

2016

CITY OF CHICAGO
AUTOMATED ENFORCEMENT PROGRAM

ANNUAL REPORT

2016 Annual Report | A Note from the Commissioner

On behalf of the Chicago Department of Transportation (CDOT), I am pleased to present our third annual status report on the City of Chicago's two automated enforcement programs: Red Light Camera Enforcement and Automated Speed Enforcement. CDOT remains committed to transparency in automated enforcement operations, as well as to educating the public about how our two automated enforcement programs work and the traffic safety benefits they provide to the residents of Chicago.

Since the launch of automated enforcement in 2003, Chicago has seen a 40 percent reduction in traffic crashes resulting in injuries or fatalities. The latest traffic safety data shows injury crashes are declining at a faster rate in automated speed enforcement zones than in the rest of the city. An analysis of citywide traffic crash data for 2014 found that in the 21 Child Safety Zones where an ASE camera was installed in 2013, injury crashes were down 18 percent between 2012 and 2014, compared to only a four percent reduction citywide.

Early in 2017, the Northwestern University Transportation Center released a study of Chicago's Red Light Camera program that found it has delivered "significant safety benefits," including a 19 percent reduction in side-angle and turning crashes (the type of crashes that cause the most serious injuries) and a 10 percent reduction in all injury-producing crashes. The Northwestern study was also the first

to document a measurable "spillover effect," meaning crashes also decreased at intersections without cameras.

I am proud that Mayor Emanuel announced in 2016 that the City of Chicago is expanding its commitment to saving lives and preventing serious injuries by launching Vision Zero Chicago, joining an international movement to make streets safer for people walking, biking and driving. The goal of the Vision Zero initiative is to reduce the number of roadway crashes and eventually eliminate all traffic fatalities and serious injuries in Chicago by 2026. The Vision Zero Chicago Action Plan, to be released in 2017, will seek to inspire a culture of safety through education and outreach. It will lay out a data-driven, multi-agency approach that prioritizes improving roadway design and focuses education and enforcement on the most dangerous driving behaviors. I hope you and your friends and neighbors can learn more about Vision Zero and will join CDOT and our traffic safety partners in this life-saving effort.

Rebekah Scheinfeld
Commissioner



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Background on Red Light Camera Enforcement

On July 9, 2003, the City of Chicago enacted an ordinance authorizing the use of automated red light enforcement at signalized intersections throughout the city. The Chicago Department of Transportation (CDOT) managed the program when it began in 2003 and continued until 2006, then the responsibility shifted to the Office of Emergency Management and Communications (OEMC). Those management responsibilities were then returned back to CDOT in January 2010.

In 2003, the City contracted with Redflex Traffic Systems, Inc., to install, test, operate, and maintain all hardware, software, and equipment communications to enable a citywide automated red light enforcement program in Chicago. The first automated red light enforcement cameras were installed and activated in November 2003 at intersections with known safety concerns. By 2011, the program had grown to 384 automated red light cameras operating at 190 city intersections.

In February 2013, the City issued a request for proposals to continue the automated red light enforcement program. In October 2013, the City awarded Xerox State and Local Solutions, Inc./Conduent (Xerox) a five-year contract to continue the existing program. As required under the contract, Xerox replaced all of the red light camera hardware and software with modern, more reliable technology.

Since 2013, CDOT has annually conducted a review of safety at all red light camera locations. Certain intersections have been considered for the removal of automated enforcement when there are changes to driving behavior, as indicated by a low number of right-angle crashes. While all crashes are potentially hazardous, red light cameras are designed to reduce right-angle (or “t-bone”)

Number of Red Light Cameras by Year, 2003-2016



crashes because of the extreme danger to those involved. Angle crashes are most likely to result in serious injury or fatalities.* In late 2013, CDOT decided to remove 32 cameras from 16 intersections based on review of crash data. Another review in 2015 led to 46 cameras being removed from 23 intersections. As of December 2016, the City has 306 cameras operating at 151 intersections.

According to Illinois Department of Transportation (IDOT) data from 2005 to 2014** at 151 intersections that currently have red light cameras, there are 125 fewer angle crashes resulting in an injury or fatality per year — a decrease of 54 percent. See Appendix A for more information on how red light cameras work.

1 * Safety Evaluation of Red-Light Cameras - Executive Summary. Federal Highway Administration. 2005.

** 2015 IDOT crash data was not available at the time this report was developed.

Background on Speed Camera Enforcement

On February 6, 2012 the City of Chicago received authority from the State of Illinois to implement automated speed enforcement in Child Safety Zones within Chicago. CDOT identified 1,495 qualifying Child Safety Zones within the City limits. (See inset for more information.)

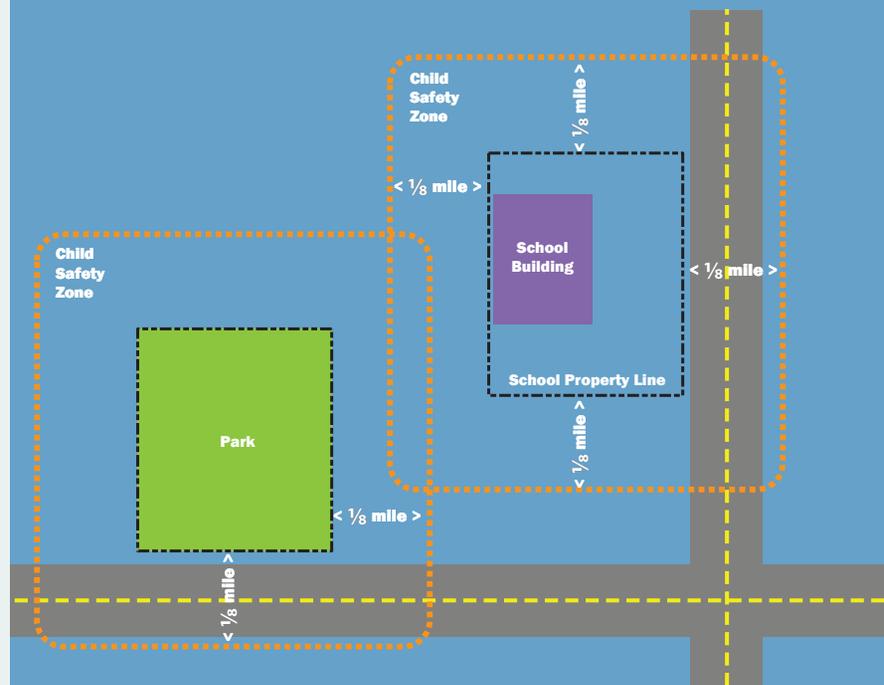
On March 14, 2012, the Chicago City Council enacted an ordinance authorizing CDOT to manage a program of speed cameras. The ordinance requires that no more than 20 percent of all eligible Child Safety Zones shall be equipped with an automated speed enforcement system. The ordinance also ensures that the program is spread across the city. The Commissioner of CDOT was directed to divide the city into six geographical regions; each region may have no fewer than 10 percent of the total number of camera-enforced Child Safety Zones in the city. To choose Child Safety Zone locations, the City uses a model that ranks safety zones based on total crashes, crashes involving a pedestrian or bicyclist, speed related crashes, serious/fatal crashes, crashes involving a person 18 or under, and census data. Taking into consideration the placement model rankings, locations for automated speed enforcement cameras are determined by speed studies, engineering factors, and geographic distribution for equity and efficiency.

The operation of the automated speed enforcement system and citation of violations is restricted to the following times and conditions according to the ordinance:

- If the Child Safety Zone is a school zone, then enforcement will only be on school days (including summer school), no earlier than 7:00 a.m. and no later than 7:00 p.m., Monday through Friday. For school zones that have a 20 miles-per-hour (mph) school speed limit, the speeding violation for that speed limit is only enforced between 7:00 a.m. and 4:00 p.m., and if a child is present at the location. Otherwise, the regular posted speed limit (typically 30 mph in Chicago) is enforced.

What is a Child Safety Zone?

A Child Safety Zone is defined by state law as an area located within one-eighth of a mile from the nearest property line of any public or private elementary or secondary school or area owned by a park district and used for recreational purposes. The area also extends to the nearest intersection.



- If the Child Safety Zone is a park zone, then enforcement will only be during the time the facility, area, or land is open to the public or other patrons.
- See Appendix B for more information on how speed cameras work.

In June 2013, the City awarded a contract to American Traffic Solutions, Inc. (ATS) to install, test, operate, and maintain all hardware, software, and equipment communications to enable a citywide automated speed enforcement program as authorized

by city ordinance and state law. The first automated speed enforcement camera in the City of Chicago began enforcing on August 26, 2013. There were 150 automated speed enforcement cameras operating in 63 Child Safety Zones as of December 31, 2016.

Data indicates that speed violations have decreased in the Child Safety Zones with speed enforcement cameras. On average, the number of violations per passing vehicle decreased by 56 percent from the first month of a camera's operation to the twelfth month.*

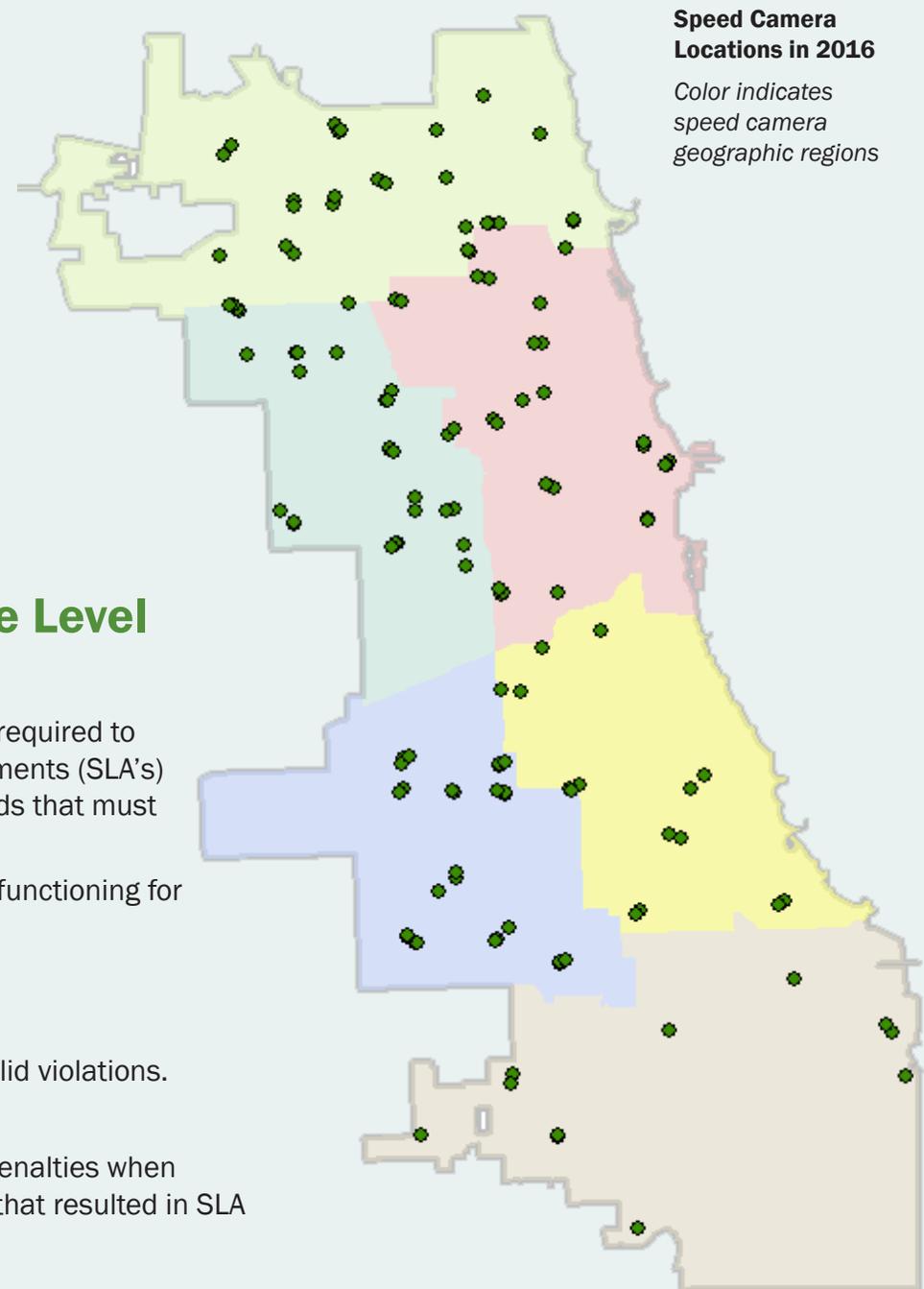
Additionally in 2016, 88 percent of drivers that were issued a ticket for speeding in a school zone and 73 percent of drivers that were issued a ticket for speeding in a park zone have not received a second ticket.

Automated Enforcement Vendor Service Level Agreements

The City's two automated enforcement vendors, ATS and Xerox, are required to meet specific performance criteria described as service level agreements (SLA's) in their contracts. The performance criteria set measurable standards that must be met by each vendor, including:

- A maximum allowable amount of time that cameras may not be functioning for maintenance or technical reasons.
- A total camera system uptime of 95 percent.
- Specific quality standards for captured images and video.
- A maximum allowable percentage of errors in identification of valid violations.
- Response timelines for maintenance and emergencies.

CDOT regularly monitors vendor performance, enforcing monetary penalties when performance falls below the set requirements. Performance issues that resulted in SLA penalties in 2016 included:



Red Light Camera SLA's – All of the SLA penalties assessed were for individual camera event quality issues being forwarded to the City for review. The penalties assessed to the City's vendor Xerox, State and Local Solutions, Inc./Conduent were \$2,069.48.

Speed Camera SLA's – The automated speed enforcement vendor American Traffic Solutions, Inc. was assessed \$3,858.14 in service level penalties in 2016, mostly for video footage requests not being fulfilled and possible violation event quality issues.

2016 Automated Enforcement Program – Year in Review

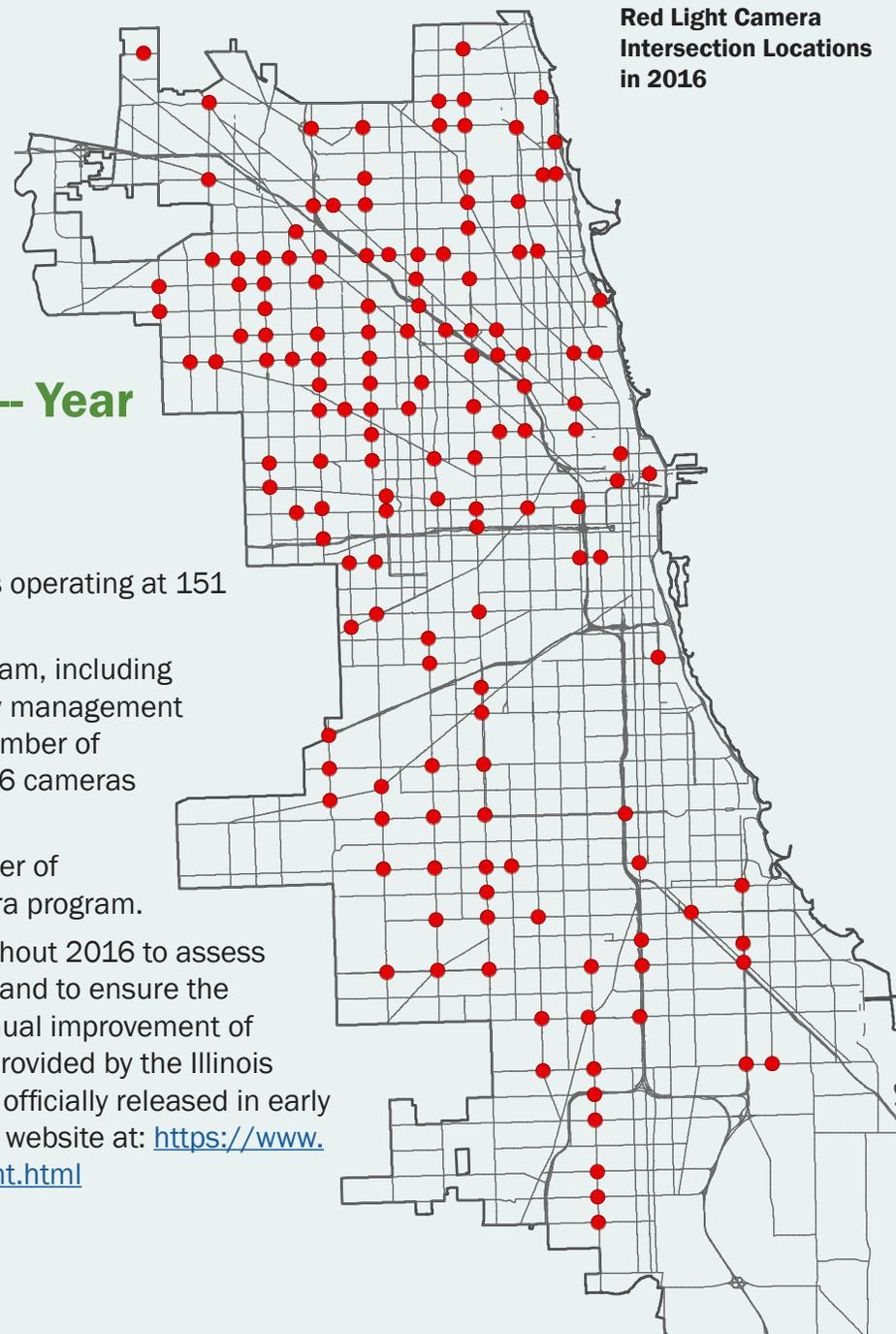
Red Light Camera Program

As of December of 2016, CDOT had 306 automated red light cameras operating at 151 intersections across Chicago.

In recent years the City has implemented a set of reforms to the program, including replacing the vendor and technology in early 2014, implementing new management reforms for better contract and system oversight, and reducing the number of cameras operating by more than 20 percent from 384 cameras to 306 cameras operating today.

In 2015 the Chicago City Council granted authority to the Commissioner of Transportation to engage in an academic study for the red light camera program.

The extensive study was conducted by Northwestern University throughout 2016 to assess the traffic safety impact of Red Light Camera enforcement in Chicago and to ensure the City is making the best utilization of the system, and to support continual improvement of the program. The academic team looked at crash and violation data provided by the Illinois Department of Transportation and the City of Chicago. This study was officially released in early 2017 and is available to the public and can be accessed on the CDOT website at: <https://www.cityofchicago.org/city/en/depts/cdot/provdrs/automated-enforcement.html>



Speed Camera Enforcement Program

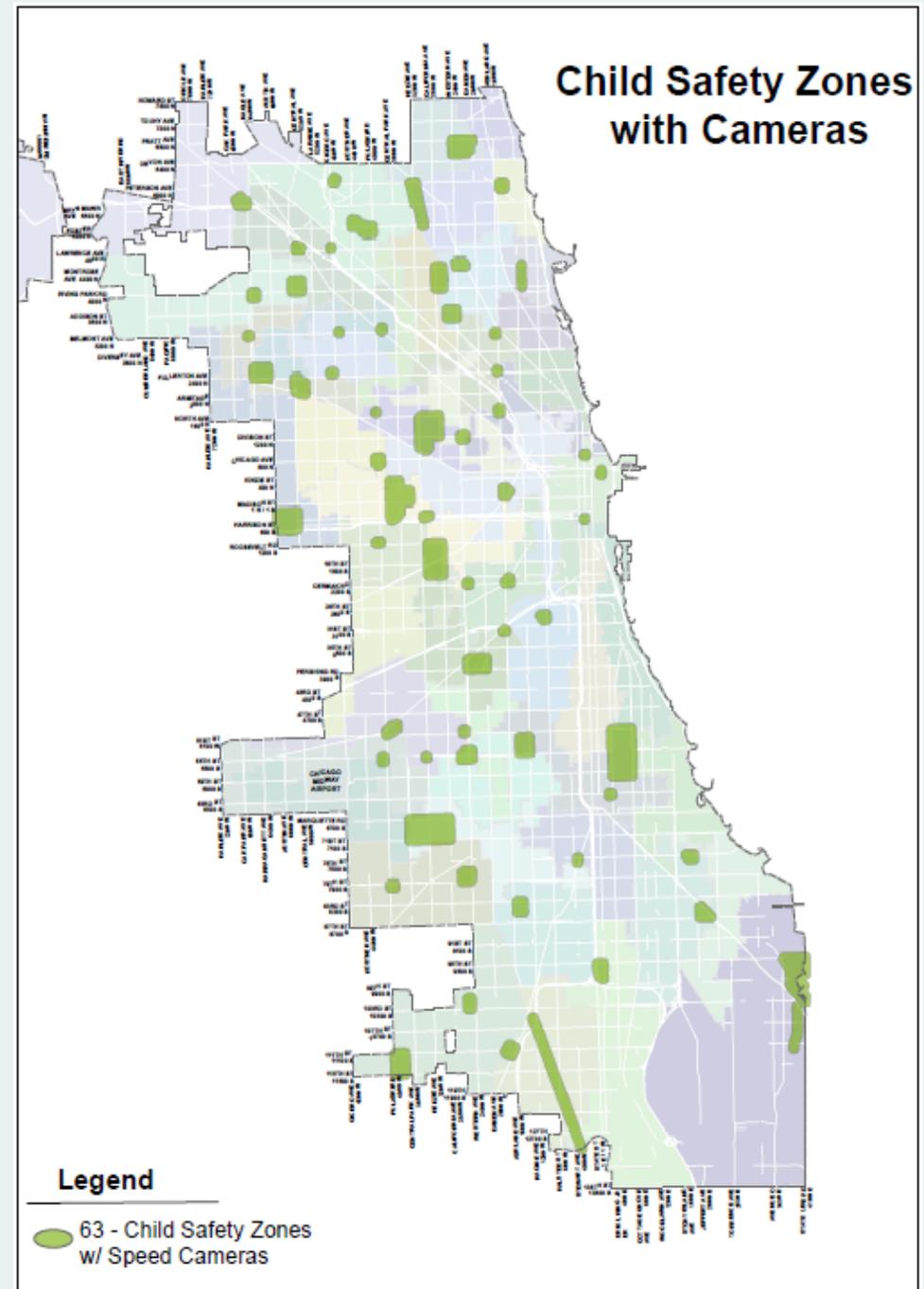
As of December of 2016, CDOT had 150 automated speed enforcement cameras deployed within 63 Child Safety Zones.

No automated speed cameras were added, removed, or relocated in 2016.

CDOT coordinates its efforts with the Chicago Department of Finance, who issues violations and collect the fines on behalf of the City. CDOT is in constant communication with entities including the Chicago Park District, Chicago Public Schools, and private schools to ensure that the automated speed enforcement cameras are operating only during school and park hours and as stipulated in the State law and City ordinance.

In addition to weekly calibrations of the speed enforcement cameras, CDOT, with its vendor, continue to maintain signage and stenciling that are installed in Child Safety Zones. Each safety zone with automated speed enforcement cameras on average has 23 warning signs indicating a camera is in operation. The City meets and exceeds the signage requirements in the state law and in the Manual on Uniform Traffic Control Devices (MUTCD) followed by transportation departments throughout the country.

All automated enforcement violations can be contested by mail or in person with the Department of Administrative Hearings if a motorist believes a violation was issued in error. Options and steps for contesting tickets are printed on each violation.

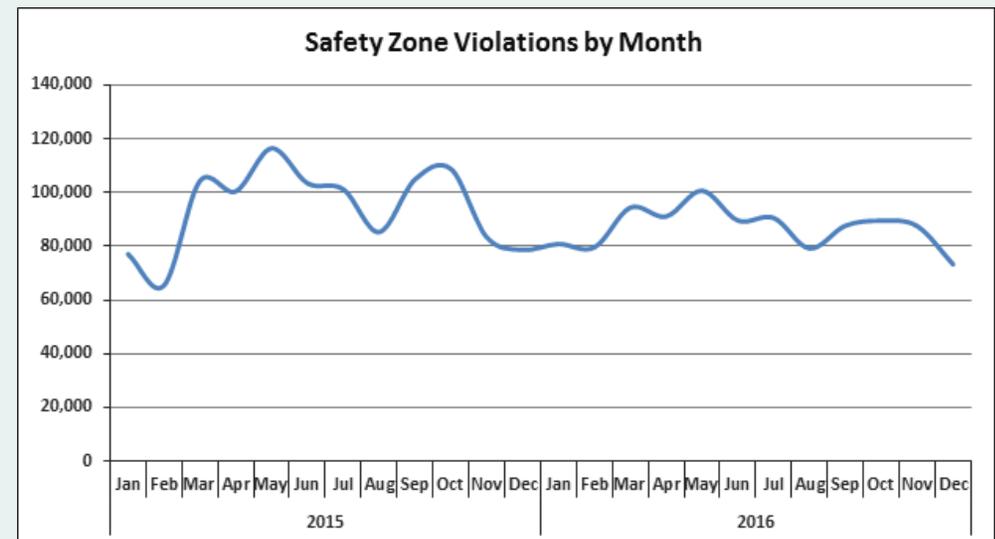
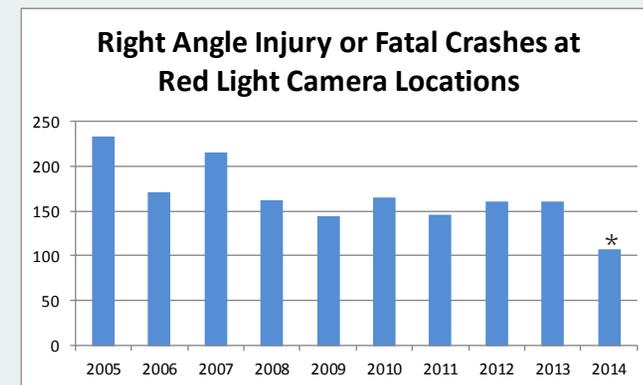
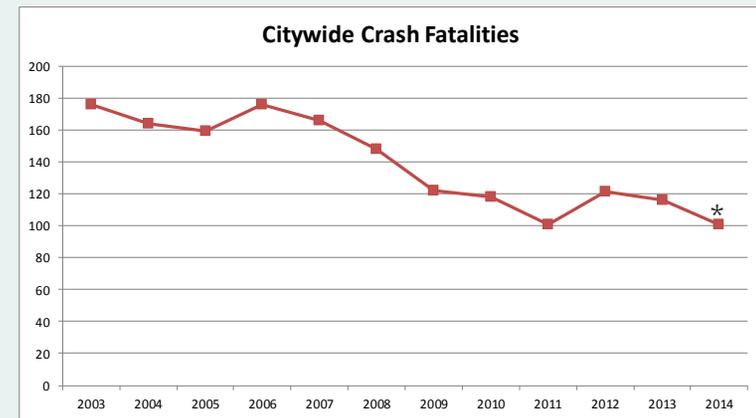


Safety Benefits of Automated Enforcement

Speed cameras and red light cameras are improving the safety of Chicago's streets. Traffic safety data shows that the number of crashes involving injuries was down significantly in Child Safety Zones that are covered by the City's Automated Speed Enforcement (ASE) program.

Citywide traffic crash data for 2014* compiled by the Illinois Department of Transportation (IDOT) indicates that crashes with injuries are down 4 percent citywide when compared to 2012. However, an analysis of crash data for the 21 Child Safety Zones where an ASE camera was installed in 2013 shows that injury crashes have dropped a dramatic 18 percent. Additionally, while the total number of crashes citywide is up 6 percent, in Child Safety Zones with cameras, the total number of crashes was down 2 percent.

In early 2017, Northwestern University released its study of the red light camera program. The report cited that the cameras led to a 19 percent reduction in side-angle and turning crashes and a 10 percent reduction in all injury-producing crashes. Significantly, the researchers concluded there is a "spillover effect" from the cameras resulting in improved safety at intersections without cameras.



Red Light Cameras – 2016 Statistics

| 2016 System Data | |
|--------------------------------------|--------------|
| Active Cameras (as of 12/31/2016) | 306 |
| # Events Captured ¹ | 1,722,109 |
| # Violations Determined ² | 636,434 |
| # Tickets Issued ³ | 594,953 |
| # DOAH Hearing Requested | 35,563 |
| # Tickets Overturned | 3,130 |
| # Tickets Per Day | 1,626 |
| # Tickets per Week | 11,441 |
| # Tickets per Month | 49,579 |
| # Tickets per Camera | 1,944 |
| # Tickets per Camera per Day | 5.3 |
| Dollar Value of Tickets Issued | \$59,395,000 |

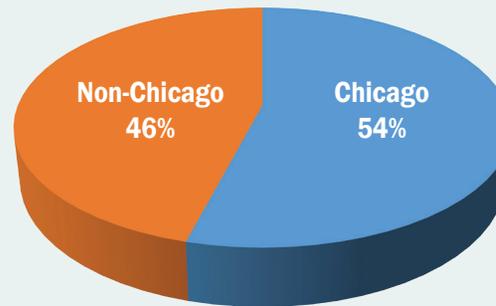
*Data as of 01/31/2017. Data includes any ticket issued in error.

¹Number of Events Captured is the number of times the camera radar detects a potential violation and captures two pictures and a 12-second video of the potential violator.

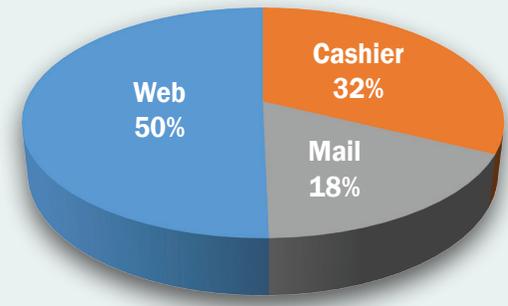
²Number of Violations Determined is the number of captured events that have been validated as an actual violation after multiple human reviews.

³Number of Tickets Issued is the actual number of tickets that are sent out in the mail. Tickets cannot be issued for violations in which the license plate number cannot be matched to an address. Provided by the Chicago Department of Finance as of 01/31/2017.

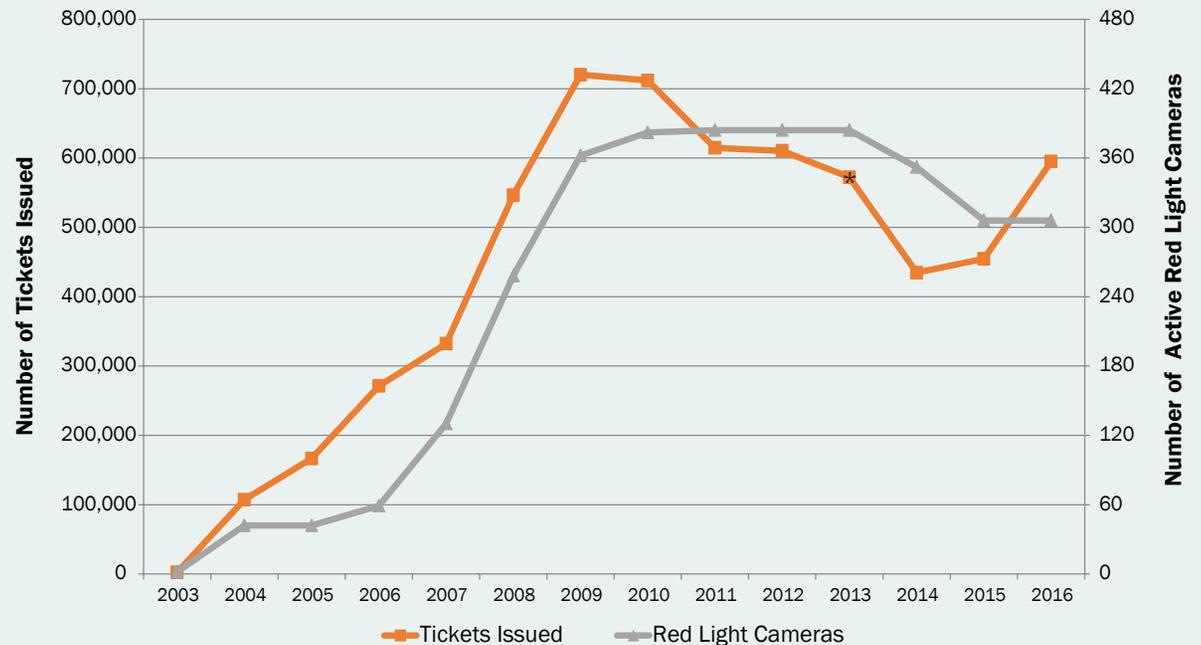
Tickets Issued By Geography Of Violator (Mailing Address)



How Tickets Were Paid by Dollar Amount



Red Light Camera Tickets Issued By Year

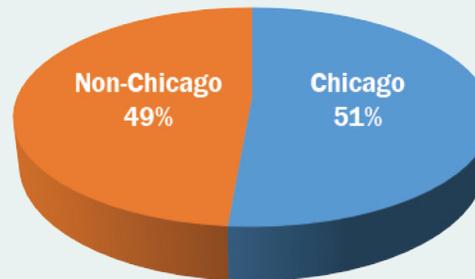


Speed Cameras – 2016 Statistics

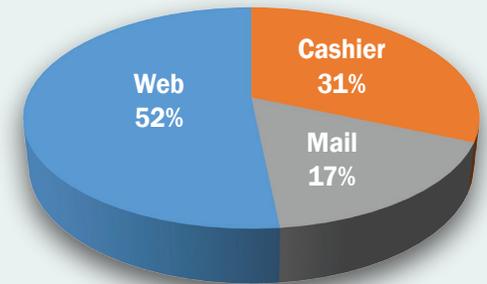
| 2016 System Data | |
|---|--------------|
| Active Cameras (as of 12/31/2016) | 150 |
| # Events Captured ¹ | 3,586,924 |
| # Violations Determined (including warnings) ² | 1,133,697 |
| # of Violations Issued as 30-Day Warning ³ | 0 |
| # Tickets Issued ⁴ | 1,044,180 |
| # Zero Fine Tickets Issued | 443,110 |
| # DOAH Hearing Requested | 26,975 |
| # Tickets Overturned | 1,501 |
| # Tickets per Day ⁵ | 2,853 |
| # Tickets per Week | 20,080 |
| # Tickets per Month | 87,015 |
| # Tickets per Camera ⁵ | 6,961 |
| # Tickets with Fines per Camera per Day ⁵ | 11.0 |
| Park Zone–Zero Fine Violation | 368,504 |
| Park Zone–10mph Ticket | 112,388 |
| Park Zone–11+mph Ticket | 387,213 |
| School Zone–Zero Fine Violation | 74,606 |
| School Zone–10mph Ticket -20mph Child Present | 8,881 |
| School Zone–11+ mph Ticket -20mph Child Present | 41,053 |
| School Zone–10mph Ticket -30/35mph | 12,517 |
| School Zone–11+ mph Ticket -30/35mph | 39,018 |
| Dollar Value of Tickets Issued | \$51,396,485 |

*Data as of 01/31/2017. Data includes any ticket issued in error.
¹Number of Events Captured is the number of times the camera radar detects a potential violation and captures two pictures and a 12-second video of the potential violator.
²Number of Violations Determined is the number of captured events that have been validated as an actual violation after multiple human reviews.
³These warnings are sent in the mail, however, unlike the zero-fine warnings (which occur after the 30-day warning period) violations issued as 30-day warnings are not considered a subset of tickets issued. See Appendix B for more information.
⁴Number of Tickets Issued is the actual number of tickets that are sent out in the mail, including zero-fine violations. Tickets cannot be issued for violations in which the license plate number cannot be matched to an address. Provided by the Chicago Department of Finance as of 01/31/2017.
⁵These averages are calculated by dividing the combined totals from school and park cameras by 365 days; however school cameras do not operate 365 days a year.

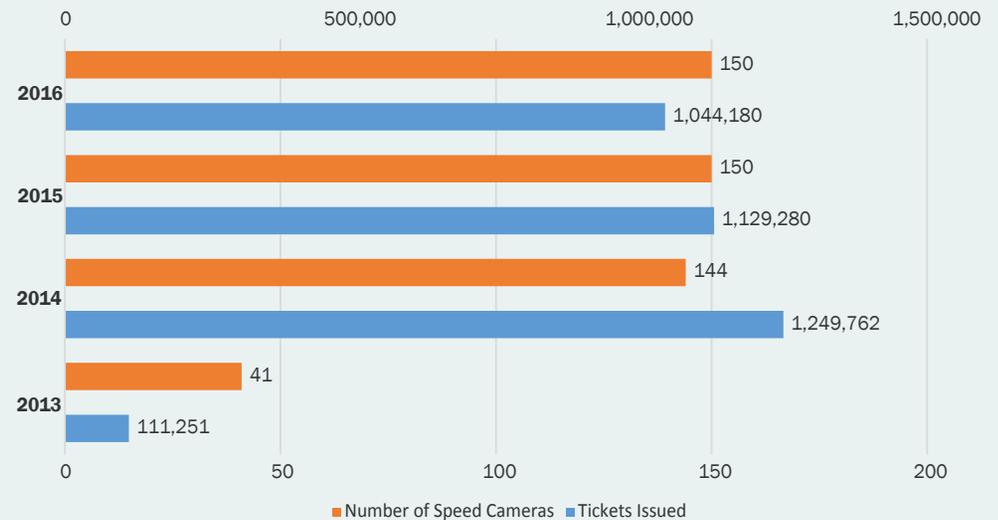
Tickets Issued By Geography Of Violator (Mailing Address)



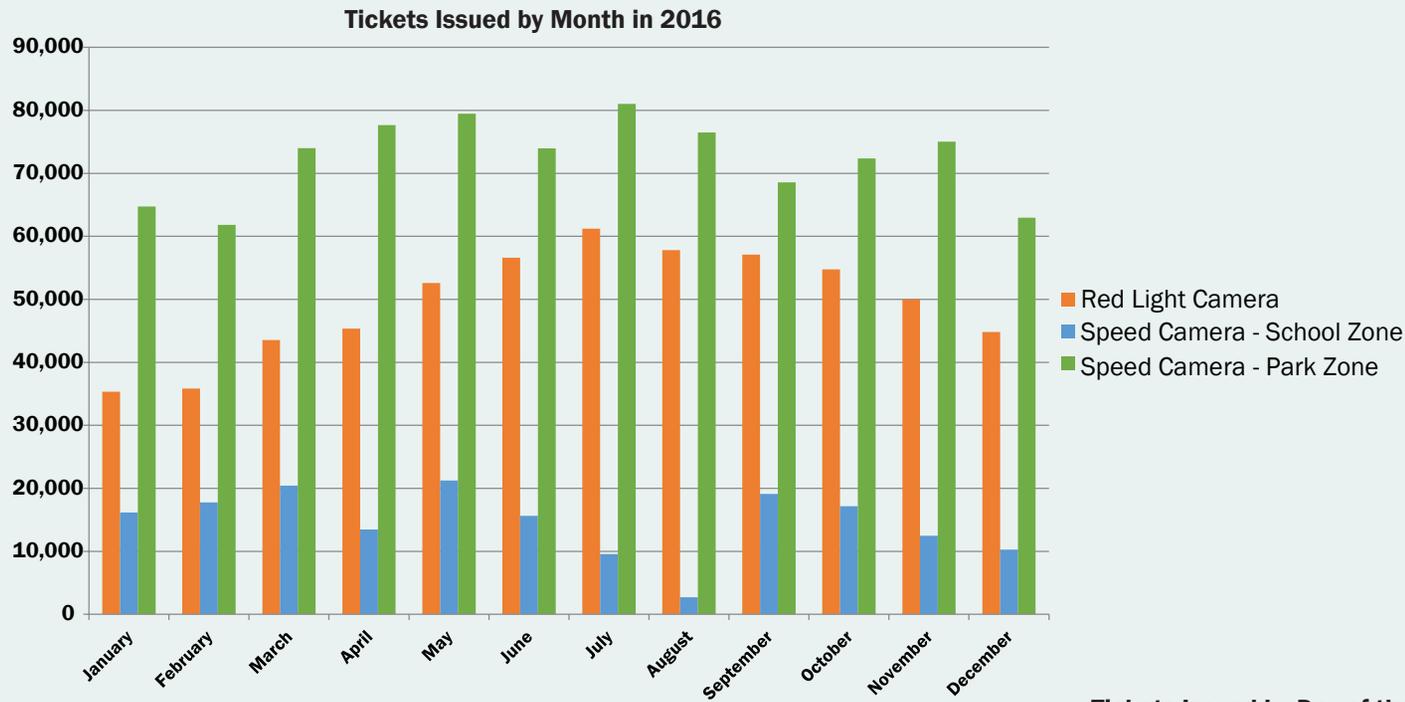
How Tickets Were Paid by Dollar Amount



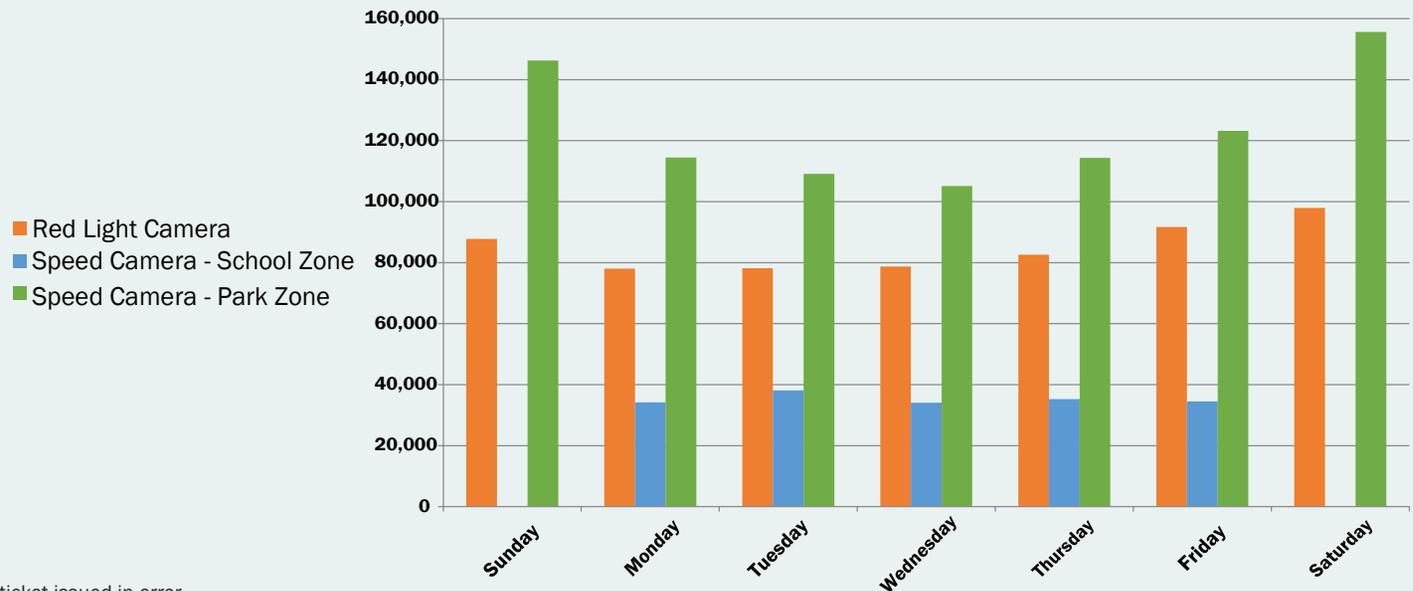
Speed Camera Tickets Issued By Year



Tickets Issued by Month and Day of the Week in 2016



Tickets Issued by Day of the Week in 2016



*Data as of 1/31/2017. Data includes any ticket issued in error.

Tickets Issued by Time of Day in 2016



*Data as of 1/31/2017. Data includes any ticket issued in error.

Appendix A: How Red Light Cameras Work

Automated red light cameras allow the City to enforce safety at high priority intersections 24 hours a day, 365 days a year. Using a combination of 3D tracking radar, high-resolution digital cameras, and high-definition video cameras, the red light camera system tracks the status of the traffic light signal and the speed of vehicles approaching the intersection. The camera system operates as a monitoring system only and does not control any of the traffic signal functions.

First, each vehicle approaching the intersection is tracked by a radar-based detection system to determine the vehicle speed and position. Based on the signal timing, the computer will then determine the likelihood of the vehicle continuing into the intersection after the signal has changed to red. If a potential infraction is identified, the camera system will capture two digital pictures of the event and a 12-second video with all accompanying data, including the license plate. The first photo of the event will show the vehicle prior to entering the intersection. The second photo is timed to capture the vehicle proceeding through the intersection. Additional data collected includes time, date, vehicle speed, signal amber time, location, time into red, and direction of travel. According to the City's enforcement policy, the signal amber time must last a minimum of three seconds in order for a ticket to be issued. The camera systems are checked remotely by Xerox personnel daily for camera image quality, system uptime, and data analysis. In addition, a maintenance check is performed monthly at each camera location.

Not all events captured by the red light cameras are found to be violations. The camera systems forward the images and video of each captured event to a centralized database to be reviewed by Xerox personnel. If a Xerox reviewer identifies the event as a potential red light violation, the captured video and images are forwarded to the City Department of Finance vendor to make the official determination. If the violation is found valid, the Department of Finance will perform a license plate search to find the vehicle owner's address and mail the violator a ticket. Fines are currently set at \$100. More information about how red light camera violations are processed can be found on the CDOT website: www.cityofchicago.org/city/en/depts/cdot.html.

Appendix B: How Speed Cameras Work

Similar to the red light camera system, the automated speed enforcement camera system uses a combination of 3D tracking radar, high-resolution digital cameras, and high-definition video cameras. Each vehicle approaching the safety zone is tracked by a radar-based detection system to determine the vehicle speed. If the vehicle is traveling 10 mph or more over the posted speed limit, the camera system captures two digital pictures of the event and a 12-second high-resolution video. (See inset for information about zero-dollar warnings). The images are used to capture the vehicle license plate, and the video clip of the event is provided as evidence. Additional data collected includes the time, date, posted speed limit, vehicle speed, location, and direction of travel. The speed cameras are calibrated each week to ensure accuracy. American Traffic Solutions, Inc. (ATS) conducts daily remote checks to ensure accuracy of the speed camera system.

Once a possible automated speed enforcement event is identified, according to State Law a preliminary review is conducted by CDOT's vendor, ATS. If an ATS reviewer identifies the event as a potential violation, the images, video, and data are forwarded to the Department of Finance for review. If the Department of Finance reviews the evidence and determines that a violation has occurred, the evidence is then forwarded to the Department of Finance vendor for an additional review of the evidence before any automated speed enforcement violation is considered valid. Once the violation is confirmed, the Department of Finance will perform a license plate search to find the vehicle owner's address and mail the violator a ticket or warning. Fines are currently set at \$35 for violations of 10 mph over the posted speed limit and \$100 for violations of 11 mph or greater over the posted speed limit. More information on how speed camera violations are processed can be found on the CDOT website at: www.cityofchicago.org/city/en/depts/cdot.html.

Zero-Dollar Warnings

When an automated speed enforcement camera is first installed and activated in a Child Safety Zone, the City of Chicago issues warning notices to motorists traveling seven mph over the posted speed limit for the first 30 days the camera is operational. No monetary violations are issued during this time frame. After the 30-day warning period, there is a two-week period of no enforcement, to ensure all warnings have been received in the mail. After that the City begins to issue tickets.

After ticketing begins, any motorists that do not already have a speed camera-issued ticket on their record will receive a zero-dollar fine for their first ticket. This provides motorists with another opportunity to be warned of the new camera location and the posted speed limit. Following the first zero dollar ticket, all subsequent tickets are set at \$35 or \$100 depending on the speed of the vehicle (as described above).

Appendix C

Red Light Camera Tickets Issued in 2016 by Intersection

| Intersection | Tickets Issued |
|-----------------------------------|----------------|
| 111th and Halsted | 4,589 |
| 115th and Halsted | 6,082 |
| 119th and Halsted | 2,832 |
| 31st and Martin Luther King Drive | 4,497 |
| 35th and Western | 2,407 |
| 4700 Western | 3,367 |
| 55th and Kedzie | 1,444 |
| 55th and Pulaski | 1,518 |
| 55th and Western | 4,388 |
| 63rd and State | 5,792 |
| 71st and Ashland | 2,444 |
| 75th and State | 7,965 |
| 79th and Halsted | 2,323 |
| 79th and Kedzie | 1,753 |
| 87th and Vincennes | 7,715 |
| 95th and Stoney Island | 3,897 |
| 99th and Halsted | 10,702 |
| Addison and Harlem | 2,152 |
| Archer and Cicero | 11,986 |
| Ashland and 87th | 3,121 |
| Ashland and 95th | 4,053 |
| Ashland and Division | 3,039 |
| Ashland and Fullerton | 7,137 |
| Ashland and Irving Park | 1,830 |
| Ashland and Lawrence | 3,438 |
| Ashland and Madison | 3,338 |
| Austin and Addison | 1,838 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| Intersection | Tickets Issued |
|-----------------------------|----------------|
| Austin and Irving Park | 1,996 |
| Belmont and Kedzie | 6,979 |
| Broadway/Sheridan and Devon | 3,493 |
| California and Devon | 1,657 |
| California and Diversey | 14,922 |
| California and Peterson | 1,262 |
| Canal and Roosevelt | 6,141 |
| Central and Addison | 1,889 |
| Central and Belmont | 1,003 |
| Central and Chicago | 2,318 |
| Central and Diversey | 663 |
| Central and Fullerton | 1,148 |
| Central and Irving Park | 1,618 |
| Central and Lake | 3,072 |
| Cermak and Pulaski | 3,448 |
| Chicago and Clark | 6,970 |
| Cicero and 47th | 3,971 |
| Cicero and Addison | 3,956 |
| Cicero and Armitage | 1,548 |
| Cicero and Chicago | 2,088 |
| Cicero and Diversey | 1,650 |
| Cicero and Fullerton | 2,736 |
| Cicero and Harrison | 2,689 |
| Cicero and I55 | 28,121 |
| Cicero and North | 2,133 |
| Cicero and Peterson | 1,717 |
| Cicero and Washington | 5,271 |
| Clark and Fullerton | 1,255 |
| Clark and Irving Park | 2,342 |

| Tickets Issued | |
|----------------------------|-------|
| Intersection | 2016 |
| Columbus and Illinois | 9,967 |
| Cortland and Ashland | 9,265 |
| Cottage Grove and 71st | 1,812 |
| Damen and 63rd | 2,629 |
| Damen and Diversey | 3,130 |
| Damen and Fullerton | 2,744 |
| Diversey and Austin | 1,164 |
| Diversey and Western | 966 |
| Division and Damen | 4,575 |
| Elston and Addison | 3,454 |
| Elston and Irving Park | 2,053 |
| Elston and Lawrence | 3,202 |
| Foster and Broadway | 1,717 |
| Foster and Nagle | 2,405 |
| Fullerton and Narragansett | 3,181 |
| Grand and Oak Park | 4,563 |
| Halsted and 103rd | 3,049 |
| Halsted and 95th | 1,326 |
| Halsted and Division | 6,274 |
| Halsted and Fullerton | 2,872 |
| Halsted and Madison | 3,248 |
| Halsted and North | 3,227 |
| Hamlin and Lake | 2,369 |
| Hamlin and Madison | 4,309 |
| Harlem and Belmont | 2,742 |
| Hollywood and Sheridan | 5,777 |
| Homan/Kimball and North | 3,585 |
| Irving Park and California | 4,466 |
| Irving Park and Kedzie | 2,732 |
| Irving Park and Kilpatrick | 3,069 |
| Irving Park and Laramie | 2,016 |

| Tickets Issued | |
|------------------------------|--------|
| Intersection | 2016 |
| Irving Park and Narragansett | 1,926 |
| Jeffery and 95th | 1,566 |
| Kedzie and 26th | 1,539 |
| Kedzie and 31st | 2,281 |
| Kedzie and 47th | 1,882 |
| Kedzie and 63rd | 1,339 |
| Kedzie and 71st | 2,545 |
| Kedzie and Armitage | 3,453 |
| Kimball and Diversey | 1,739 |
| Kostner and North | 5,005 |
| Lafayette and 87th | 14,949 |
| Lake Shore Dr and Belmont | 21,182 |
| Laramie and Fullerton | 2,485 |
| Laramie and Madison | 5,821 |
| Lasalle and Kinzie | 2,406 |
| Lawrence and Cicero | 4,378 |
| Lawrence and Western | 1,940 |
| Madison and Western | 1,292 |
| Milwaukee and Devon | 3,033 |
| Milwaukee and Montrose | 2,163 |
| Montrose and Western | 3,257 |
| Ogden and Kostner | 4,819 |
| Pershing and Western | 3,513 |
| Peterson and Western | 3,804 |
| Pulaski and 63rd | 4,092 |
| Pulaski and 79th | 2,226 |
| Pulaski and Archer | 2,015 |
| Pulaski and Armitage | 1,614 |
| Pulaski and Belmont | 1,374 |
| Pulaski and Chicago | 1,719 |
| Pulaski and Diversey | 1,526 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| Intersection | Tickets Issued 2016 |
|-------------------------|------------------------|
| Pulaski and Division | 1,506 |
| Pulaski and Foster | 3,085 |
| Pulaski and Fullerton | 1,851 |
| Pulaski and Irving Park | 4,010 |
| Pulaski and Lawrence | 1,030 |
| Pulaski and North | 1,394 |
| Pulaski and Peterson | 2,230 |
| Ridge and Clark | 4,585 |
| Roosevelt and Halsted | 8,236 |
| Roosevelt and Kostner | 3,543 |
| Roosevelt and Pulaski | 3,430 |
| Sacramento and Chicago | 4,072 |
| Sacramento and Lake | 5,207 |
| Sheridan and Foster | 1,319 |
| State and 79th | 13,517 |
| Stoney Island and 76th | 10,922 |
| Stoney Island and 79th | 2,464 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| Intersection | Tickets Issued 2016 |
|-------------------------------|------------------------|
| Stony Island/Cornell and 67th | 10,310 |
| Touhy and Osceola | 1,487 |
| Van Buren and Western | 15,971 |
| Wentworth and Garfield | 13,602 |
| Western and 63rd | 914 |
| Western and 71st | 2,059 |
| Western and 79th | 1,980 |
| Western and Addison | 2,470 |
| Western and Cermak | 2,421 |
| Western and Chicago | 1,795 |
| Western and Devon | 1,250 |
| Western and Foster | 2,546 |
| Western and Fullerton | 3,915 |
| Western and Marquette | 3,353 |
| Western and North | 2,935 |
| Western and Touhy | 1,070 |
| Total | 594,593 |

Speed Camera Tickets Issued in 2016 by Location

School Zone Locations

| | | Tickets Issued |
|-------------------|------------------------|----------------|
| Address | Zone | 2016 |
| 11153 S Vincennes | Morgan Park HS | 1,525 |
| 11144 S Vincennes | Morgan Park HS | 3,312 |
| 3521 N Western | Lane Tech School | 619 |
| 3534 N Western | Lane Tech School | 1,576 |
| 2549 W Addison | Lane Tech School | 8,563 |
| 4929 S Pulaski | Curie HS | 3,853 |
| 5030 S Pulaski | Curie HS | 8,687 |
| 4925 S Archer | Curie HS | 3,835 |
| 629 S State | Jones College Prep HS | 2,368 |
| 630 S State | Jones College Prep HS | 2,589 |
| 5509 W Fullerton | Charles Prosser School | 2,706 |
| 5446 W Fullerton | Charles Prosser School | 2,358 |
| 5440 W Grand | Charles Prosser School | 2,144 |
| 4843 W Fullerton | St Genevieve School | 4,971 |
| 3843 W 111th | Chicago Ag School | 3,588 |
| 5433 S Pulaski | John Hancock HS | 1,519 |
| 5428 S Pulaski | John Hancock HS | 1,492 |
| 4045 W 55th | John Hancock HS | 169 |
| 4040 W 55th | John Hancock HS | 1,069 |
| 7518 S Vincennes | Harvard Elementary | 4,195 |
| 7739 S Western | St Rita HS | 4,862 |
| 7738 S Western | St Rita HS | 3,013 |
| 2603 W 79th | St Rita HS | 522 |
| 2550 W 79th | St Rita HS | 1,310 |
| 7833 S Pulaski | Bogan HS | 2,470 |
| 7826 S Pulaski | Bogan HS | 481 |
| 3851 W 79th | Bogan HS | 819 |
| 3832 W 79th | Bogan HS | 1,473 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| | | Tickets Issued |
|-------------------------|---------------------------|----------------|
| Address | Zone | 2016 |
| 3230 N Milwaukee Ave | Lorca School | 2,097 |
| 3809 W Belmont Ave | Lorca School | 985 |
| 3810 W Belmont Ave | Lorca School | 203 |
| 2445 W 51st St | Christopher School | 149 |
| 2440 W 51st St | Christopher School | 337 |
| 5025 S Western Ave | Christopher School | 9,507 |
| 3115 N Narragansett Ave | Icci School | 326 |
| 6443 W Belmont Ave | Icci School | 250 |
| 6514 W Belmont Ave | Icci School | 362 |
| 4041 W Chicago Ave | Orr High School | 4,373 |
| 4040 W Chicago Ave | Orr High School | 5,437 |
| 732 N Pulaski Rd | Orr High School | 3,321 |
| 2335 W Cermak Rd | Pickard School | 306 |
| 2326 W Cermak Rd | Pickard School | 96 |
| 1635 N Ashland Ave | Burr School | 2,748 |
| 1638 N Ashland Ave | Burr School | 1,290 |
| 6125 N Cicero Ave | Sauganash School | 2,577 |
| 4707 W Peterson Ave | Sauganash School | 7,610 |
| 4674 W Peterson Ave | Sauganash School | 2,893 |
| 1229 N Western Ave | Roberto Clemente School | 5,062 |
| 1226 N Western Ave | Roberto Clemente School | 1,874 |
| 2329 W Division St | Roberto Clemente School | 1,088 |
| 18 W Superior St | Frances Xavier School | 37 |
| 3116 N Narragansett Ave | Icci School | 743 |
| 19 W Chicago Ave | Frances Xavier School | 295 |
| 2115 S Western Ave | Pickard School | 2,112 |
| 2108 S Western Ave | Pickard School | 957 |
| 346 W 76th St | Harvard Elementary | 823 |
| 341 W 76th St | Harvard Elementary | 417 |
| 14 W Chicago Ave | Frances Xavier School | 229 |
| 1440 W Cermak Rd | Benito Juarez High School | 6,509 |
| 2109 E 87th St | Chicago Vocational HS | 4,494 |

| | | Tickets Issued |
|------------------------------|--------------------------|----------------|
| Address | Zone | 2016 |
| 215 E 63rd St | Dulles Elementary School | 7,067 |
| 6330 S Martin Luther King Dr | Dulles Elementary School | 3,394 |
| 5739 N Northwest Hwy | Taft High School | 2,642 |
| 6510 W Bryn Mawr Ave | Taft High School | 4,699 |
| 4042 W Roosevelt Rd | Frazier Magnet School | 5,204 |
| 1117 S Pulaski Rd | Frazier Magnet School | 2,324 |
| 1110 S Pulaski Rd | Frazier Magnet School | 2,367 |
| 5532 S Kedzie Ave | St Gall Elementary | 578 |
| 3217 W 55th St | St Gall Elementary | 136 |
| 3212 W 55th St | St Gall Elementary | 152 |
| 3111 N Ashland Ave | Burley Elementary School | 226 |
| 3130 N Ashland Ave | Burley Elementary School | 1,691 |
| Total | | 176,075 |

Park Zone Locations

| | | Tickets Issued |
|----------------------|-----------------|----------------|
| Address | Zone | 2016 |
| 4124 W Foster | Gompers Park | 43,426 |
| 5120 N Pulaski | Gompers Park | 11,586 |
| 2080 W Pershing | McKinley Park | 3,310 |
| 3843 S Western | McKinley Park | 23,662 |
| 3655 W Jackson | Garfield Park | 6,871 |
| 3646 W Madison | Garfield Park | 17,874 |
| 1111 N Humboldt | Humboldt Park | 19,193 |
| 3100 W Augusta | Humboldt Park | 5,877 |
| 5330 S Cottage Grove | Washington Park | 17,110 |
| 6909 S Kedzie | Marquette Park | 21,363 |
| 3450 W 71st | Marquette Park | 4,828 |
| 6818 S Kedzie | Marquette Park | 14,824 |
| 2917 W Roosevelt | Douglas Park | 13,061 |
| 2912 W Roosevelt | Douglas Park | 8,883 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| | | Tickets Issued |
|-----------------------|--------------------------|----------------|
| Address | Zone | 2016 |
| 2900 W Ogden | Douglas Park | 42,365 |
| 3137 W Peterson | Legion Park | 19,011 |
| 3034 W Foster | Legion Park | 4,379 |
| 536 E Morgan Dr | Washington Park | 20,377 |
| 57 E 95th | Abbott Park | 2,722 |
| 62 E 95th | Abbott Park | 4,338 |
| 6247 W Fullerton | Riis Park | 4,715 |
| 6250 W Fullerton | Riis Park | 4,367 |
| 445 W 127th | Major Taylor Bike (Park) | 52,672 |
| 4123 N Central Ave | Portage Park | 4,834 |
| 5454 W Irving Park | Portage Park | 9,492 |
| 6523 N Western | Warren Park | 13,693 |
| 4433 N Western | Welles Park | 7,499 |
| 4432 N Lincoln | Welles Park | 527 |
| 515 S Central Ave | Columbus Park | 2,413 |
| 5816 W Jackson | Columbus Park | 24,315 |
| 5529 S Western | Gage Park | 3,277 |
| 5520 S Western | Gage Park | 6,742 |
| 2513 W 55th | Gage Park | 6,146 |
| 141 N Ashland | Union Park | 1,059 |
| 140 N Ashland | Union Park | 2,819 |
| 115 N Ogden | Union Park | 13,927 |
| 2721 W Montrose | Horner Park | 568 |
| 2705 W Irving Park | Horner Park | 35,994 |
| 2712 W Irving Park | Horner Park | 9,044 |
| 6226 W Irving Park Rd | Merrimac Park | 15,708 |
| 4620 W Belmont Ave | Parsons Park | 1,597 |
| 2448 N Clybourn Ave | Schaefer Park | 5,308 |
| 2443 N Ashland | Schaefer Park | 14,485 |
| 2432 N Ashland | Schaefer Park | 2,391 |
| 5885 N Ridge Ave | Senn Park | 8,258 |

| | | Tickets Issued |
|----------------------|------------------|----------------|
| Address | Zone | 2016 |
| 4436 N Western | Welles Park | 5,625 |
| 1142 W Irving Park | Challenger Park | 26,786 |
| 4429 N Broadway | Challenger Park | 772 |
| 4446 N Broadway | Challenger Park | 506 |
| 7422 S Jeffery | Rosenblum Park | 4,995 |
| 5471 W Higgins | Jefferson Park | 10,185 |
| 5432 W Lawrence | Jefferson Park | 1,940 |
| 2928 S Halsted | McGuane Park | 2,868 |
| 5420 S Racine Ave | Sherman Park | 2,923 |
| 1334 W Garfield Blvd | Sherman Park | 14,574 |
| 10318 S Indianapolis | Park 499 | 23,204 |
| 1315 W Garfield Blvd | Sherman Park | 12,990 |
| 3047 W Jackson Blvd | Horan Park | 3,832 |
| 324 S Kedzie Ave | Horan Park | 3,314 |
| 449 N Columbus Dr | Ogden Plaza Park | 3,102 |
| 450 N Columbus Dr | Ogden Plaza Park | 8,507 |
| 319 E Illinois St | Ogden Plaza Park | 723 |
| 506 S Central Ave | Columbus Park | 1,931 |

Note: Data as of 1/31/2017. Data includes any ticket issued in error.

| | | Tickets Issued |
|--------------------------------------|----------------|------------------|
| Address | Zone | 2016 |
| 1901 E 75th St | Rosenblum Park | 6,667 |
| 3535 E 95th St | Calumet Park | 1,015 |
| 3542 E 95th St | Calumet Park | 2,266 |
| 9618 S Ewing Ave | Calumet Park | 9,310 |
| 3200 S Archer Ave | Mulberry Park | 22,650 |
| 4831 W Lawrence Ave | Ashmore Park | 23,702 |
| 4909 N Cicero Ave | Ashmore Park | 74,561 |
| 2416 W 103rd St | Beverly Park | 1,412 |
| 1754 N Pulaski Rd | Keystone Park | 2,746 |
| 4053 W North Ave | Keystone Park | 5,854 |
| 4042 W North Ave | Keystone Park | 4,858 |
| 2417 W 103rd St | Beverly Park | 679 |
| 8345 S Ashland Ave | Foster Park | 11,480 |
| 8318 S Ashland Ave | Foster Park | 13,049 |
| 1507 W 83rd St | Foster Park | 2,169 |
| Total | | 868,105 |
| Grand Total (School and Park) | | 1,044,180 |

Appendix D: Additional Resources

CDOT Website

<http://www.cityofchicago.org/city/en/depts/cdot/provdrs/automated-enforcement.html>

The City of Chicago Open Data Portal Automated Speed Enforcement

<https://data.cityofchicago.org/Transportation/Speed-Camera-Violations/hhkd-xvj4/data>

The City of Chicago Open Data Portal Automated Red light Enforcement

<https://data.cityofchicago.org/Transportation/Red-Light-Camera-Violations/spqx-js37/data>

The Insurance Institute for Highway Safety

<http://www.iihs.org/iihs/topics/t/red-light-running/>

<http://www.iihs.org/iihs/sr/statusreport/article/48/1/2>

The National Highway Safety Administration

<http://www.nhtsa.gov/search?q=automated+enforcement&x=0&y=0>

The Federal Highway Administration

http://safety.fhwa.dot.gov/intersection/other_topics/fhwasa10005/brief_7.cfm

Northwestern University Transportation Center - Chicago Red Light Camera Report

<http://www.transportation.northwestern.edu/research/report-redlightcameras.html>

