



AUTOMATED SPEED ENFORCEMENT PROGRAM REPORT

2014-2016





Executive Summary

In 2013 the State Legislature and Governor Cuomo enacted Sec. 1180-b of New York State's Vehicle and Traffic Law (VTL), which granted New York City the authority to pilot an automated speed enforcement program to deter speeding in 20 school zones. The first speed camera violation was issued in January 2014. In June 2014, the pilot was expanded to 140 school zones, in order to support the pursuit of the City's Vision Zero goal to eliminate traffic deaths and serious injuries. This report covers data from the program from its inception through December 2016.

Deterrence of speeding is the program's lone goal. The faster a vehicle is moving the harder it is for the driver of that vehicle to avoid a crash. In fact, a driver at 40 MPH needs 300 feet to perceive, react and brake to an unexpected event – twice as far as a driver at 25 MPH, who only needs 150 feet. A pedestrian who is struck by a vehicle traveling at 30 MPH is twice as likely to be killed as a pedestrian struck by a vehicle traveling at 25 MPH.

The City's speed camera program proves highly effective at deterring speeding. Speeding during school hours at typical fixed camera locations drops more than 63 percent. Despite the fact that the City is prohibited from using speed cameras during the majority of the year, injuries at these locations have dropped over 14 percent.

However, 85 percent of deaths and severe injuries occur at times or places where the law prohibits the use of speed cameras to deter speeding. The camera program will protect more New Yorkers from serious crashes if the State Legislature grants the City more autonomy to run the program according to internationally recognized best practices. Accordingly, the City supports legislation which would authorize the City to place speed cameras on high-crash streets near schools, increasing the number of school zones at which the City can use a speed camera to deter speeding, and expanding the number of hours at which the City can operate speed cameras.

Speeding is a Leading Cause of Fatal Traffic Crashes

Deterring speeding is critical because the faster a vehicle is moving the harder it is for the driver of that vehicle to avoid a crash. In fact, a driver at 40 MPH needs 300 feet to perceive, react and brake to an unexpected event – twice as far as a driver at 25 MPH, who only needs 150 feet.

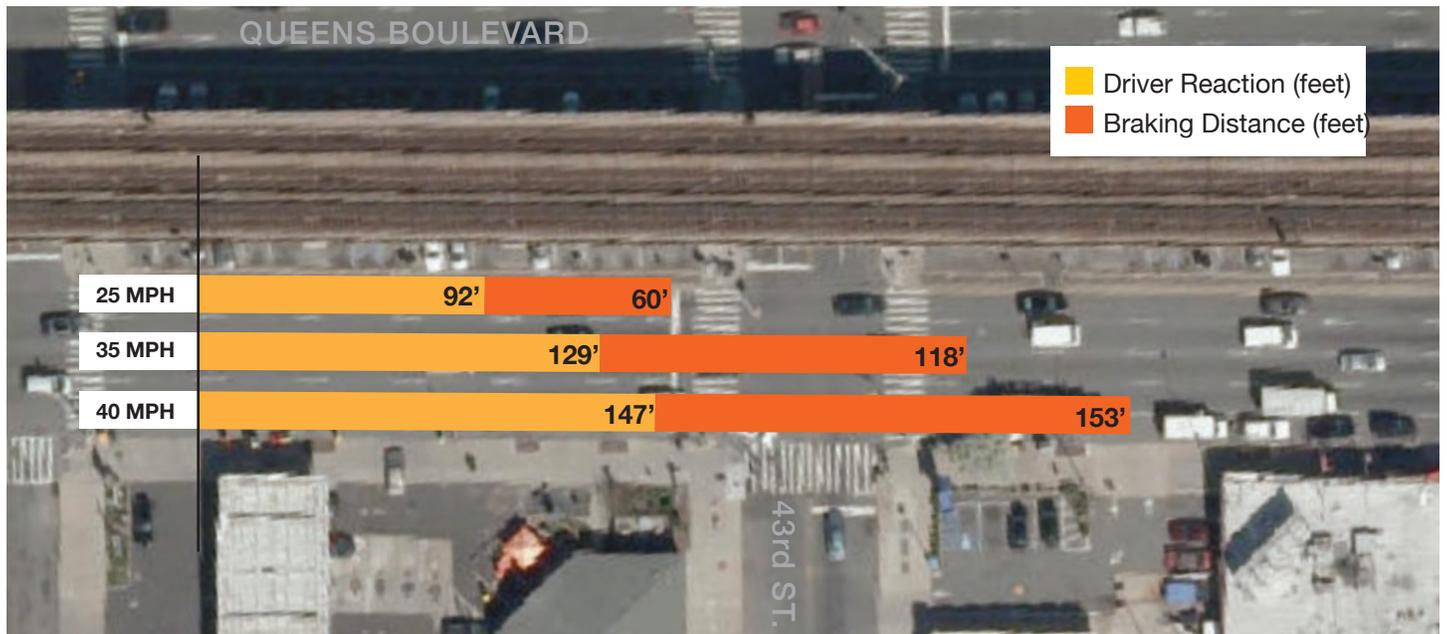
And the faster a vehicle is moving when a crash occurs, the more damage it will cause upon impact. Even a small difference in vehicle speed makes a big impact in terms of safety – a pedestrian who is struck by a vehicle traveling at 30 MPH is twice as likely to be killed as a pedestrian struck by a vehicle traveling at 25 MPH.

Indeed, for these reasons combating excessive speeding was the leading recommendation provided by New York City residents during the Vision Zero town halls and workshops held by the New York City Department of Transportation (DOT) and New York City Police Department (NYPD) in 2014 - and is continually cited as a top concern today.



These facts inform the New York City's Vision Zero initiative's focus on speed management. The City uses a variety of approaches aside from speed cameras, including increased installation of speed bumps, focused NYPD enforcement, signal reprogramming, and street redesigns to combat speeding. This effort has contributed to the fact that the first three years of the Vision Zero program are the three safest years, in terms of traffic fatalities, since the City began keeping records in 1910.

STOPPING SIGHT DISTANCE



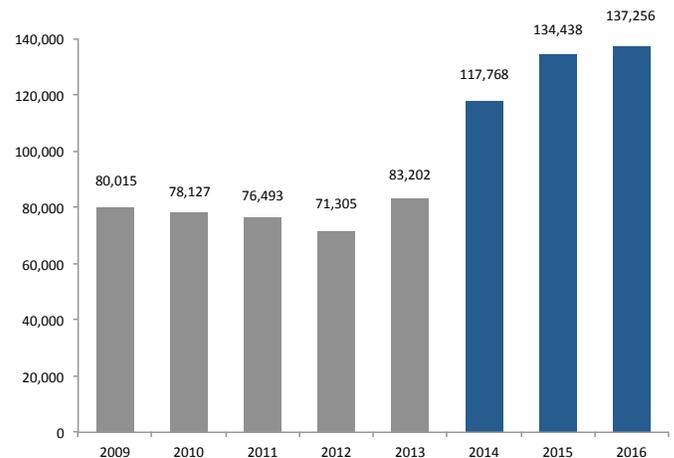
Solutions to the Speed Problem

The City uses a variety of methods to encourage people to drive at safe speeds. DOT and NYPD frequently assess the speeding condition in neighborhoods across the City, and identify the appropriate solutions for each context.

ENFORCEMENT

NYPD enforcement of the speed limit deters law-breaking. Traditional speeding summonses carry significant financial penalties, along with points on the driver's operating record and significant consequences for the driver's insurance. In 2016 NYPD issued 137,000 speeding summonses, an increase of over 75 percent from the years prior to Vision Zero.

NYPD ISSUED SPEEDING SUMMONSES



SPEED LIMITS

Speed limits promote road safety by establishing an upper limit on speed appropriate for the street's design, vehicle volume and pedestrian density. On November 7, 2014, New York City reduced the citywide default speed limit to 25 MPH, and has installed over 5,000 new speed limit signs, each with a rider alerting motorists to the use of Photo Enforcement.



SPEED BUMPS

Speed bumps are a raised area of a roadway, typically 3 to 4 inches, which deflects the wheels and frame of a traversing vehicle to reduce vehicle speed. Speed bumps are not appropriate for use on bus routes or truck routes, which limits their application on many of the City's most crash prone corridors. In 2016 the City installed 405 speed bumps, which is more than double the pace of installation in the years prior to Vision Zero.



Solutions to the Speed Problem

STREET DESIGN

Street design strategies which reduce speeding typically remove excess width from existing traffic lanes, or reassign traffic lanes to provide space for pedestrians, bicyclists or parking. Traffic calming is a context-dependent approach to reducing excessive speeding. The City has increased the number of safety engineering projects completed in locations with high rates of severe pedestrian crashes by over 160 percent since the start of Vision Zero.



Intervale Avenue, Bronx

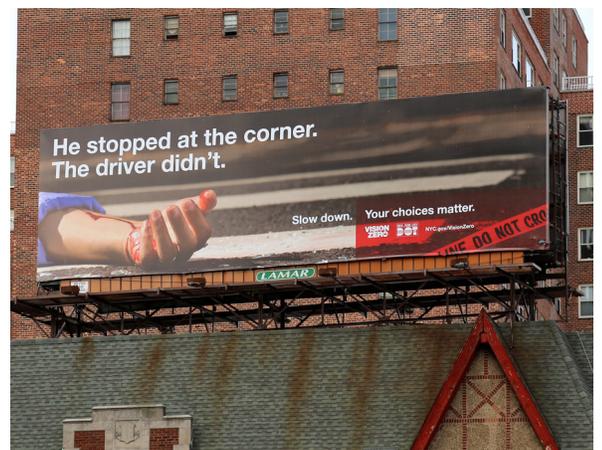
STREET TEAMS

Vision Zero Street Teams are an NYPD-DOT joint on-street outreach project which works together to identify corridors with significant crash history, along with the causes of those crashes. NYPD and DOT staff then spend a week distributing tens of thousands of fliers to pedestrians and drivers with safety tips, addressing the most common causes of those serious crashes. The following week, the NYPD focuses its enforcement resources on those traffic violations which cause serious crashes along that same corridor. These teams have been deployed in every corner of the city, and in 2016 this effort resulted in over 577,000 on-street contacts, 15,000 moving violations and 144 traffic-related arrests for DWI and other serious vehicle-related offenses.



EDUCATION

Public education is a key aspect of the City's strategy to combat speeding. The City has deployed hard-hitting ads on television, radio, billboard, bus stops and elsewhere to alert aggressive drivers of the consequences of their behavior. These ads have proven effective: 72 percent of drivers recall having seen the paid media campaign, 75 percent of those drivers report that the advertisements led them to expect more enforcement of traffic laws, and 86 percent of those drivers report that the ads persuaded them to pay more attention to pedestrians and cyclists while driving.



Effectiveness of Speed Cameras

Speed cameras are a new addition to New York State, but they are not a new technology. Speed cameras have been proven to be effective at reducing speeding related crashes in many jurisdictions around the world and within the United States. Over 140 U.S. communities use speed cameras to enforce the speed limit.

Studies from Europe and Australia, which have more experience with speed cameras, show that these programs substantially reduce speeding violations and injury crashes. Large scale deployment of speed cameras are central to traffic safety programs in these nations, because speed management is the key to preventing serious crashes. These programs are designed to deter speeding at all hour of the day, throughout the jurisdiction. Indeed, the experience of these cities and nations is that speed camera systems which operate 24 hours a day, 365 days a year, and are consistently applied on all major streets, issue very few violations while also preventing speeding and speed related crashes.

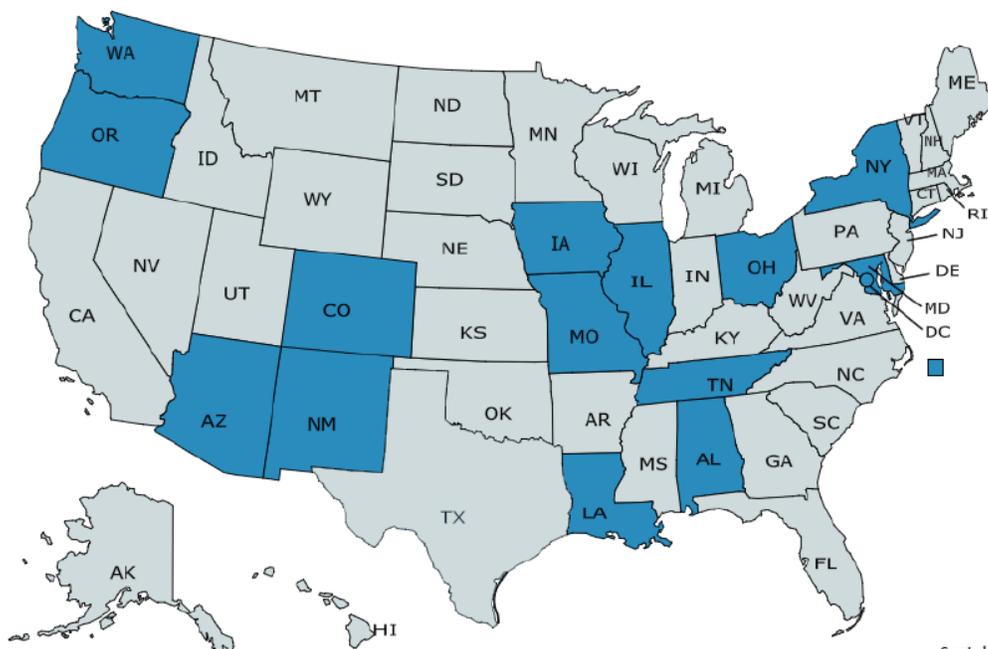
A systematic analysis and review of studies of speed camera effectiveness reported 14-65 percent reductions in the percentage of vehicles traveling above the speed limits or above designated speed thresholds relative to streets which did not have camera enforcement. These

jurisdictions showed 11-44 percent reductions in crashes involving fatalities and serious injuries in the vicinity of speed camera sites.

There have been strong, multi-year evaluations of speed camera programs in Montgomery County, MD and in the District of Columbia which find substantial declines in speeding after camera enforcement commences. Evaluations of the Montgomery County, Maryland program showed that speed cameras led to a 39% reduction in the likelihood that a crash involved an incapacitating or fatal injury. Researchers estimate that the program averted nearly 500 deaths or incapacitating injuries on 25 MPH to 35 MPH residential streets from 2004-2013.

Speed cameras work at deterring illegal speeding in the United States and abroad because these programs provide consistent and predictable enforcement of the speed limit.

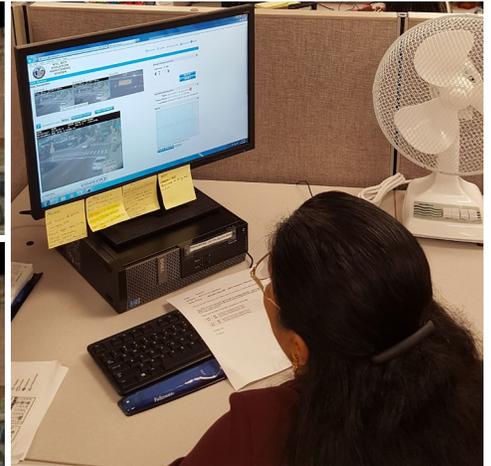
STATES WITH SPEED CAMERA PROGRAMS



New York City's Speed Camera Program

The goal of the program is to provide predictable and consistent enforcement which is proven to deter excessive speeding.

NYC's speed camera program uses the same radar and laser technology relied upon by law enforcement to measure a vehicle's speed. If the system's radar finds that the vehicle is exceeding the speed limit by more than ten miles per hour, images of the rear of the vehicle is recorded, including the license plate. The violation is reviewed by a trained DOT staff technician for accuracy. If the technician verifies that the identified vehicle was exceeding the speed limit by more than ten miles per hour within a school speed zone during school hours, he or she will issue a Notice of Liability (NOL).



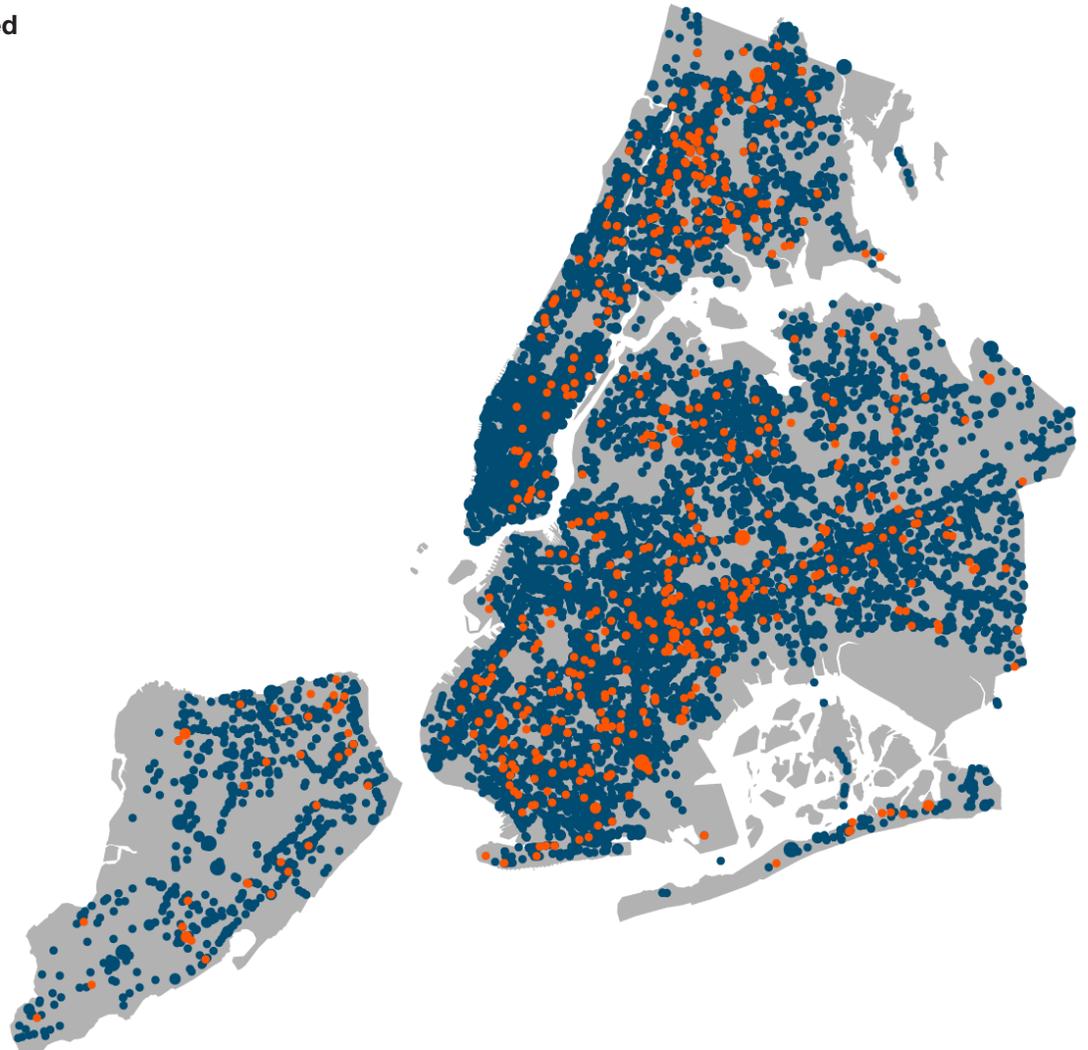
KSI (All Modes) where Speed Cameras are Prohibited

Children (5-17)

- 1
- 2
- 3

All Other Ages

- 1
- 2
- 3



The fine associated with a speed camera NOL is \$50, regardless of the speed by which the vehicle was exceeding the speed limit, or whether it was a repeat offense. This is far less than the cost of a summons issued by a police officer for speeding in a school zone, which could range on the first offense from \$180-\$600, depending on the motorist's speed and prior record, plus a \$88 state surcharge. In addition, a conviction on a summons issued by a police officer will become part of the vehicle operator's driving record, and influence their insurance rates; in contrast, the only penalty for being observed exceeding the speed limit by 10 MPH or more in a speed camera enforced zone is \$50.

The law prohibits the City from using the speed camera program to issue violations for law-breaking speeding unless it is observed within 1,320 feet of a school; on a street abutting a school building, entrance or exit; and within one hour before, after, or during school hours, or a half hour before, after or during school activities. These restrictions limit the effectiveness of the program, because it prevents the City from using speed cameras to deter speeding at the most high-crash places and during the most high-crash times of day. In fact, from 2009-2014, 85 percent of fatal and severe injury crashes occurred in places or at times where the City is prohibited from using speed cameras.

	Fine for Exceeding Speed Limit	Insurance Consequences	DMV Points	Increase for Repeat Offense
Speed Camera Violation	\$50	No	No	No
Police Issued Speeding in a School Zone Summons	\$180-\$600 + \$88 State Surcharge	Yes	Yes	Yes



The City can only use speed cameras for enforcement within school speed zones, which are defined by law as the street abutting the school building or property within 1,320 feet of the school. In order to prioritize where the City would install fixed speed cameras, DOT analyzed each school zone and ranked them according to the number of traffic injuries during school hours on school days. In addition to this crash data, DOT considered speeding data, the roadway geometry, engineering judgment and the crash history of that school speed zone. In addition, DOT used the 2015 Pedestrian Safety Borough Plans, which identified the corridors,

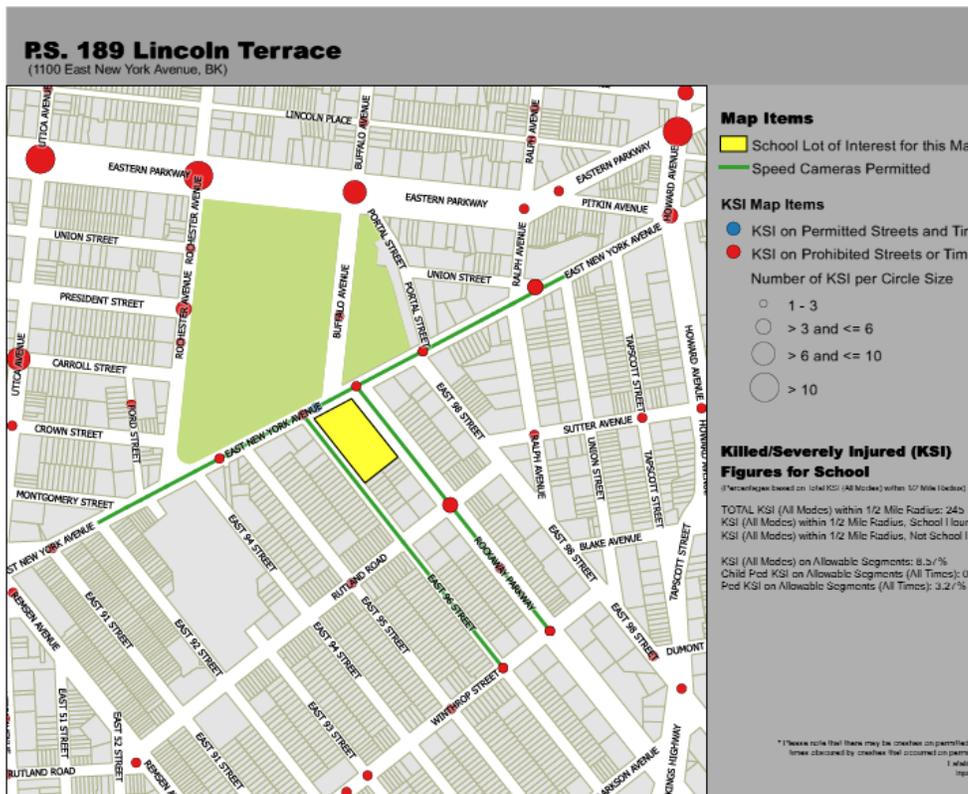
intersections and areas with the highest concentrations of pedestrian fatalities and serious injuries in each borough.

State law only authorizes the use of speed cameras within 140 of the City’s over 2,300 school zones. DOT extends the deterrent effect of the program by using 40 mobile cameras which are repositioned frequently throughout the City. These mobile units were activated at 875 school zone locations since the program began.

School Zone and School Hour Restrictions

While siting the 100 fixed cameras, DOT found that the high-speed streets with high rates of injury crashes which school children and other pedestrians must cross on their way to a school building are often not within the restrictive definition of a school zone under current law.

In many instances the school is near, yet not adjacent, to high crash streets which would benefit from the speed camera’s consistent enforcement. Indeed, DOT is not able to use speed cameras at most high speed locations around the City– approximately 65 percent of speeding complaints identified by New York residents through the Vision Zero Input website were locations which are not eligible for a speed camera.



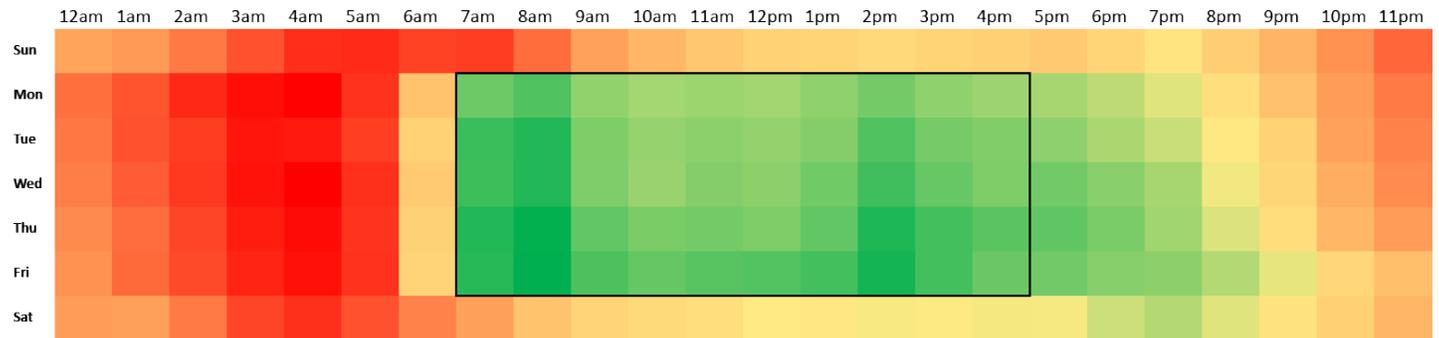
Students and parents frequently cross Eastern Parkway, a high crash roadway, to get to PS 189 in Brownsville – however Eastern Parkway is not within PS 189’s School Zone.

The law only allows the City to deter speeding with speed cameras (1) on school days during school hours, and one hour before and one hour after the school day; and (2) during student activities at the school and up to 30 minutes immediately before and up to 30 minutes immediately after such student activities. This restriction reduces the effectiveness of the speed camera program because in New York City approximately 85 percent of fatal and serious injury crashes occur at times other than school hours on school days. A DOT analysis of crashes from 2010 through 2016 found that fewer than 1 in 10 speeding deaths occurred on school days during school hours.

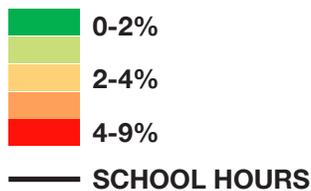
Accordingly, the City supports legislation that would authorize the placement of speed cameras at high crash locations near a school, and would allow their use during the most critical hours of the day.

As the chart below shows, speeding at locations with speed cameras increases soon after the speed cameras are deactivated at the end of the school day. In fact, the share of vehicles exceeding the speed limit by more than 11 MPH during the hours that the cameras are deactivated is 146% higher than during the school hours when the cameras are active.

SPEEDING BY TIME OF DAY



Percent observed vehicles speeding 11 MPH and above by speed cameras.



Fewer than 1 in 10 speeding deaths occurred on school days during school hours.

SIGNAGE

Before a fixed camera is activated, DOT installs a speed limit sign with a “Photo Enforced” rider on relevant approaches in order to increase awareness and understanding of the program. DOT has installed over 4,500 of these “Photo Enforced” riders throughout the City, contributing to the essentially universal awareness of the City’s usage of insert automated speed enforcement.

The City is proposing to require signage within 300 feet of a school speed zone as part of any program expansion.

In addition, cities which announce the location of automated speed enforcement find that although a substantial reduction in vehicle speeds is achieved at the speed camera site, motorists tend to accelerate almost immediately after passing the speed camera. By not announcing locations, the City seeks to encourage compliance with the speed limit even outside of speed camera enforced school zones.



Results

The consistent and predictable enforcement provided by the program has proven effective at deterring speeding during school hours. The data indicates that the drop in speeding is making New Yorkers safer: injury crashes have dropped over 14 percent after the camera is activated, during all hours of the day, despite the fact that the cameras are deactivated during most of the year.

COLLISIONS IN SPEED CAMERA ENFORCED SCHOOL ZONES

State law requires the City to report on injuries in speed camera enforced school zones using state-issued data to the extent such data is available from the New York State Department of Motor Vehicles (NYS DMV).

The crash data NYC DOT relies upon originates in motor vehicle accident reports compiled by New York City police officers at crash scenes. The individual paper crash reports are sent by NYPD to the DMV and State DOT, who enter the information into electronic databases, attribute locations to the collisions, categorize traffic injuries by severity and identify errors – a process which takes well over a year. DMV has not released a complete set of crash data for any speed camera enforced school zone. Once this complete data is provided by DMV, further analysis of injury severity and crash causality, and other relevant factors will be possible.

A review of crash data derived from NYPD crash reports for school zones within which NYC DOT installed speed cameras in 2014 indicates that the overall number of people injured in traffic declined by over 14 percent in the period after the cameras were activated.

BEFORE/AFTER CHANGE IN CRASHES AND INJURIES IN SCHOOL ZONES WITH SPEED CAMERAS

(Before: 3 years prior to installation
After: an average of the full years after installation)

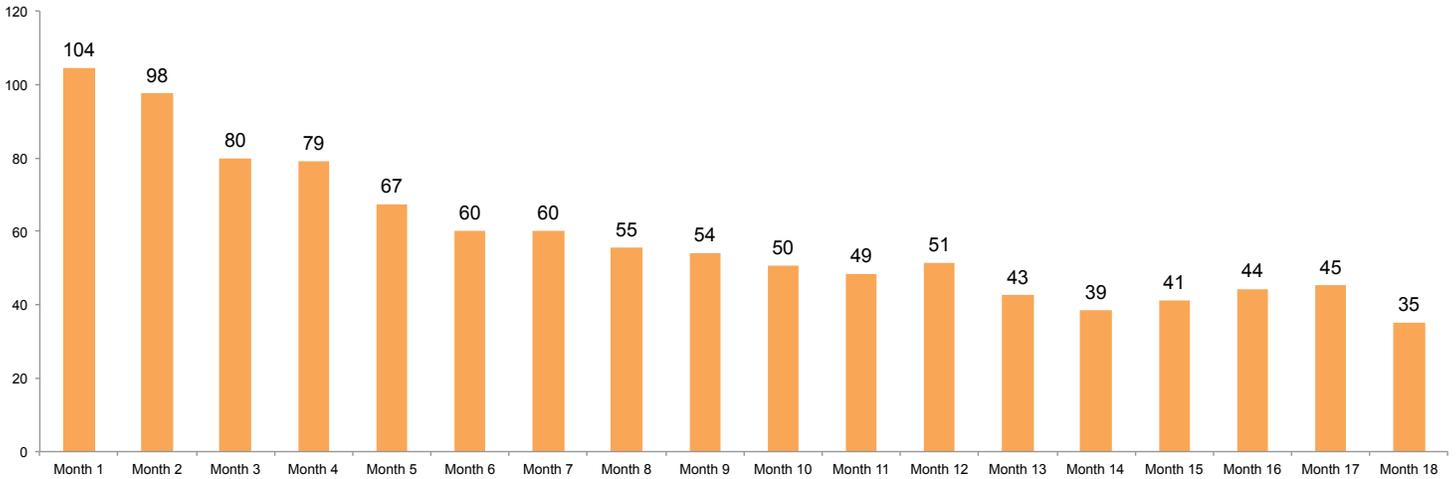
	Before Period, Citywide	After Period, Citywide	Percent Change
CRASHES			
Total Crashes	7,980	7,361	-7.8%
Crashes w/ Injuries	1,833	1,556	-15.1%
INJURIES			
Motor Vehicle Occupant	1,914	1,665	-13.0%
Pedestrian	541	415	-23.3%
Cyclist	142	132	-7.0%
Total Injuries	2,597	2,213	-14.8%

The overall number of people injured in crashes in school zones with speed cameras declined by over 14 percent in the period after the cameras were activated.

SPEEDING VIOLATIONS WITHIN CAMERA ENFORCED SCHOOL ZONES

The consistent and predictable enforcement provided by speed cameras leads to fewer violations over time. The data below shows the decline from all fixed speed zone cameras which were installed in 2014 and 2015. The daily rate of violations issued for excessive speeding in school zones at the typical camera has declined by over 60 percent, from 107 in the camera's first month to 40 in the camera's most recent month.

AVERAGE DAILY VIOLATION AT TYPICAL SPEED CAMERA LOCATION BY MONTH



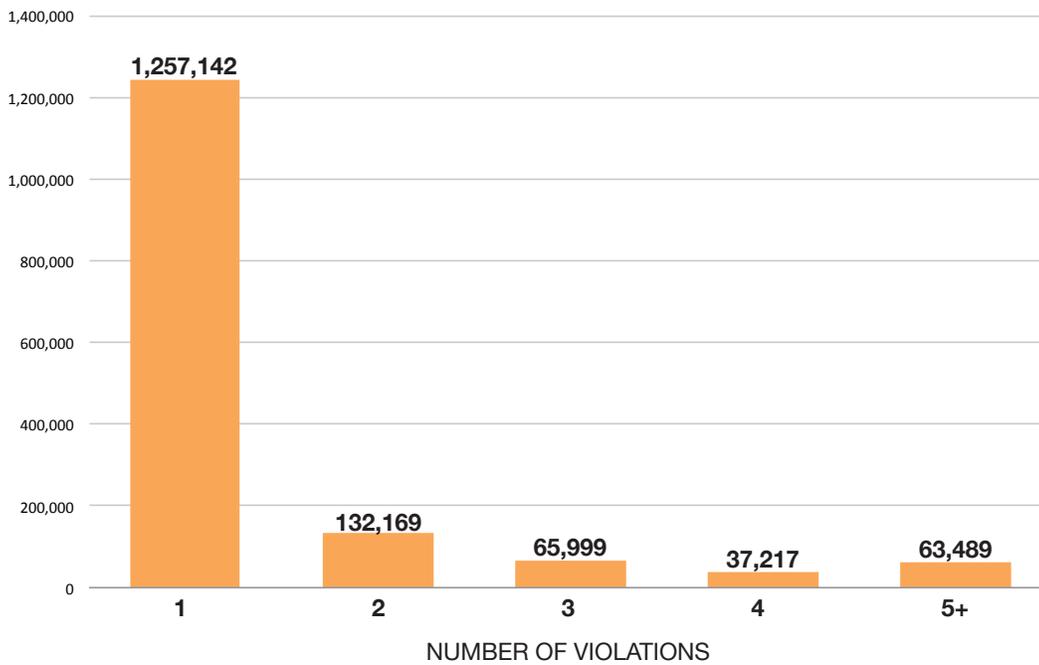
DECLINE IN SPEEDING DURING SCHOOL HOURS ON KEY CORRIDORS (DAILY AVERAGE)

Midland Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>96</td><td>42</td></tr> </table> <p>-56%</p>	FIRST MONTH	DEC 2016	96	42	Atlantic Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>518</td><td>182</td></tr> </table> <p>-65%</p>	FIRST MONTH	DEC 2016	518	182	Park Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>39</td><td>10</td></tr> </table> <p>-74%</p>	FIRST MONTH	DEC 2016	39	10
FIRST MONTH	DEC 2016													
96	42													
FIRST MONTH	DEC 2016													
518	182													
FIRST MONTH	DEC 2016													
39	10													
Ocean Parkway  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>432</td><td>104</td></tr> </table> <p>-76%</p>	FIRST MONTH	DEC 2016	432	104	Hillside Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>532</td><td>102</td></tr> </table> <p>-80%</p>	FIRST MONTH	DEC 2016	532	102	Grand Concourse  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>460</td><td>75</td></tr> </table> <p>-84%</p>	FIRST MONTH	DEC 2016	460	75
FIRST MONTH	DEC 2016													
432	104													
FIRST MONTH	DEC 2016													
532	102													
FIRST MONTH	DEC 2016													
460	75													
Baychester Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>216</td><td>60</td></tr> </table> <p>-72%</p>	FIRST MONTH	DEC 2016	216	60	Union Turnpike  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>590</td><td>127</td></tr> </table> <p>-78%</p>	FIRST MONTH	DEC 2016	590	127	Flatbush Avenue  <table border="1"> <tr><td>FIRST MONTH</td><td>DEC 2016</td></tr> <tr><td>506</td><td>75</td></tr> </table> <p>-85%</p>	FIRST MONTH	DEC 2016	506	75
FIRST MONTH	DEC 2016													
216	60													
FIRST MONTH	DEC 2016													
590	127													
FIRST MONTH	DEC 2016													
506	75													

REPEAT VIOLATORS

An analysis of the plates associated with speed camera violations indicates that vehicle owners who receive a speed camera violation are far less likely to receive a second violation. From 2014-2016, only 19 percent of plates are repeat violators (allowing one week after the first violation was observed).

REPEAT VIOLATORS



ADJUDICATION OF SPEED CAMERA VIOLATIONS

Each Notice of Liability outlines how individuals may request a hearing by mail or in person to contest a violation they believe was issued in error. From 2014-2016, approximately 2.5 percent of individuals who received an NOL requested a hearing to contest the violation. The other 97.5 percent of individuals declined their opportunity for a hearing and agreed to pay the violation after the NOL was issued.

Pursuant to Section 1180-b of the New York State Vehicle and Traffic Law and through its Parking Violations Bureau, the New York City Department of Finance (NYC DOF) is authorized to conduct hearings, either by mail or in person, in any of NYC DOF's five Borough Business Centers. Once the Administrative Law Judge (ALJ) determines the NOL presents a prima facie case, the ALJ will conduct a hearing on the merits of any defense presented. The ALJs review witness statements, as well as other types of documentary evidence, to afford the vehicle owner the opportunity to refute the prima facie case and establish a meritorious defense. ALJs are even permitted to consider hearsay evidence, and other evidence which may not be admissible in a traditional court of law, in order to provide a vehicle owner with the opportunity to refute the NOL.

At hearing, approximately 98 percent of contested NOLs are upheld. In other words, less than 0.05% of the speed camera violations issued between 2015 and 2016 were overturned by an ALJ.

ADJUDICATION RESULTS

	Total	Percent of Total Violations Issued
Speed Camera NOL Issues	2,861,909	100%
Speed Camera Hearings Requested 2014-16	70,182	2.45%
NOL Upheld at Hearing	66,727	2.33%
NOL Overturned at Hearing	1,434	0.05%

Revenue and Expenses

SPEED CAMERA PROGRAM SUMMARY (CALENDAR YEAR 2014-2016)

OPERATING COSTS	\$ 42,981,898
CAPITAL COSTS	\$ 26,478,548
TOTAL COSTS	\$ 69,460,446
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SPEED CAM REVENUE	\$ 122,674,189
NET REVENUE	\$ 53,213,743

VISION ZERO PROGRAM SUMMARY (FISCAL YEAR 2014-2017)

EXPENSE COSTS	\$ 178,043,000
CAPITAL COSTS	\$ 700,011,000
TOTAL COSTS	\$ 878,043,000

The goal of the speed camera program is to reduce speeding. As the program becomes more successful at increasing compliance with the speed limit, fewer violations will be issued and fewer fines will be paid.

From January 2014 through July 2017, the City of New York has spent or committed to spend over \$878 million in capital and expense funds in furtherance of Vision Zero.