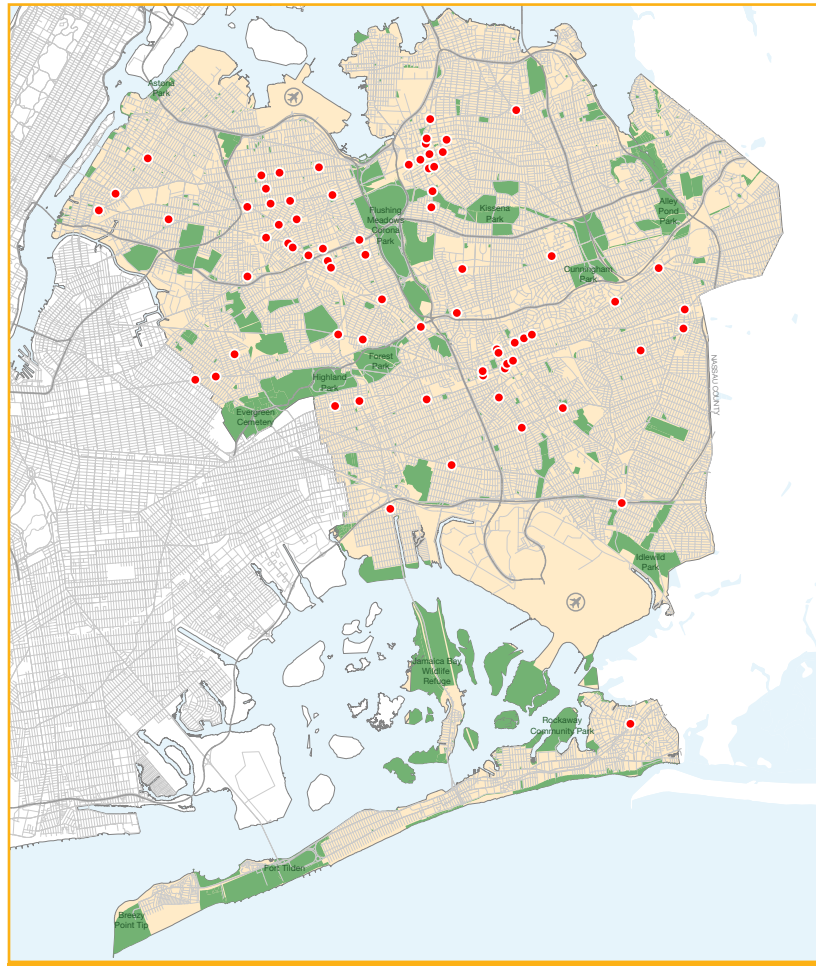
871-4308

Priority Intersections

In order to identify which of the 18,000 intersections in Queens have the highest need and greatest potential safety gains, DOT used an approach similar to the Priority Corridor process. DOT selected the intersections with the highest number of pedestrian KSI that cumulatively account for 15% of the borough’s total pedestrian KSI. This is a lower share than that used for corridors and areas because crashes involving fatal or severe injuries to a pedestrian are spread out widely among 875 intersections. Not only would such a large number of individual intersections be impractical to address within the scope of this plan, but at the vast majority of these intersections, only one pedestrian KSI occurs in the data, which may not indicate a systematic need for intervention.

This methodology yielded 72 Priority Intersections with a minimum of two pedestrian KSI in the five-year data. Together, these intersections account for 15% of Queens’ pedestrian KSI but represent less than 1% of all its intersections. See appendix for a complete list of Priority Intersections.

15% of Queens’ KSI occurred at less than 1% of the borough’s intersections



Priority Intersections

OLD NAVY



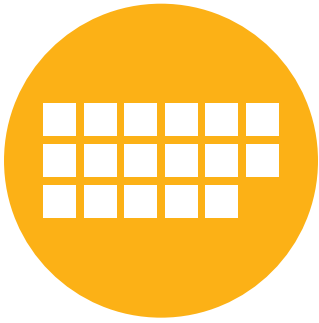
FOR LEASE
CALL BOB
CANTON BLVD
718-747-6700



PARSONS



NO STANDING
ANYTIME



There are 17 square miles of Priority Areas in Queens

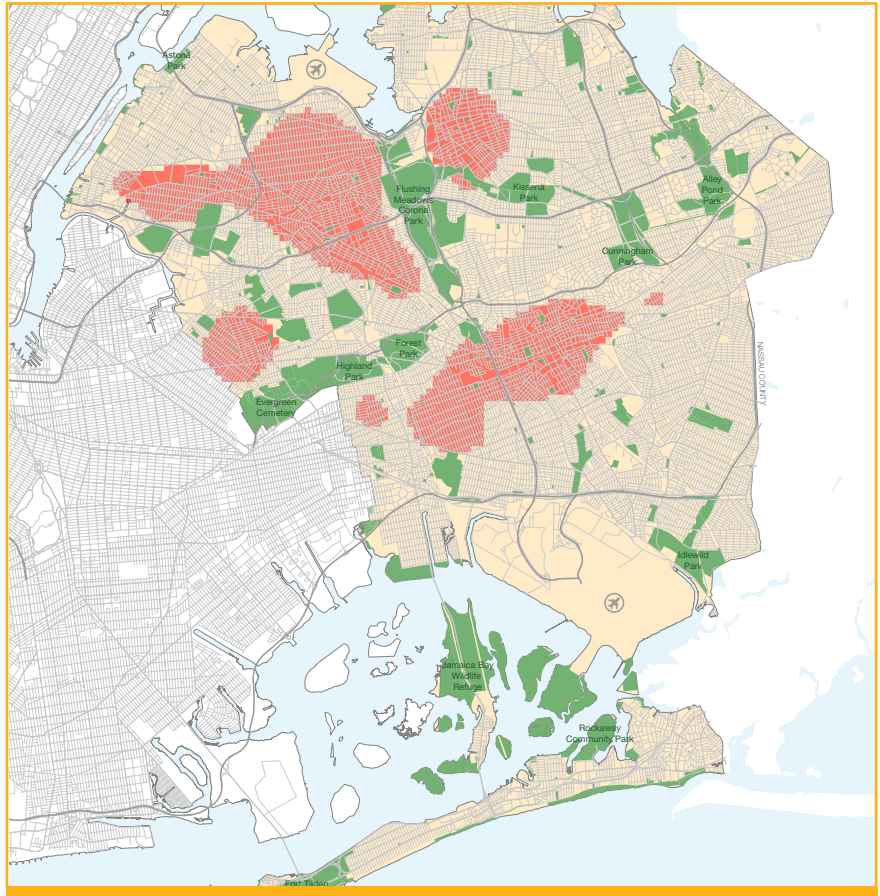
Priority Areas

Some of the safety issues throughout Queens occur systematically at an area-wide level and are not confined to a single intersection or street. To account for these areas, the pedestrian KSI crash dataset was transformed into a kernel density map—or heat map—which indicates where the density of these crashes is highest. The Priority Areas were determined by identifying the “hottest” areas on the map that, when combined, account for half of all of pedestrian KSI in the borough.

In total there are 17 square miles of Priority Areas. Although these contain 50% of all pedestrian KSI in Queens, they constitute just 15% of the borough’s land area.



50% of Queens’ pedestrian KSI occur in just 15% of the borough’s total land area

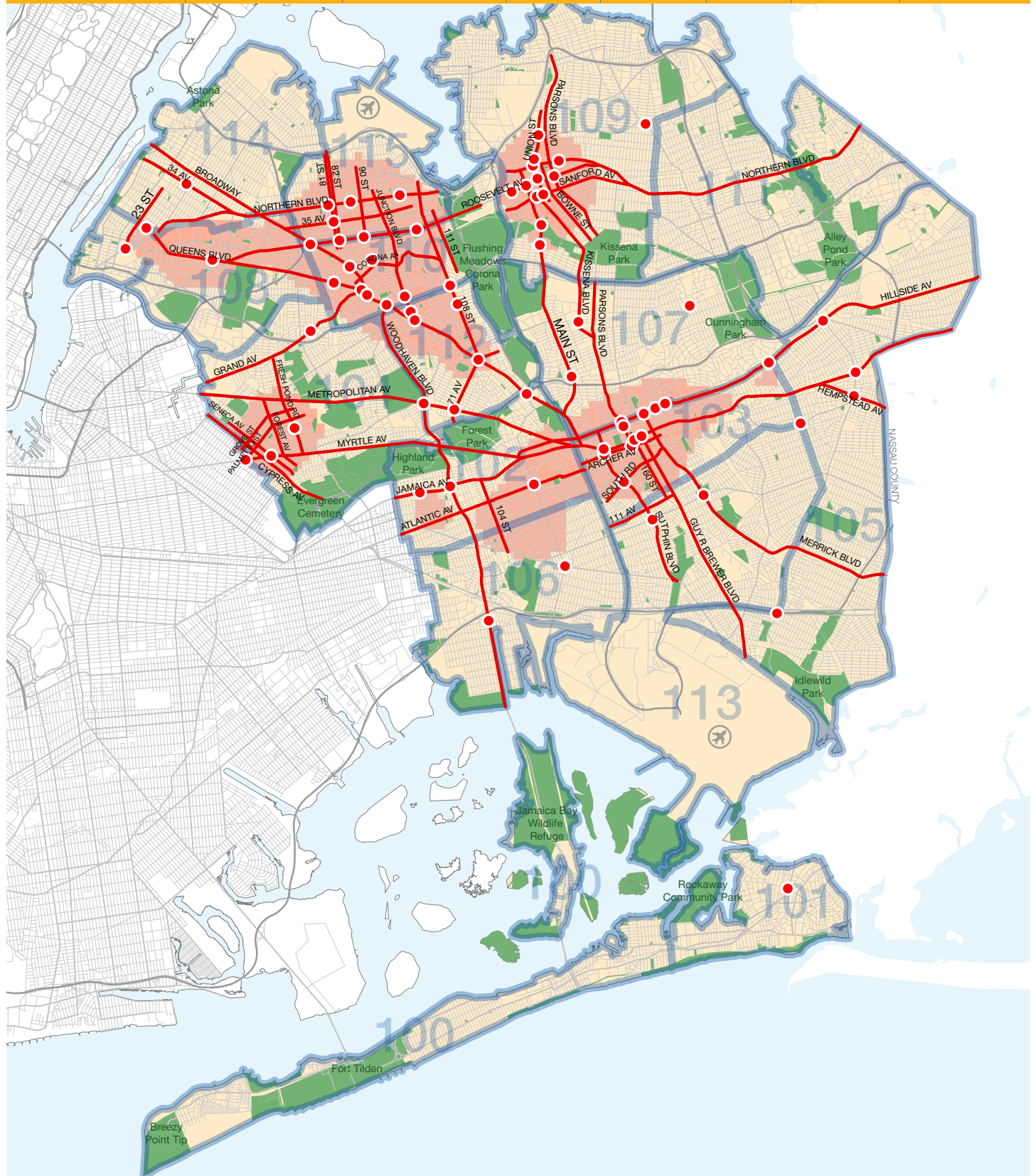


Priority Areas

The combined map of Priority Corridors, Intersections, and Areas covers 69% of pedestrian KSI in Queens, and shows where DOT and NYPD interventions are needed most. This map will serve as a guide to where engineering, enforcement, and education measures will be most effective at reducing pedestrian fatalities and severe injuries.

Queens Priority Map

	Share of Borough	Borough	% of Borough	Share of Ped KSI*	Total Ped KSI	% of Total Ped KSI	% of Total Ped Fatalities
Priority Corridors	47 corridors (127 miles)	2,169 miles	6%	695	1,366	51%	47%
Priority Intersections	72 intersections	18,150 intersections	1%	211	1,366	15%	12%
Priority Areas	17 sq miles	110 sq miles	15%	683	1,366	50%	39%
Combined Total	—	—	—	948	—	69%	61%



Priority Corridors 
Priority Intersections 
Priority Areas 
NYPD Precincts 

CASE STUDY: Hillside Avenue Corridor

Hillside Avenue separates the bustling central business district of Downtown Jamaica directly from a string of lower-density, suburban-style neighborhoods, such as Jamaica Estates and Briarwood, whose aesthetic and curving street layout characterize much of eastern Queens. This area accounts for among the densest concentrations of pedestrian KSI in the borough (see Queens Heat Map, page 5). Between 2009 and 2013, there were 1,071 crashes involving pedestrians in northern Jamaica and its surrounding neighborhoods, resulting in 117 severe injuries and 10 fatalities.

Hillside Ave and its environs are home to a markedly diverse population. While a roughly equal share of residents are White and Black (about 20% each), about one-third is Asian, with the largest share from Bangladesh and India. The area is also home to sizable communities of South American immigrants, largely from Guyana. As a result, more than half of the area's residents speak a language other than English at home, and about one-third is not fluent in English. In addition, Jamaica's unemployment rate is slightly higher than in Queens overall, but the median household income is comparable. Of course, there are disparities within the case study area as well, with residents located in the suburban neighborhoods north of Hillside Avenue representing a more affluent, car-owning demographic than the less affluent and more transit dependent residents located south of Hillside Avenue, closer to the Long Island Railroad tracks.



1,071



Total crashes involving pedestrians between 2009-2013

These crashes resulted in 127 pedestrian KSI:



117

severe injuries



10

fatalities

45%



of all traffic fatalities were pedestrians



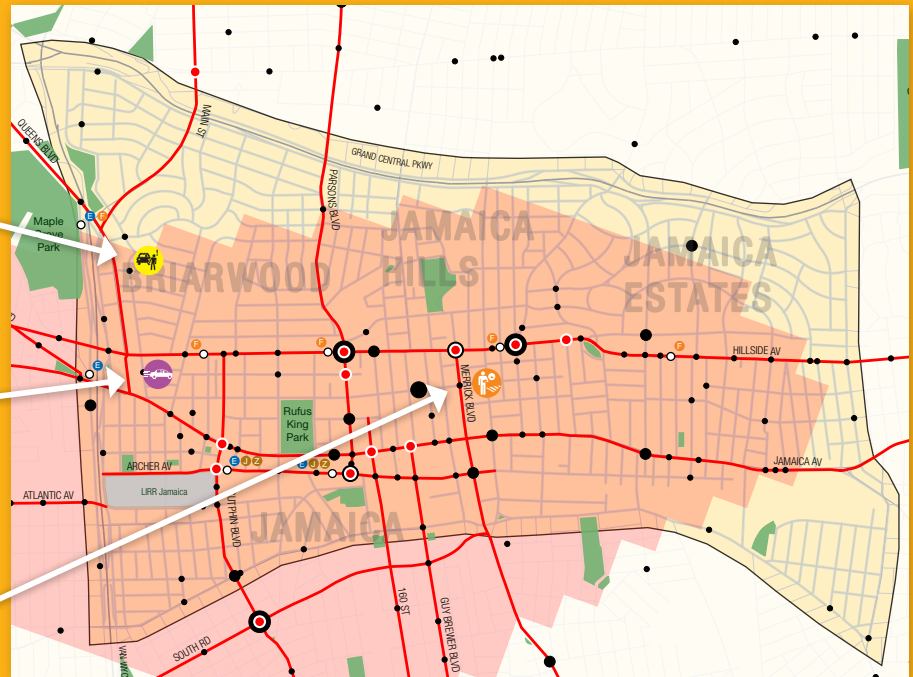
Community Input

Failure to Yield @ 139th St & 85th Dr: "...the Stop sign on the left hand of the split is missing (it has been knocked down a half a dozen times in the last two years), and the Stop sign on the right has been hit and damaged. Cars speed down these streets and do not yield to the children or anyone else crossing here. There are many accidents in this area."

Speeding @ 139th St & 88th Ave: "This area needs a stop sign, or a bump. Cars are speeding, 60 to 65 miles per hour...this area is very close to a school zone."

Long Wait to Cross @ 168th St & 89th Ave: "The wait time for crossing 168th St is way too long, so people are crossing against the light now."

Hillside Avenue Corridor Case Study Area



Priority Corridors



Priority Intersections



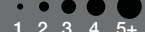
Priority Areas



Subway Stations



Pedestrian KSI



Black outline represents the approximate boundary of the case study area.

CASE STUDY: Hillside Avenue Corridor

Pedestrian Safety

Downtown Jamaica is perhaps the most transit-rich place in eastern Queens. Served by three subway lines, the Long Island Railroad, a dense bus network, and the AirTrain to JFK Airport, many residents benefit from one-seat rides to Manhattan, Brooklyn, and other parts of Queens. The commercial density of the downtown business district also fosters an active pedestrian environment, particularly along commercial corridors such as Jamaica Avenue, Sutphin Boulevard, and Hillside Avenue.

Nevertheless, many streets in and around Jamaica possess a distinctly auto-oriented design, and the rate of car ownership is roughly equal to that of Queens as a whole, inflated by particularly high rates in lower-density areas like Jamaica Estates. Wide streets such as Hillside and Liberty Avenues accommodate heavy vehicular volumes and pose dangers to pedestrians due to especially long crossing distances and high-speed traffic.

Community Dialogue and Input

In recent years, Select Bus Service (SBS) has become an increasingly popular transit mode across the city. Benefiting from dedicated lanes, off-board fare collection, and limited stops, SBS offers substantial time savings over traditional bus routes. Moreover, in designing SBS routes, DOT typically includes an array of traffic calming measures and pedestrian infrastructure in order to improve safety along SBS corridors. Before-after crash statistics reveal the positive impact that SBS routes can have on pedestrian safety. DOT now plans to bring these travel and safety enhancements to the Flushing-Jamaica corridor. With a proposed terminus in Downtown Jamaica, SBS can help bring much-needed safety improvements to this high-crash neighborhood.

Community involvement is vital to the planning of new SBS routes, as local knowledge enriches DOT's understanding of unique travel patterns and safety concerns. For the proposed Flushing-Jamaica SBS



Community members discuss SBS options with DOT

route, DOT has assembled a Community Advisory Committee composed of local stakeholders and elected officials, and held a public workshop and open house in Downtown Jamaica and presented a proposal to Community Board 12. Community members have frequently raised pedestrian safety issues as a primary concern in the neighborhood, and DOT will emphasize potential Vision Zero safety treatments in designing Jamaica's SBS route.

DOT Safety Improvements

DOT has worked across Jamaica to enhance the pedestrian environment on auto-oriented streets and to improve safety for all street users.

Safe Routes to School, Hillside Ave

Pedestrian injuries declined by 38%, injuries to all users dropped by 32%

“NYCDOT’s town hall meetings, workshops and neighborhood street studies have energized discussions about making our streets safer. With DOT outreach, Make Queens Safer has been able to collaborate and converse with all of our streets’ users.”

—Make Queens Safer



Hillside Ave at 182nd St (before)



Hillside Ave at 182nd St (after)

Safe Routes to Schools:

Hillside Avenue at I.S. 238

- Safe Routes to School is a special DOT initiative designed to concentrate street safety improvements around schools. I.S. 238, located on Hillside Avenue, was among the first round of schools prioritized for nearby safety improvements.
- To reduce the distance to cross 70-ft wide Hillside Avenue, and better accommodate the heavy pedestrian volumes at the beginning and end of school days, DOT installed five landscaped pedestrian refuge islands between 181st Street and Dalny Road. These are particularly critical for students exiting buses across the street from the school.
- In the three years following project implementation, pedestrian injuries in the vicinity of I.S. 238 dropped 38%, while total injuries for all users declined 32%.



Community Dialogue and Input

3.

Achieving Vision Zero, and truly making New York City's streets safe for all users, hinges upon an active dialogue between the public and the City. While DOT utilized quantitative crash data to determine the highest-priority corridors, intersections, and geographic areas in Queens, qualitative feedback from community members deeply enriches DOT's understanding of these priority locations. Feedback collected online and via public workshops produced a geographic database of community safety concerns that will allow DOT to design high-quality Vision Zero safety projects that incorporate local knowledge of pedestrian issues.

DOT took a proactive and innovative approach to community engagement to yield a robust dataset of local expertise. This section details the public outreach activities DOT conducted to gather feedback from Queens residents.

Vision Zero Public Input Map

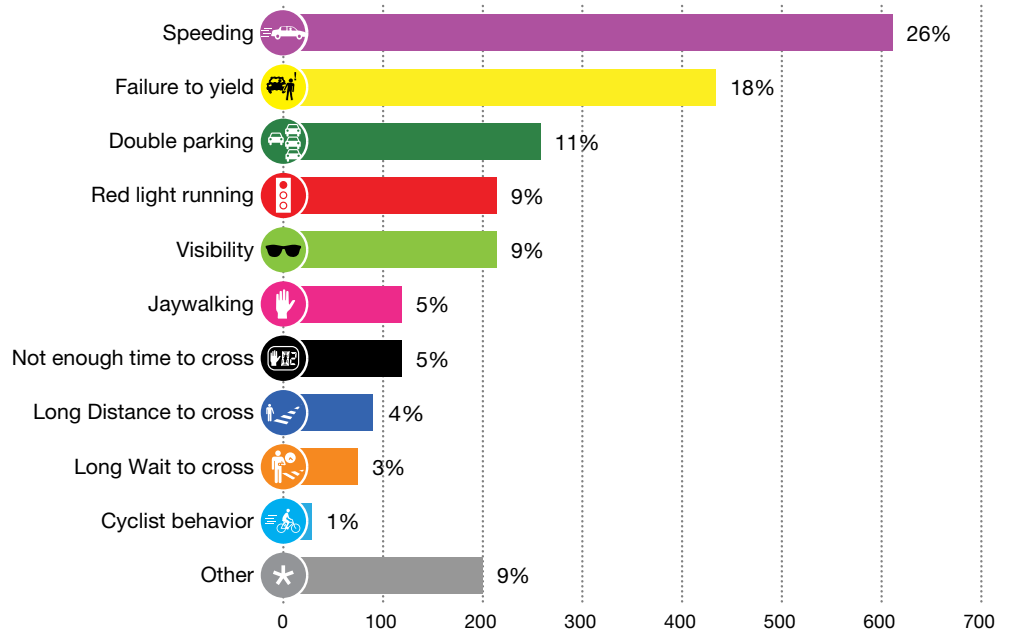
Queens residents shared 2,346 pedestrian safety issues

The interactive, online Vision Zero Public Input Map offered New Yorkers the opportunity to identify pedestrian safety issues at any time, from anywhere (even mobile devices). To report a pedestrian safety issue, users panned across a map of New York City and zoomed to an intersection of concern. Clicking on the intersection caused a Google Street View image of the selected intersection to appear. Users then chose one of ten safety issue icons, dragged it to the precise location where the issue occurs, and provided comments detailing their issue (see figure below). Other users could then share additional comments about, or voice their agreement with, existing comments.



44%

of issues shared on the website focus on speeding and failure to yield to pedestrians



The breakdown of issues by category logged on the Vision Zero website closely reflected that of the issues recorded at the Pedestrian Safety Workshops.

Website Findings

At the close of the three-month online comment period (May–July 2014), location-specific issues collected at the Pedestrian Safety Workshops were geocoded and added to the online map, producing a unified geographic database of residents' pedestrian safety concerns (see the Queens Community Input Map, page 35). In total, users shared 2,346 issues at 1,222 unique locations across Queens—an average of 1.9 issues per location. Moreover, Queens residents not only engaged with DOT on these issues, but with each other as well: users commented on others' issues 346 times and gave clicks of support 1,081 times.

Of the ten pedestrian safety issues identified on the Vision Zero website, in Queens users expressed the highest levels of concern for aggressive driving behaviors, such as speeding (26%) and failure to yield (18%). Consequently, in planning Vision Zero projects in Queens, DOT will pay special consideration to interventions designed to curb dangerous driving behaviors, such as Arterial and Neighborhood Slow Zones and traffic-calming measures, such as speed humps and road diets.

Queens residents commented on about 7% of all intersections in Queens

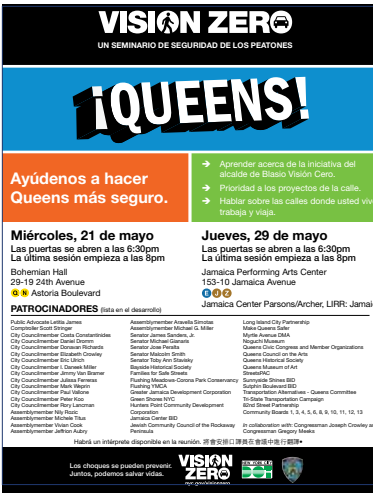


Public Events

From March through June 2014, DOT, NYPD, elected officials, and civic organizations hosted seven official Vision Zero public events across Queens. In the form of participatory workshops and town hall meetings, these events were designed to gather local pedestrian safety concerns, launch an ongoing dialogue about street safety in Queens, and instill the message that pedestrian fatalities are preventable and not the inevitable feature of city life they are often perceived to be.

Town Halls

Kicking off Vision Zero outreach in Queens, Councilmember Costa Constantinides hosted a town hall meeting on March 19th at Bohemian Hall. About 120 community members attended, directing their questions and concerns to a panel that included U.S. Representative Joe Crowley, DOT Commissioner Polly Trottenberg, State Senator Mike Gianaris, Assemblywoman Aravella Simotas and others. Topics ranged from truck traffic on local streets and reduced speed limits to specific requests, such as improved safety along Astoria’s high-crash 21st Street. On April 23rd, nearly 250 people packed into an auditorium at LaGuardia Community College to participate in a second town hall, hosted by the office of City Council Speaker Melissa Mark-Viverito. Two similar town-hall meetings were also hosted by Queens Councilmember Donovan Richards.



Spanish public outreach flyer used to advertise the workshops



130+**participants
attended public
workshops
in Queens**

Pedestrian Safety Workshops

Concurrent with the town hall meetings, DOT hosted two public workshops in Queens, which drew more than 130 participants. As both workshops were designed to address borough-wide safety concerns, their geographically dispersed locations—Bohemian Hall in Astoria and Jamaica Performing Arts Center in Jamaica— were selected to attract the widest possible audience. DOT also worked with 59 elected officials, community boards, and civic groups to promote the workshops to a broad range of constituencies across the borough. Spanish and Mandarin interpreters were also available to allow participation by a diverse cross section of Queens residents.



Workshop Format

At tables of approximately eight people—including two DOT staff members and one NYPD officer—a DOT facilitator made a brief presentation on Vision Zero safety strategies then led a group discussion around pedestrian safety issues in Queens. Next, participants visited a mapping station, where, using ten distinct stickers (which corresponded to the ten issue icons on the Vision Zero Public Input Map), they pinpointed the precise locations where pedestrian safety issues occur around Queens (see page 35). Participants then recorded these issues and locations on worksheets, which DOT staff collected at the conclusion of the workshop. Finally, participants completed a survey designed to gather both general and specific pedestrian safety concerns and to evaluate DOT’s public outreach strategies.



70% of workshop attendees think redesigning streets to reduce vehicle speeds is one of the most important strategies for achieving Vision Zero



Workshop participant logging a safety issue at the Jamaica Performing Arts Center

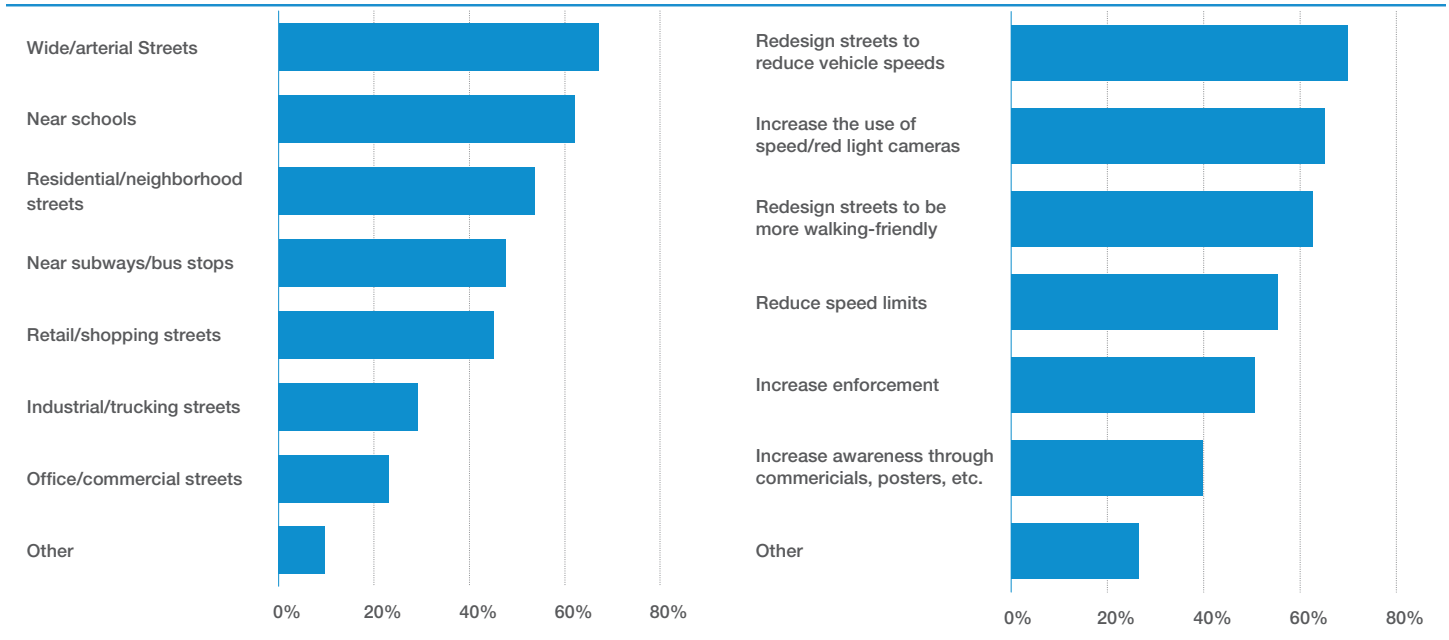
67%

of workshop attendees view arterial streets as one of the most important areas for pedestrian safety improvements

Workshop Findings

Feedback from the group discussions, worksheets, and surveys shows that aggressive driving behaviors, such as speeding and failure to yield, are the issues of greatest concern to Queens residents. More than 90% and 85% of participants rated these issues as problematic, respectively, with a majority (64% and 56%) of participants saying they were “major problems” in Queens.

Attendees stressed the importance of a wide array of measures to help combat these dangerous behaviors including redesigning streets to reduce vehicle speeds (70%) and increasing the use of speed and red light cameras (65%), particularly on busy arterial streets such as Queens Boulevard.



Types of locations and interventions workshop attendees would like DOT/NYPD to focus on in Queens, by frequency.

**56%**

**of shared
issues fall
outside
of Priority
Corridors,
Intersections,
and Areas**

Community Input Influencing Design

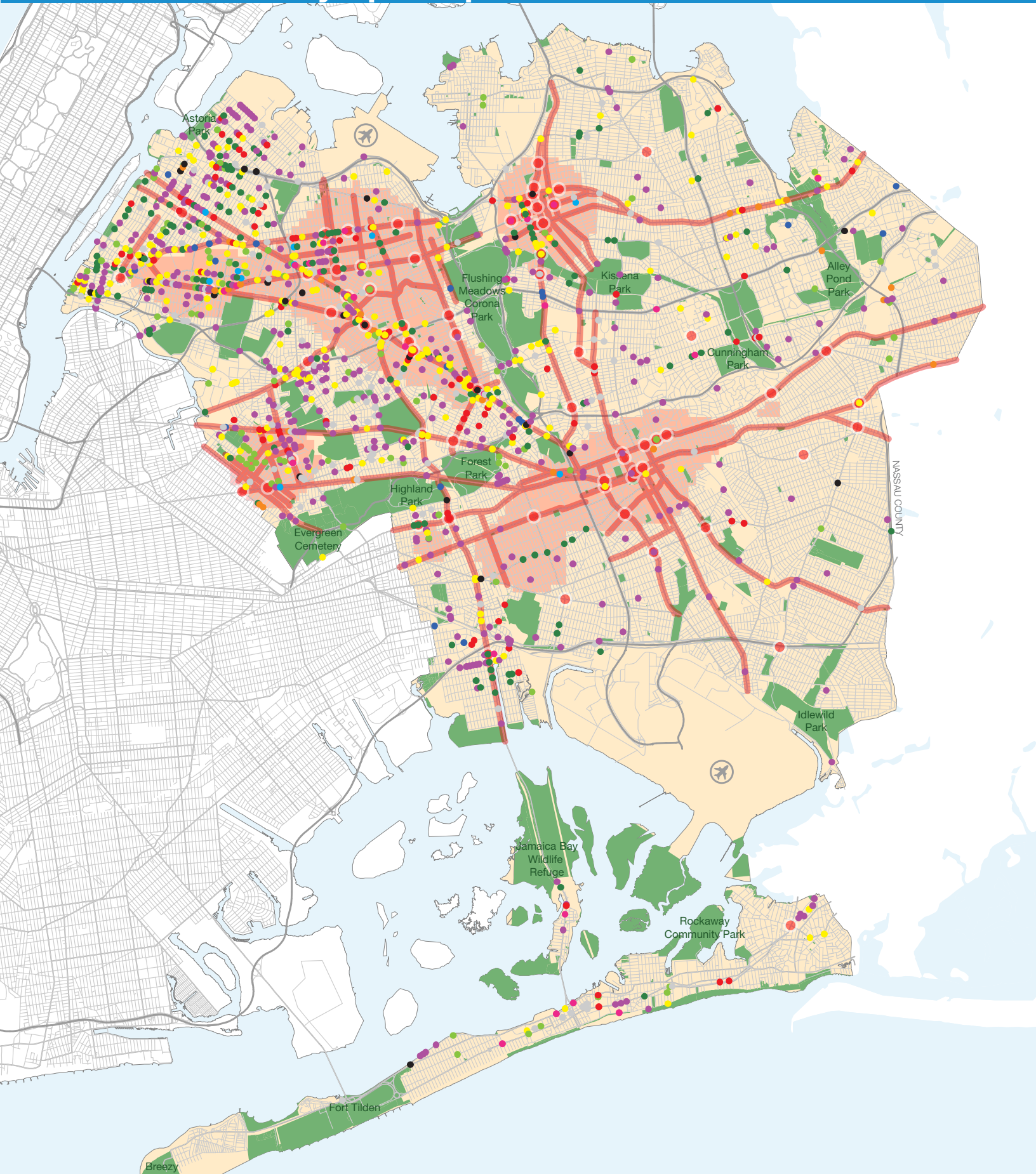
In late summer 2014, following the completion of the final workshop and the closure of the online Vision Zero Public Input Map, DOT compiled all community feedback, pedestrian safety worksheets, participant surveys, completed maps, and issues shared on the Vision Zero website. This information is being maintained and analyzed to support future public outreach, education, enforcement, and engineering. It will also be referenced in the following section of this Plan.

The Community Input Map, combined with the Queens Priority Map laid out in Section 2, forms a geographically specific knowledge base of both quantitative pedestrian crash data and qualitative community feedback. This allows DOT to integrate local knowledge into Vision Zero project planning in order to foster a proactive, responsive project planning process at the borough's highest-crash locations. A composite priority map for Queens is shown on the facing page. This map will serve as the basis of DOT's Pedestrian Safety Action Plan in Queens.

As the map reveals, the locations with the most public input and high pedestrian-KSI-crash density do not always overlap. There are several factors influencing the likelihood of particular communities throughout Queens to log issues, from the strength of local outreach and advocacy groups, to the location of workshops, to language and internet connectivity barriers.

It is vital to the success of Vision Zero in Queens that all communities across the borough are given an equal opportunity to share their pedestrian safety concerns. As such, DOT will redouble its outreach efforts to communities with low levels of existing feedback, especially those in high pedestrian-crash areas (explained in further detail in Section 4). Also, DOT and NYPD will ensure that traffic engineering, enforcement, and education work will be conducted in the areas with the highest need, not just those with the loudest voices.

Queens Community Input Map



- Not enough time to cross
- Double parking
- Long wait to cross
- Red light running
- Jaywalking
- Poor visibility
- Speeding
- Long distance to cross
- Failure to yield to pedestrians
- Cyclist behavior
- Other
- Priority Intersections
- Priority Corridors
- Priority Areas

CASE STUDY: Jackson Heights-Corona

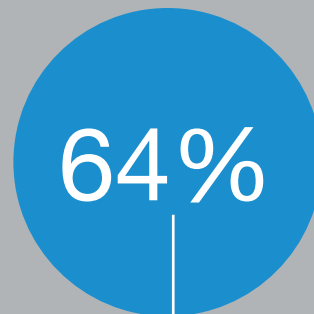
Bounded by two major arterials (Astoria and Queens Boulevards) and three limited-access highways (the Brooklyn-Queens Expressway, Grand Central Parkway, and Long Island Expressway), the neighborhoods of Jackson Heights and Corona account for one of the densest concentrations of pedestrian KSI crashes in Queens. Between 2009 and 2013, there were 1,755 crashes in this area involving pedestrians, resulting in 198 severe injuries and 25 fatalities.

These neighborhoods are an accurate representation of the diversity of Queens. This area's large foreign-born population comes from dozens of countries, with large shares originating from Ecuador, Mexico, China, Colombia, the Dominican Republic, Bangladesh, and India. The racial composition reflects this diversity; about one-quarter identifies as Asian, and nearly six out of ten are Hispanic or Latino, about twice the borough's share overall. Moreover, while the area's unemployment rate is slightly lower than across Queens as a whole, its median household income is slightly lower as well.



Total crashes involving pedestrians between 2009-2013

These crashes resulted in 128 fatalities and severe injuries:



of all traffic fatalities were pedestrians



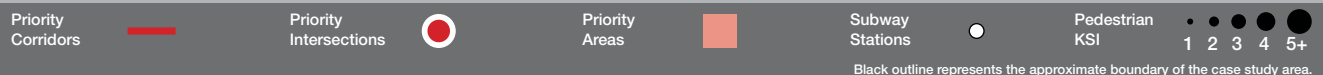
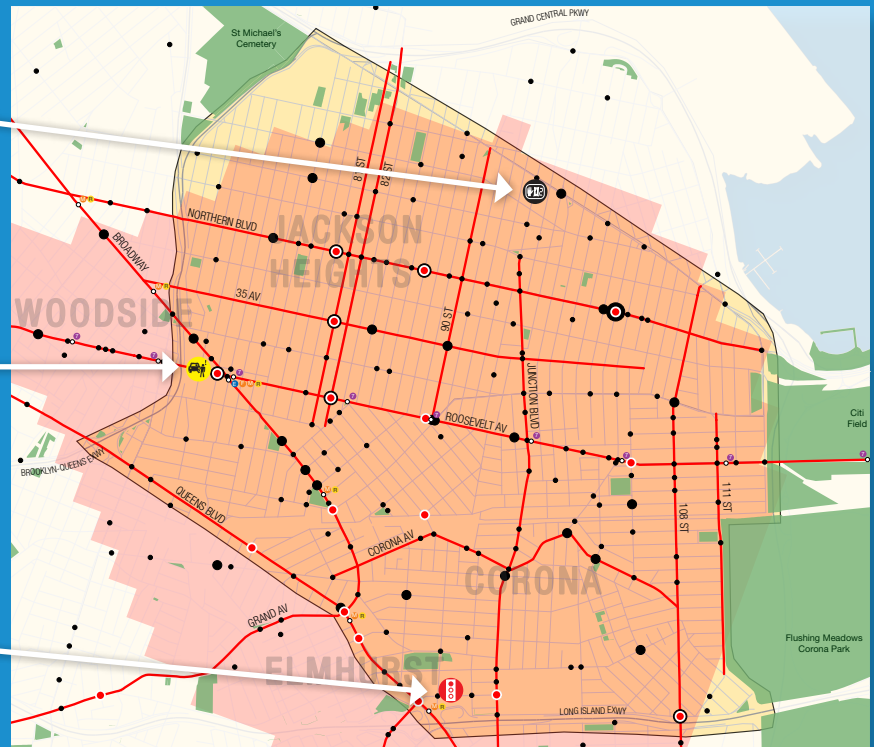
Community Input

Not Enough Time to Cross @ Astoria & 94th St: "This is a crosswalk that students cross and there is not enough time to cross without having to run. Running is not an option for seniors who also cross at this street."

Failure to Yield @ Roosevelt & Broadway: "Drivers making the right turn from EB Roosevelt Ave onto Broadway take the turn at high speed and often do not yield to pedestrians in the very long crosswalk."

Red Light Running @ 59th Ave & 92nd St: "This is not a traditional crosswalk. Pedestrians have to press a button to change the light from flashing yellow to red. Few cars yield during the flashing yellow, and even when there is a constant red, with a walk signal for pedestrians, cars still run the light."

Jackson Heights-Corona Case Study Area



CASE STUDY: Jackson Heights-Corona

Pedestrian Safety

While multiple subway lines run along Roosevelt Avenue and Broadway, large swathes of the area, particularly north of Roosevelt, lack proximate access to public transit. Accordingly, car ownership varies widely across the area, with higher rates north of Northern Boulevard further from a subway stop. Nevertheless, generally low household incomes and a fairly robust bus network correspond to a high rate of transit usage, with roughly two out of three commuting to work via public transportation.

A number of pedestrian safety issues pervade Jackson Heights and Corona. For instance, while the majority of the area is laid out on a regular grid system, several arterial streets, such as Broadway, Astoria Boulevard, and Queens Boulevard, cut across the area diagonally, forming skewed intersections with complicated traffic patterns. Moreover, across the area, residents report a high incidence of reckless motorist behavior, from speeding and red light running to double parking and failure to yield to pedestrians. These issues are particularly pronounced along the area's widest streets, whose auto-oriented designs may encourage unsafe driver behaviors.

Community Dialogue and Input

In 2009, New Yorkers for Parks ranked Jackson Heights as the second-lowest citywide in terms of park space per capita.⁵ In response, the Jackson Heights Green Alliance (JHGA), a volunteer organization focused on open space access, worked to create a Play Street (restricted vehicular access and pedestrianized space over summer weekends), and eventually a pedestrian plaza. The JHGA launched the initiative in 2008, creating a Play Street on 78th Street between Northern Blvd and 34th Ave. The popularity of the Play Street, coupled with the community's need for more open



space, prompted JHGA to lobby for the block's permanent conversion into a pedestrian street. In 2012, JHGA worked with Community Board 3 and DOT to permanently pedestrianize the block. It is now a popular public plaza and safer pedestrian route.

DOT Safety Improvements

DOT has implemented a number of projects around Jackson Heights and Corona to normalize intersections, improving walkability on wide arterial streets.

Broadway and Queens Boulevard

Crashes with injuries fell by 49% and pedestrian injuries declined by 79%



Queens Boulevard at Broadway (before)



Queens Boulevard at Broadway (after)

pedestrian injuries
↓79%

“Jackson Heights is an even better neighborhood for families, seniors, and businesses because of Vision Zero. Safer streets help everyone!”

—Jackson Heights
Green Alliance

Broadway and Queens Boulevard

Pedestrian injuries declined by 79% following project implementation.

- The intersection of Broadway and Queens Boulevard ranked among the deadliest intersections in the borough, averaging 47 crashes per year.
- Excessive width, skewed crosswalks, and limited visibility posed serious threats to pedestrian safety.
- DOT widened medians and extended the curb to decrease the crossing distance, normalized the northern crosswalk to improve the crossing experience, removed parking spaces in the service road to improve visibility, and realigned markings in the service roads to inhibit vehicular weaving.
- In the year following project implementation, the number of crashes with injuries fell 49%, while pedestrian injuries at the intersection decreased by 79%.



Borough
Action Plan

4.

Based on the crash findings, prioritization, and community input presented previously in this report, DOT and NYPD have developed a comprehensive set of actions to be implemented in Queens. These actions, and the findings that informed their creation, will be reviewed every three years from the release of this plan.

DOT and NYPD use a three-pronged approach to pedestrian safety, including Engineering and Planning actions, Enforcement actions, and Education and Marketing actions. These proposed actions are vital tools in achieving Vision Zero in Queens and across New York City.

DOT and NYPD worked closely together, as well as consulting other city agencies, to formulate these actions. Moving forward, the implementation of the proposed actions will require continuing and strengthening these partnerships. This will enable all aspects of pedestrian safety to continue to improve.

Engineering and Planning

Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input at project locations

The *Vision Zero Action Plan* calls for safety engineering improvements citywide at 50 intersections and corridors annually. Starting with the 2015 construction season, DOT will set the goal of building 50 Vision Zero safety engineering improvements annually at the Priority Corridors, Intersections, and Areas defined in all five Borough Pedestrian Safety Action Plans. This will ensure a laser focus on the chronically high-crash locations where pedestrians are killed and severely injured, where DOT interventions will have a maximum impact. The safety engineering improvements will be informed by Borough Plan outreach findings and, as always, DOT and NYPD will work with communities to shape and develop better safety projects. Lastly, since Vision Zero ultimately means eliminating fatalities for all road users, safety engineering improvements will also include safety-focused bicycle, transit and motor vehicle projects.



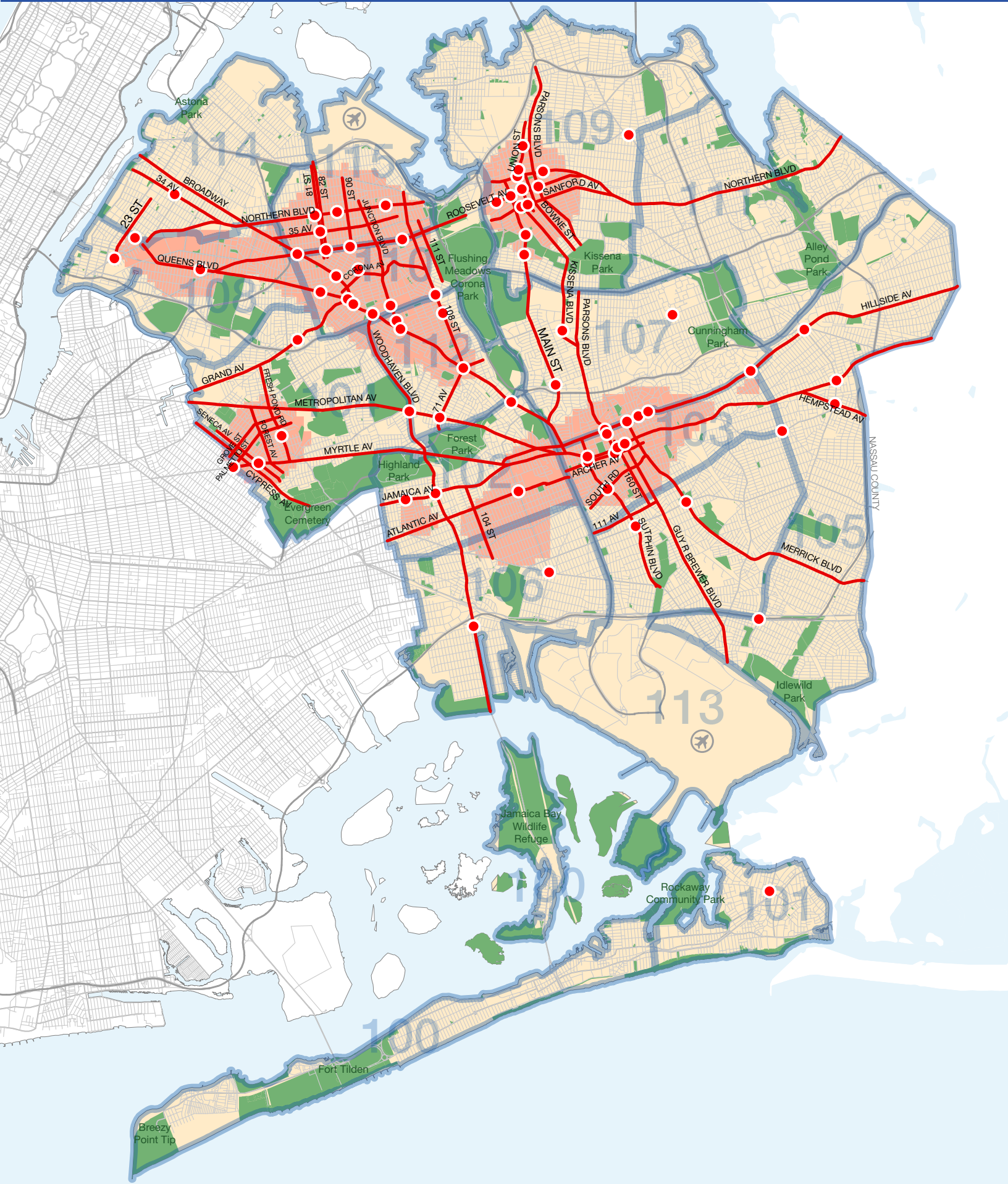
Significantly expand exclusive pedestrian crossing time on all Queens Priority Corridors by the end of 2017

High-crash corridors for pedestrians tend to be on wide arterial streets with higher speeds and aggressively turning vehicles. DOT will address these issues by installing Leading Pedestrian Intervals (LPIs) at every feasible school crosswalk on all Queens Priority Corridors. The LPI is a proven method of reducing pedestrian-vehicle conflicts at high pedestrian crash locations; it is a signal timing treatment that provides pedestrian-only walk time before vehicles, including turning vehicles, receive the green light.

Add exclusive pedestrian crossing time to all feasible Queens Priority Intersections by the end of 2017

DOT will install LPIs at every feasible Queens Priority Intersection by the end of 2017. As noted previously, the LPI is a signal timing treatment that provides pedestrian-only walk time before vehicles receive the green light.

Queens Priority Map



Priority Corridors



Priority Intersections



Priority Areas



NYPD Precincts





Modify signal timing to reduce off-peak speeding on all feasible Queens Priority Corridors by the end of 2017

At off-peak times, congestion is diminished and vehicle speeds are higher, increasing the risk for pedestrian crashes as well as increasing the severity of those crashes. To better control speeds, DOT will modify off-peak signal timing on all feasible Queens Priority Corridors by the end of 2017.

Install expanded speed limit signage on all Queens Priority Corridors in 2015

Effective November 7th, the speed limit on all unsigned streets in New York City was reduced to 25 MPH. However, streets that are signed for 30 MPH (or higher) will be evaluated on a case-by-case basis and switched to 25 MPH where feasible. DOT will evaluate all signage on Queens Priority Corridors in 2015 and convert these to 25 MPH where feasible. In addition, signage will be expanded so the speed limit will be posted at a higher frequency along Queens Priority Corridors. This will help to increase compliance with the speed limit, better educate the public about the new citywide speed limit, and make NYPD enforcement simpler and less ambiguous.

Drive community input and engagement at Queens Priority Corridors, Intersections, and Areas

As discussed earlier in this plan, areas in Queens that have the highest incidence of pedestrian fatalities and severe injuries are not always the loudest voices providing input for transportation improvements. DOT commits to reaching out to these sections of Queens and soliciting ground-level input from community members. This dialogue will take many forms, including full-fledged planning workshops and charettes; streamlined, mobile meetings at places where community members already gather (libraries, community centers, parks, etc.), community walk-throughs; and direct communication with elected officials and community leaders in Priority Areas. To further facilitate and institutionalize this effort, DOT will hire a dedicated staff member in their Queens office. This staff member will be assigned to neighborhoods that have historically been less engaged with the planning process.

Install additional lighting under elevated trains and around other key transit stops

Streets located under elevated trains are typically high crash in New York City and have long been identified by residents and city officials as dark and shadowed. These conditions create visibility challenges for both pedestrians and vehicles. This problem is more acute in Queens, where much of the subway network is elevated. The *Vision Zero Action Plan* called for street lighting to be enhanced at 1,000 intersections. In addition to these enhancements currently in progress, DOT will identify new locations focused on elevated train stops and other key transit locations and will pursue the additional funding necessary for implementation.

Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment

The MTA operates the largest bus system in the United States, with more than twice as many daily riders than the next leading system.⁶ Buses are an extremely important part of the city's transportation network and vehicle mix in Queens, constantly operating around and interacting with pedestrians (both riders and non-riders), cyclists and other road users. DOT will work closely with the MTA to provide for a safe, efficient, and effective transportation network that coexists with pedestrians and other modes, focusing on routes and stops at and around Priority Corridors and Priority Intersections, ensuring that facilities are designed and located to maximize pedestrian safety.



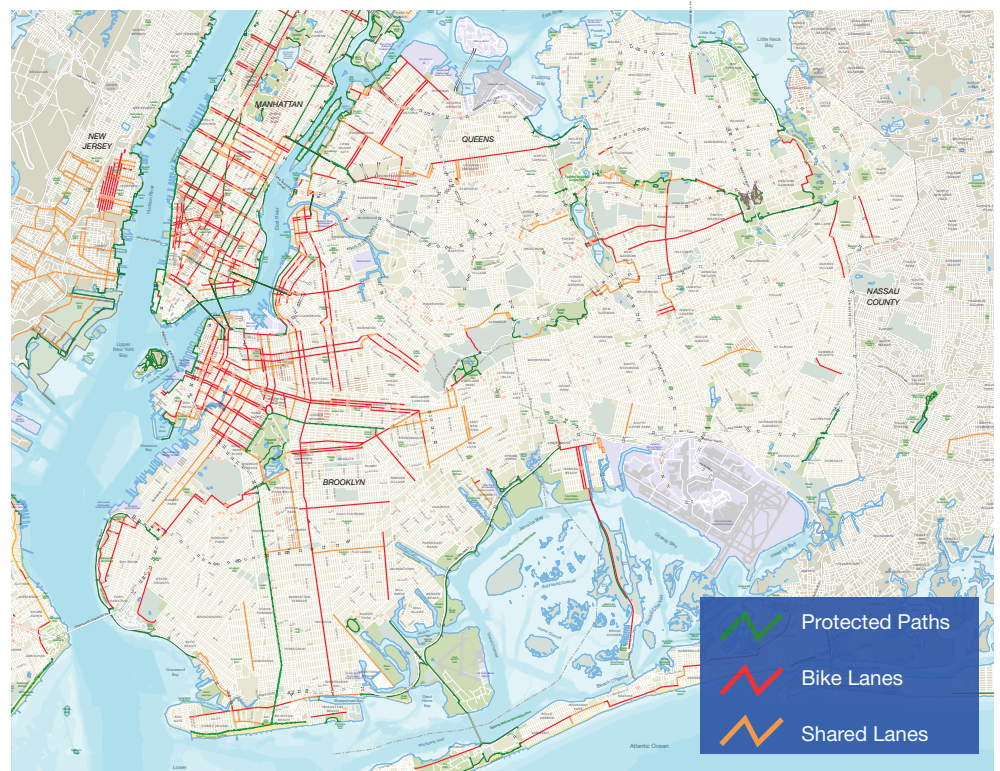


Pedestrian injuries declined 22% on New York City streets with protected bicycle lanes, like this one at Queens Plaza.

Expand a bicycle network in Queens that improves safety for all road users

Vision Zero's focus on vulnerable users—those most likely to be severely injured and killed in event of a crash—is an opportunity for a coordinated, complete streets approach to bicycle and pedestrian planning. Although there has been a marked downward trend in cyclist risk in New York in the past ten years, there were still 52 bicyclist fatalities in the city between 2011 and 2013, including 10 in Queens. While this plan identifies priority corridors, intersections, and areas for pedestrian safety improvements, these locations also account for 63% of cyclist KSI in Queens, and can represent priorities for bicycle safety as well.

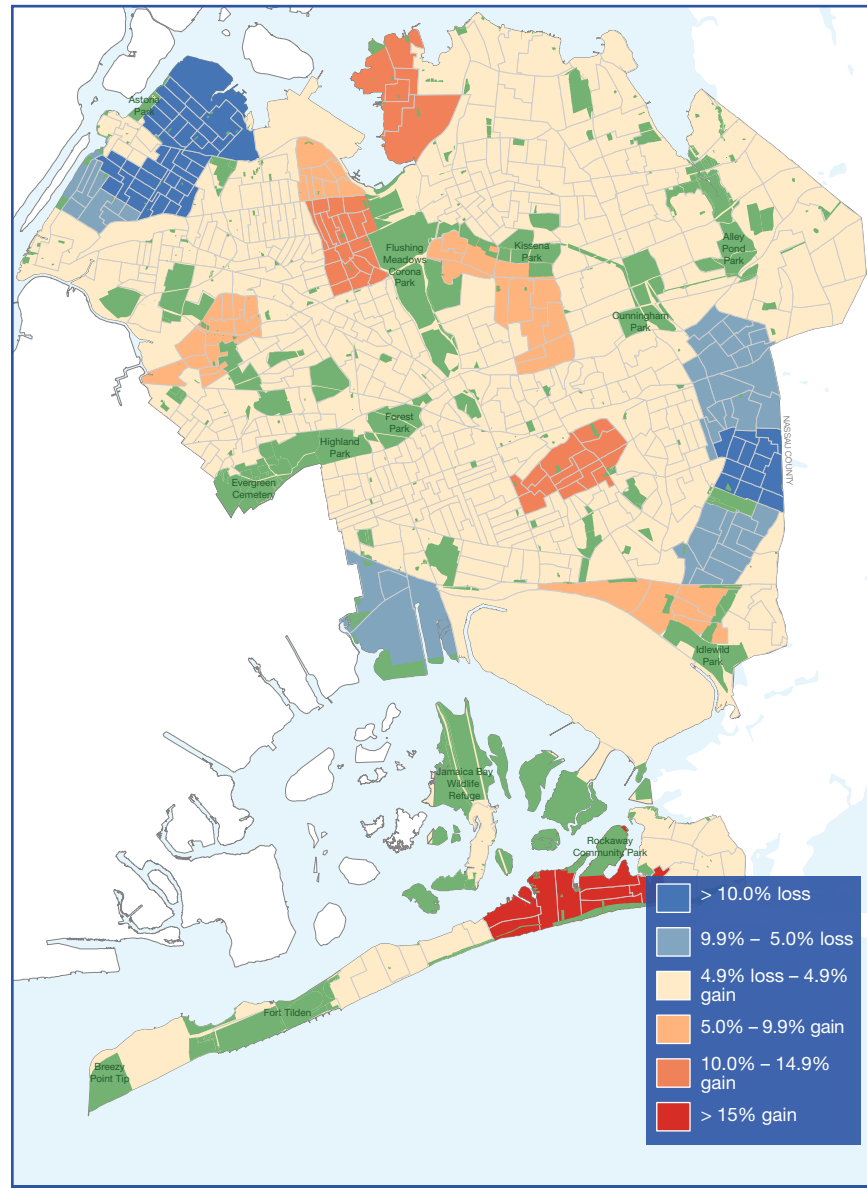
Pedestrian and bicycle planning share many of the same fundamental strategies to increase safety. Both groups benefit from reductions in speeds, efforts to enforce the traffic laws that make streets safe, and comprehensive engineering solutions that better organize traffic flow and reduce conflicts. In addition, well-designed bicycle lanes perform an important traffic calming function by right-sizing streets to the needed capacity and may also include pedestrian refuges that shorten crossing distances. A recent study found that pedestrian injuries declined 22% on New York streets with protected bicycle lanes. That is why DOT will work closely with communities in Queens to expand a bicycle network that improves safety for all road users, including constructing an additional 5 lane miles of protected bike lanes per year.



Queens Detail from 2014 New York City Bike Map

Proactively design for pedestrian safety in high-growth areas in Queens including locations in the *Housing New York* plan

In his 2014 housing plan—entitled *Housing New York: A Five-Borough, Ten-Year Plan*—Mayor de Blasio has laid out actions to spur affordable housing by increasing density, rezoning neighborhoods, redeveloping underutilized land, adaptively reusing buildings and space, and a host of other tools. Since these new housing locations will often be on vacant and underused sites, they may lack sufficient pedestrian safety infrastructure, and pedestrian activity (and pedestrian crashes) may presently be low.



Queens Population Growth, 2000-2010

The City will be proactive and will develop pedestrian safety enhancements around housing development locations. DOT will work with the Department of Housing Preservation and Development (HPD), the Department of City Planning (DCP), the School Construction Authority (SCA) and the Mayor's Office to ensure that housing plan projects incorporate the highest-quality modern standards in pedestrian safety. Development at these locations is an opportunity for New York City to develop streets that are even safer than the status quo.

A model for this collaborative work near a Priority Area is the Hunters Point South development in Long Island City. When complete, this mixed-use development will feature approximately 5,000 new dwelling units, making it the largest new affordable housing development to be built in New York City since the 1970s. This development was coupled with pedestrian and bicycle improvements to the existing streetscape to accommodate the anticipated increase in foot-traffic.



Rendering of Hunters Point South development with pedestrian and bicycle improvements

Enforcement

The *Vision Zero Action Plan* calls for NYPD and DOT to develop a data-driven, citywide strategy for the enforcement of traffic safety violations. This plan will guide that strategy in Queens.



Install the majority of speed cameras at Priority Corridors, Intersections, and Areas

The New York State Legislature recently approved the use of speed cameras at 140 total locations near schools in all five boroughs. In Queens, DOT will deploy those cameras by schools in and around Priority Corridors, Intersections, and Areas, unless a higher-crash location is also feasible. As always, speed cameras will only be deployed in accordance with their enabling legislation.

Focus enforcement and deploy dedicated resources to Queens NYPD precincts that overlap substantially with Priority Areas

Just as NYPD regularly targets chronically high-crime areas, NYPD will take the same tightly focused approach to chronically high-crash areas. NYPD will focus traffic enforcement at precincts in Priority Areas and provide additional dedicated resources to handle this stepped-up enforcement.

Prioritize targeted enforcement at all Queens Priority Corridors, Intersections, and Areas annually

- Prioritize enforcement along all 127 miles of Queens Priority Corridors.
- Prioritize enforcement at all 72 Queens Priority Intersections.
- Prioritize enforcement within all 17 square miles of Queens Priority Areas.

To further inform enforcement efforts, DOT will provide detailed crash analyses of Queens Priority Corridors, Intersections, and Areas to NYPD precincts. Enforcement will focus tightly on infractions that are particularly threatening to pedestrians, such as speeding and failure to yield.

Similar to crime data, effective evaluation of enforcement data must be conducted geographically (i.e., by street, intersection, or address). Currently, NYPD tracks and monitors activity at “Collision Prone Locations,” which are established using accumulated collision data. On the local level, each precinct conducts extensive analysis and mapping of their enforcement efforts in regards to collision reduction, particularly at Collision Prone Locations. These efforts are further scrutinized at the Department’s TrafficStat forums, wherein the precincts’ Executive Officers and Traffic Safety Teams are called upon to provide in-depth analysis of their traffic safety programs and enforcement efforts. In 2015, the NYPD plans to launch a major technological upgrade to its traffic analysis capabilities which will allow a more in-depth review, tracking, and accounting of collisions and enforcement in Brooklyn’s Priority Corridors, Intersections, and Areas.

Education and Awareness Campaigns

Target child and senior safety education at Queens Priority Corridors and Priority Areas

The *Vision Zero Action Plan* calls for DOT to make effective, age-appropriate safety curricula available to schools throughout the city. This Borough Action Plan will guide that strategy in Queens; DOT's Safety Education team will focus their programs at or near Priority Corridors, Intersections, and Areas with a high incidence of child pedestrian injury. Safety educators will work with schools to deliver comprehensive lessons to all members of the school community. All Vision Zero outreach and education to senior citizens will also be conducted within the Priority Areas and/or near Priority Corridors. In addition, hands-on safety demonstrations such as car safety seat checks, free helmet fittings and giveaways, anti-DWI information sessions, and Saturday table seminars will be made available through Queens councilmembers and community groups.

Launch multilingual public information campaigns in Queens Priority Areas

Queens is home to a large foreign-born population (48%) that is linguistically diverse. DOT will deploy Vision Zero outdoor campaigns (including paid placement on billboards, buses, and subway stations) in Priority Areas using Chinese, Spanish, and other languages as needed to reach Queens residents.

Target Street Team outreach at Queens Priority Corridors, Intersections, and Areas

As directed by the *Vision Zero Action Plan*, NYPD and DOT have been conducting intensive street-level outreach on safety issues and traffic laws. This Borough Pedestrian Safety Action Plan will further guide those efforts, as all future street-level outreach in Queens will be conducted along Priority Corridors, at Priority Intersections, or within Priority Areas. Locations will be further prioritized based on pedestrian volumes (for efficient outreach) and by historically problematic locations identified by local communities.



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ENDNOTES

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- ² Data sources accessed 12-01-2014, killed or severely injured data includes only crashed that can be mapped
- ³ 44% decline in fatalities based on change in 3-year averages (1985-2013).
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- ⁶ American Public Transportation Association, Quarterly Ridership Statistics, Third Quarter 2014. <http://www.apta.com/resources/statistics/Pages/ridershipreport.aspx>

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Appendix A

Queens

Priority Corridors

DOT identified **47 Priority Corridors** encompassing **51% of Queens' total pedestrian KSI** and representing **127 miles (6%) of Queens' total street network**:

Street Name	From	To	Ped Fatalities (2009-2013)	Ped KSI (2009-2013)	Miles	Ped KSI per mile (2009-2013)
Union St	25 Rd	Franklin Av	2	18	1.4	12.6
Archer Av	Van Wyck Exwy	168 St	1	14	1.3	11.1
Junction Blvd	32 Av	Queens Blvd	2	21	2.1	10.1
Sanford Av	DeLong St	Northern Blvd	2	19	2.0	9.6
Roosevelt Av [west leg]	Queens Blvd	126 St	5	36	4.0	9.1
Northern Blvd [west leg]	Queens Plz	114 St	5	39	4.3	9.0
Sutphin Blvd	Rockaway Blvd	Hillside Av	2	24	2.7	8.9
Kissena Blvd	Parsons Blvd	Main St	1	24	2.8	8.7
Main St	Northern Blvd	Queens Blvd	3	32	3.9	8.2
Fresh Pond Rd	Flushing Av	Myrtle Av	1	12	1.5	7.9
108 St	Astoria Blvd	Queens Blvd	4	23	2.9	7.9
Hillside Av	Myrtle Av	Langdale St	5	59	7.7	7.7
Roosevelt Av [east leg]	College Pt Blvd	Northern Blvd	0	11	1.4	7.6
71 Av	Union Tpke	113 St	2	10	1.3	7.4
Queens Blvd	Queens Plz	Jamaica Av	12	55	7.5	7.3
Seneca Av	De Kalb Av	St Felix Av	1	9	1.2	7.3
Corona Av	Poyer St	108 St	1	11	1.5	7.2
Woodhaven Blvd	Queens Blvd	Cross Bay Blvd	13	27	4.1	6.6
Parsons Blvd [south leg]	Hor Harding Exwy	Archer Av	2	17	2.6	6.5
Bowne St	Northern Blvd	Rose Av	1	9	1.4	6.4
Jamaica Av	Eldert La	257 St	11	58	9.1	6.4
Broadway	Vernon Blvd	Queens Blvd	4	25	4.0	6.3
Forest Av	Metropolitan Av	75 Av	1	7	1.2	6.1
Atlantic Av	Eldert La	Van Wyck Exwy	5	18	3.0	6.0
Northern Blvd [east leg]	College Pt Blvd	Glenwood St	5	33	5.8	5.7
90 St	Astoria Blvd	Roosevelt Av	1	6	1.1	5.6

Appendix A (Cont'd)

Queens

Priority Corridors

Street Name	From	To	Ped Fatalities (2009-2013)	Ped KSI (2009-2013)	Miles	Ped KSI per mile (2009-2013)
111 Av	Van Wyck Exwy	Guy R Brewer Blvd	1	6	1.1	5.6
Hempstead Av	Jamaica Av	Cross Is Pkwy	2	6	1.1	5.5
Myrtle Av	Wyckoff Av	Jamaica Av	4	22	4.3	5.2
104 St	Jamaica Av	Rockaway Blvd	0	6	1.2	5.1
Grand Av	Grand St Br	Queens Blvd	0	14	2.8	5.0
81 St	Grand Central Pkwy	41 Av	1	7	1.4	4.9
Grove St	St Nicholas Av	Traffic Av	0	5	1.0	4.9
111 St	Corona Av	37 Av	0	5	1.0	4.9
South Rd	Remington St	Merrick Blvd	0	6	1.2	4.8
23 St	36 Av	Jackson Av	0	5	1.1	4.6
Parsons Blvd <i>[north leg]</i>	Rose Av	144 Pl	1	14	3.0	4.6
Guy R Brewer Blvd	Jamaica Av	Rockaway Blvd	3	17	3.7	4.6
34 Av	Vernon Blvd	Northern Blvd	0	7	1.6	4.4
Merrick Blvd	Hook Creek Blvd	Hillside Av	4	21	4.8	4.4
160 St	90 Av	Claude Av	1	5	1.2	4.3
Palmetto St	Wyckoff Av	Traffic Av	1	5	1.2	4.3
Cypress Av	Flushing Ave	J Robinson Pkwy	1	9	2.2	4.2
35 Av	Broadway	105 St	1	8	1.9	4.1
82 St	Grand Central Pkwy	Baxter Av	1	6	1.5	4.1
Cross Bay Blvd	Woodhaven Blvd	Joseph P Addabbo Br	4	10	2.5	4.0
Metropolitan Av	Onderdonk Av	Jamaica Av	3	23	5.7	4.0

*Nearest cross street, corridor ends at dead-end.

Appendix B

Queens

Priority Intersections

DOT identified **72 Priority Intersections** in Queens, which cumulatively encompass **15% of the borough's total pedestrian KSI** and approximately **1% of all its intersections**.*

Intersection	Ped KSI (2009-2013)	Ped Fatalities (2009-2013)
71 St & Grand Av	6	0
Albion Av & Queens Blvd & Hillyer St	6	0
27 St & Qn Plz	6	1
Union St & Northern Blvd	5	2
Parsons Blvd & Hillside Av	4	0
Springfield Blvd & Hempstead Av	4	0
71 Av & Queens Blvd & 108 St	4	1
Woodhaven Blvd & Jamaica Av	4	3
169 St & Homelawn St & Hillside Av	4	0
Sanford Av & Kissena Blvd	4	0
Elder Av & Main St	4	0
Wyckoff Av & Palmetto St & Myrtle Av	4	1
Fresh Pond Rd & Putnam Av	4	1
44 St & Queens Blvd	4	1
Davis St & 23 St & Jackson Av	4	0
71 Av & Metropolitan Av	4	1
Sutphin Blvd & South Rd	4	0
102 St & Northern Blvd	4	1
Main St & Roosevelt Av	3	0
Archer Av & Parsons Blvd	3	0

Intersection	Ped KSI (2009-2013)	Ped Fatalities (2009-2013)
Merrick Blvd & Linden Blvd	3	0
108 St & Hor Harding Exwy	3	0
156 Av & Cross Bay Blvd	3	0
Francis Lewis Blvd & Hollis Av	3	0
Woodhaven Blvd & Metropolitan Av	3	1
Union St & Sanford Av	3	0
Hillside Av & 166 St & Merrick Blvd	3	1
82 St & Roosevelt Av	3	1
Lefferts Blvd & Atlantic Av	3	0
Rockaway Blvd & Lefferts Blvd	3	2
73 St & Roosevelt Av	3	0
Kissena Blvd & 71 Av	3	0
Queens Blvd & 80 Rd & Kew Gdns Rd	3	2
Parsons Blvd & Roosevelt Av	3	0
87 St & Northern Blvd	3	0
169 St & 26 Av & Francis Lewis Blvd	3	0
188 St & 73 Av	3	1
80 St & Northern Blvd	3	1
Seneca Av & Myrtle Av & Hancock St	3	0

*To select a set of Priority Intersections that account for approximately 15% of pedestrian KSI, a “tiebreaker” system was necessary. To break the tie amongst intersections with three pedestrian KSI, a cut-off at four pedestrian injuries was used. Intersections that had three pedestrian KSI and four or more pedestrian injuries were included; intersections with less pedestrian injuries were excluded.

Appendix B (Cont'd)

Queens

Priority Intersections

Intersection	Ped KSI (2009-2013)	Ped Fatalities (2009-2013)
Springfield Blvd & S Conduit Av	3	0
30 St & 34 Av	3	0
35 Av & 81 St	3	1
Sutphin Blvd & Archer Av	2	0
Queens Blvd & Grand Av & Broadway	2	0
63 Rd & 63 Dr & Queens Blvd	2	0
Main St & Booth Memorial Av	2	0
59 Av & Queens Blvd & Woodhaven Blvd	2	1
Sutphin Blvd & Linden Blvd	2	1
Sutphin Blvd & Jamaica Av	2	0
43 Av & Hampton St & 91 Pl	2	1
Springfield Blvd & Jamaica Av	2	0
Union St & 39 Av	2	0
Union St & 35 Av	2	0
Beach Channel Dr & Mott Av	2	0
Union Tpke & Main St	2	0
104 St & Roosevelt Av	2	0
55 Av & Queens Blvd	2	0
Springfield Blvd & Hillside Av	2	0
Jamaica Av & Forest Pkwy	2	0
88 Av & Parsons Blvd	2	0
205 St & Hillside Av	2	0

Intersection	Ped KSI (2009-2013)	Ped Fatalities (2009-2013)
172 St & Hillside Av	2	0
Jamaica Av & Guy R Brewer Blvd	2	0
Junction Blvd & 59 Av	2	0
62 Dr & Junction Blvd	2	0
Union St & 31 Rd	2	0
Northern Blvd & 146 St	2	0
160 St & Jamaica Av	2	0
Roosevelt Av & College Pt Blvd	2	0
Broadway & 45 Av & Elmhurst Av	2	0
108 St & 63 Dr	2	0
Roosevelt Av & Case St	2	1

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