

**2015 ANNUAL REPORT  
AUTOMATED TRAFFIC ENFORCEMENT ON  
PRIMARY HIGHWAYS IN DES MOINES**



# 2015 ANNUAL REPORT

## AUTOMATED TRAFFIC ENFORCEMENT ON PRIMARY HIGHWAYS IN DES MOINES

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# Des Moines Police Department

## 2015 ANNUAL REPORT

### AUTOMATED TRAFFIC ENFORCEMENT ON PRIMARY HIGHWAYS IN DES MOINES

*Address the impact of automated traffic enforcement (ATE) technology on reducing speeds and/or number of red light violations at sites being monitored.*

Red light violations since July, 2011:

Red Light Locations	2011 (July-Dec)	2012	2013	2014	2015
E 15 <sup>th</sup> & Maple	950	1054	493	456	981
MLK & School	1633	5040	6146	5687	6006

*\*Data provided from Gatso Inc., and are based on Citations Resulted from Captured Violations by Approach.*

Intersections originally selected for ATE camera enforcement based upon:

- High incidence of crashes at both intersections
  - The crash data were taken from DOT's 2005-2009 Statewide Intersection Safety Improvement Candidate Location List.
  - These two intersections were redesigned by the Iowa Department of Transportation. This took place prior to implementation of the ATE cameras.

#### East 15<sup>th</sup> & Maple

- The ATE at this intersection has been effective at reducing the number of violators in 2013 and 2014, however a spike is noticed from 2014 to 2015 with citations and crashes.
- The goal is a continued reduction in red light violations and crashes at this intersection. The continued reduction of crashes and violations vs. high traffic volume indicates cameras have been effective. The spike in violations and crashes in 2015 shows the need to continue enforcement at this intersection.
- This ATE camera captures traffic travelling northbound through the intersection and also includes motorists who are making a left turn (westbound) onto Maple.
  - Left turns contribute to the number of violations at this location.
  - There are instances where motorists frequently do not stop at this intersection prior to making a left turn. This intersection is also an off-ramp from I-235.
- Motorists must be traveling at 11 mph or above during the left turn to initiate a violation by the ATE camera at this location.
- A report dated 03-17-15, from the Department of Transportation provided findings and evaluation of this intersection. The resulting action was to continue operation of an ATE camera at this location.

### MLK & School

- Red light violations continue to be problematic. In coordination with the DOT, the visibility of the signage was increased in 2015, in an effort to reduce the number of red light violations and crashes at this intersection.
- This ATE camera captures traffic travelling eastbound through the intersection and also includes motorists who are making a right turn (southbound) onto Martin Luther King Jr. Roadway.
  - Right turns contribute to the number of violations at this location.
  - Limited sight distance is a concern due to bridge overpass obstruction.
  - There are instances in which motorists frequently do not stop at this intersection prior to making a right turn.
  - Motorists must be travel at 11 mph or above during the right turn to initiate a violation by the ATE camera at this location.
- The number of violations at this intersection indicates the need for continued enforcement at this location.
- The goal is to reduce red light violations and crashes at this intersection.
- A report dated 03-17-15, from the Department of Transportation provided findings and evaluation of this intersection. The resulting action was to continue operation of an ATE camera at this location.

**Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years. If the system includes intersection enforcement, only the monitored approaches should be included in the evaluation.**

The table below represents the total number of crashes per year at:

- E 15<sup>th</sup> and Maple (NB),
- MLK & School St (EB)
- I-235 EB between 4200 block and 4700 block (5.5 to 4.8 mile marker).

**Crashes**

Location	2009	2010	2011 Before ATE	2011 After ATE	2012	2013	2014	2015
E 15 <sup>th</sup> & Maple St. (NB)	16	10	4	5	5	6	1	10
MLK & School St. (EB)	16	12	4	6	6	10	8	11
I-235 / 4200-4700 Block (EB)	5	9	2	2	3	6	2	10

*\*2015 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

- The data represent the total number of crashes at these intersections for periods before ATE’s and periods following ATE implementation.
- The crash data in 2011 is divided as a result of ATE implementation.
  - E 15<sup>th</sup> & Maple and MLK & School
    - The number of crashes in “2011 before cameras” (January through June).
    - The number of crashes in “2011 after cameras” (July to December).
  - On I-235 between the 4700 and 4200 block (4.8 and 5.5 mile marker)
  - The number of crashes in “2011 before cameras” (January to September).
  - The number of crashes in “2011 after cameras” (October to December 2011).
- When reviewing the data, it is important to note the reduction of crashes at **E 15th and Maple (NB)** after the implementation of the ATE cameras. In 2015, a spike in crashes is noted.
- The number of crashes at **MLK and School St (EB)** decreased, as well, after the implementation of cameras. Again, 2015 shows an increase in crashes and red light violations.
  - In 2013 and 2015 the number of crashes rose to 10 and 11 respectfully, at the **MLK/School** intersection, indicating a continued need for enforcement. Measured improvement in 2014 with a reduction to 8, from 10 in 2013.
- According to DOT data, the highest volume of traffic on Iowa’s roadways is on I-235 in Des Moines between 56<sup>th</sup> and 42<sup>nd</sup> Street. This location is where the I-235 ATE cameras are utilized.
  - According to the DOT data, the average daily traffic on I-235 in 2012 was 82,900 vehicles per day. This amounting to approximately 30,258,500 vehicles per year.
  - According to the DOT data, the average daily traffic on I-235 in 2015 was 90,000 vehicles per day, amounting to approximately 32,850,000 vehicles per year. This average is both directions.
  - **This represents an increase of 2,591,500 cars or 8.5%**

○ **AVERAGE NUMBER OF CRASHES**

Location	Average number of crashes before ATE 2009-2011	Average number of crashes after ATE 2011-2015
E 15 <sup>th</sup> & Maple	12	6.0
MLK & School	12.8	9.1
I-235 EB between the 4200-4700 block (EB)	6.4	5.1

- The average number of crashes after ATE cameras has decreased significantly at each of these three locations.
  - **50% reduction in crashes on E15th / Maple.**
  - **28% reduction in crashes on MLK / School.**
  - **20% reduction in crashes on I-235.**

**TYPES OF CRASHES - E 15<sup>th</sup> & Maple St**

Year	Number of Crashes	Crash Types	Red Light Violations Issued
2009	16	12 Ran Light / Broadside 1 Rear End 1 Sideswipe 2 Unk/Other	N/A
2010	10	5 Ran Light / Broadside 3 Rear End 2 Sideswipe 0 Unk/Other	N/A
2011* Before Camera	4	2 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	N/A
2011* After Camera	5	3 Ran Light / Broadside 0 Rear End 0 Sideswipe 2 Unk/Other	950
2012	5	2 Ran Light / Broadside 2 Rear End 0 Sideswipe 1 Unk/Other	1054
2013	6	4 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	493
2014	1	1 Ran Light / Broadside 0 Rear End 0 Sideswipe 0 Unk/Other	456
2015	10	2 Ran Light / Broadside 6 Rear End 2 Sideswipe 0 Unk/Other	981

*\*2015 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

- The total number of crashes caused by red light violations has decreased significantly since the implementation of red light cameras at E 15th and Maple St.
- The increase of crashes from 2014 to 2015 can be attributed to an increase in red light violations.

Case Number	Date	Type	Description
15-282	1/4/2015	Rear End	WB VS WB REAR END, SNOW
15-14777	5/17/2015	Rear End	NB VS NB REAR END, STOPPED, HIT & RUN
15-19066	7/2/2015	Sideswipe	NB LEFT TURN VS NB SIDESWIPE
15-21194	7/23/2015	Rear End	WB VS WB REAR END, SLOWING
15-21616	7/27/2015	Ran Light	NB RAN LIGHT VS WB, WET
15-22064	7/31/2015	Rear End	NB VS NB, REAR END, ALREADY STOPPED
15-22589	8/5/2015	Rear End	NB LEFT TURN VS NB REAR END
15-26684	9/11/2015	Sideswipe	NB LEFT TURN VS NB SIDESWIPE
15-31189	10/22/2015	Ran Light	NB RAN LIGHT VS WB
15-37575	12/23/2015	Rear End	WB VS WB REAR END, ALREADY STOPPED

**At Fault – Running the Light**

Northbound vs Westbound = 2

**At Fault – Rear End**

Westbound vs Westbound = 3

Northbound vs Northbound = 3

**At Fault – Sideswipes**

Northbound vs Northbound = 2

**TYPES OF CRASHES - Martin Luther King & School St**

Year	Number of Crashes	Crash Types	Red Light Violations Issued
2009	16	10 Ran Light / Broadside 1 Rear End 1 Sideswipe 4 Unk/Other	N/A
2010	12	9 Ran Light / Broadside 0 Rear End 0 Sideswipe 3 Unk/Other	N/A
2011* Before Camera	4	3 Ran Light / Broadside 0 Rear End 1 Sideswipe 0 Unk/Other	N/A
2011* After Camera	6	5 Ran Light / Broadside 1 Rear End 0 Sideswipe 0 Unk/Other	1633
2012	6	2 Ran Light / Broadside 2 Rear End 1 Sideswipe 1 Unk/Other	5040
2013	10	8 Ran Light / Broadside 0 Rear End 2 Sideswipe 0 Unk/Other	6146
2014	8	6 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	5687
2015	11	6 Ran Light / Broadside 3 Rear End 2 Sideswipe 0 Unk/Other	6006

*\*2015 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

- The total number of crashes caused by red light violations decreased after the implementation of ATE cameras at Martin Luther King Jr. and School St.
- The number of crashes and violations increased in 2013, but decreased in 2014. An increase in crashes was noticed in 2015 and is attributed to an increase in red light violations.
- A reduction of crashes, from 2013 to 2014, can be attributed to a reduction in red light violations. The amount of violations at this location, indicates the need for continued enforcement, at this location.
- The Des Moines Police Department and DOT enhanced visibility by adding additional signage in 2015, in an effort to decrease the number of red light violations and crashes at this intersection.

Case Number	Date	Type	Description
15-8003	3/25/2015	Rear End	SB VS SB REAR END, ALREADY STOPPED
15-9514	4/8/2015	Ran Light	SB RAN LIGHT VS EB
15-11345	4/25/2015	Rear End	EB VS EB REAR END, SLOWING, WET
15-11426	4/26/2015	Ran Light	SB RAN LIGHT VS EB
15-25233	8/28/2015	Sideswipe	EB STRAIGHT VS EB RIGHT TURN SIDESWIPE
15-26472	9/9/2015	Ran Light	SB RAN LIGHT VS EB
15-27761	9/21/2015	Ran Light	EB RAN LIGHT VS SB
15-30974	10/20/2015	Sideswipe	SB IMPROPER LEFT TURN VS SB, WET
15-33680	11/14/2015	Rear End	SB VS SB REAR END, LIGHT HAD GONE GREEN
15-33685	11/14/2015	Ran Light	SB RAN LIGHT VS EB
15-36987	12/17/2015	Ran Light	SB RAN LIGHT VS EB

**At Fault – Running the Light**

Southbound vs Eastbound = 5  
 Eastbound vs Southbound = 1

**At Fault - Rear End**

Southbound vs Southbound = 2  
 Eastbound vs Eastbound = 1

**At Fault – Sideswipe**

Eastbound vs Eastbound = 1  
 Southbound vs Southbound = 1

**TYPES OF CRASHES – I-235 (4700 block to 4200 block EB)**

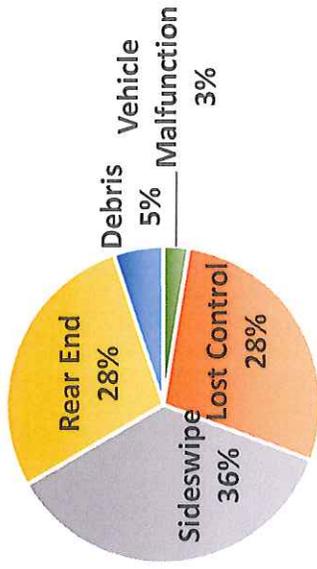
Year	Number of Crashes	Crash Types	Speed Violations Issued
2009	5	2 Lost Control 2 Rear End 1 Sideswipe 0 Unk/Other	N/A
2010	9	2 Lost Control 4 Rear End 3 Sideswipe 0 Unk/Other	N/A
2011* Before Camera	2	0 Lost Control 2 Rear End 0 Sideswipe 0 Unk/Other	N/A
2011* After Camera	2	1 Lost Control 0 Rear End 1 Sideswipe 0 Unk/Other	19486
2012	3	2 Lost Control 0 Rear End 1 Sideswipe 0 Unk/Other	36202
2013	6	3 Lost Control (One Fatality) 0 Rear End 1 Sideswipe 2 Unk/Other/1 Debris/1 Vehicle Malfunction	42156
2014	2	0 Lost Control 1 Rear End 1 Sideswipe 0 Unk/Other	44602
2015	10	1 Lost Control 3 Rear End 6 Sideswipe 0 Unk/Other/1 Debris	55384

*\*2015 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

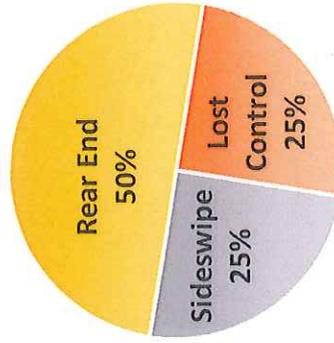
- The total number of crashes on I-235 in this area (4700 block to 4200 block) have decreased since the implementation of our ATE camera program.
- Crashes still remain a concern for this location.
  - **Roadway characteristics are the primary reason why the ATE were chosen for this location on I-235.**
  - The roadway in this area narrows, particularly the left shoulder, nearest the median barrier, as the roadway begins a series of curves.
  - These conditions create a safety concern for traditional traffic enforcement.
  - Crash data supports the need for continued ATE camera enforcement in this particular high-risk, high traffic flow location.
  - A spike in crashes is noted for I-235. Speed remains a concern as speed citations issued increased significantly in 2015.
- In a report dated 03-17-15, the Department of Transportation provided findings for this portion in I-235. The resulting DOT action was to request removal of ATE cameras at this location by April 17, 2015. The review of the 2015 report was sent to DMPD by the DOT on 3-17-16. The DOT has reiterated its stance on removal of the I-235 cameras but said they will not take legal action until the court has rendered a decision.
- The City of Des Moines has appealed this decision. The ATE cameras will remain active during the appeal process.

<i>Case Number</i>	<i>Date</i>	<i>Type</i>	<i>Description</i>
15-619	1/7/2015	Sideswipe	SIDESWIPE IMPROPER LANE CHANGE
15-786	1/9/2015	Rear End	REAR END, FOLLOW TOO CLOSE
15-2248	1/24/2015	Sideswipe	SIDESWIPE, IMPROPER LANE CHANGE, EXCESSIVE SPEED
15-6119	3/6/2015	Sideswipe	SIDESWIPE, LOST CONTROL
15-17999	6/23/2015	Rear End	REAR END, FOLLOW TOO CLOSE
15-21791	7/28/2015	Sideswipe	SIDESWIPE, IMPROPER LANE CHANGE
15-22701	8/6/2015	Sideswipe	SIDESWIPE, IMPROPER ENTRANCE FROM ON RAMP
15-24665	8/24/2015	Sideswipe	SIDESWIPE, IMPROPER LANE CHANGE
15-28849	9/30/2015	Rear End	REAR END, FOLLOW TOO CLOSE
15-38025	12/28/2015	Lost Control	SPEED, LOST CONTROL, CONCRETE BARRIER, SNOW

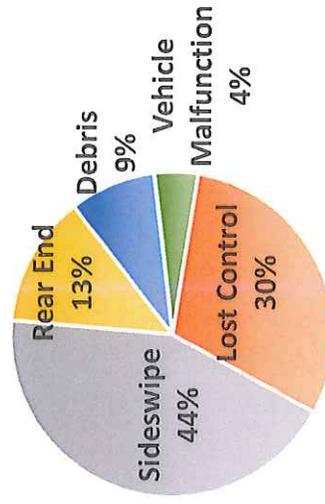
**Causation of Crashes**  
**I-235 4200/4700 Block (5.5 to 4.8 MM) EB**  
**2009-2015**

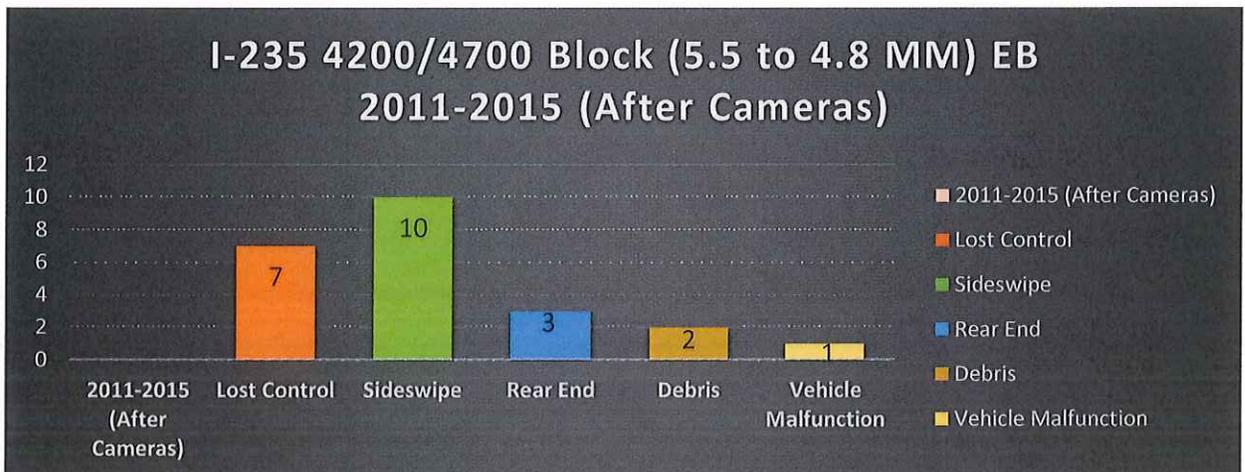
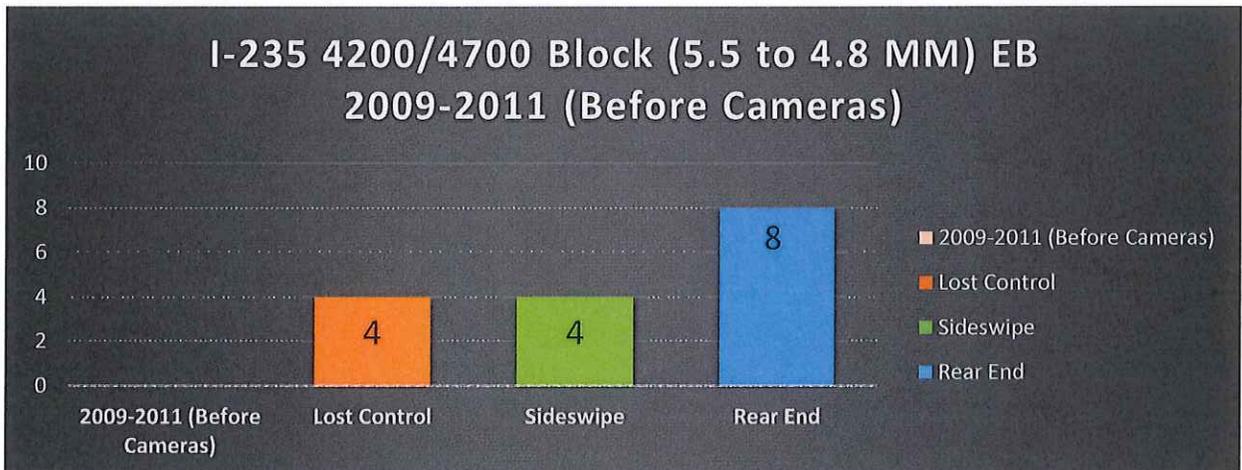
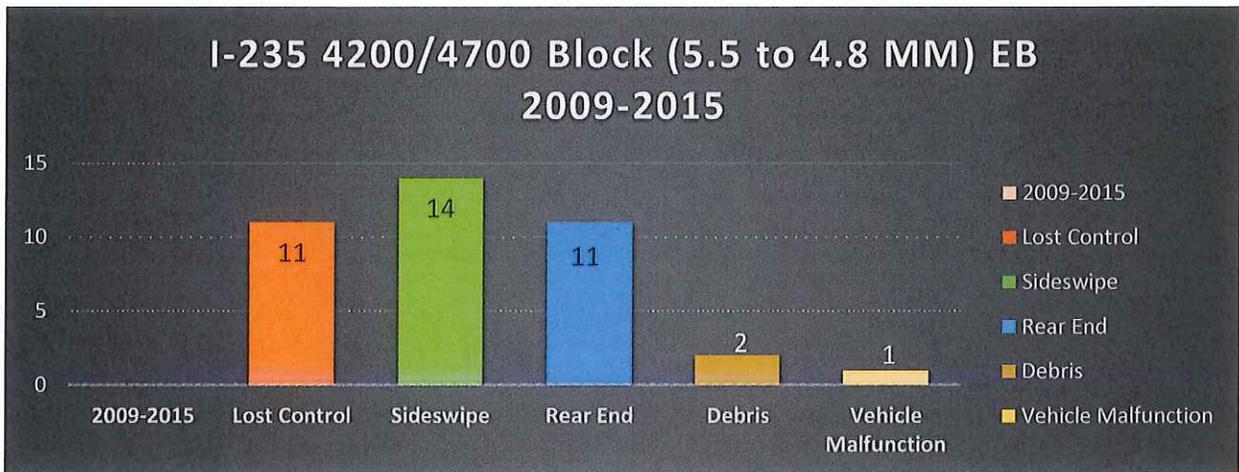


**Causation of Crashes**  
**I-235 4200/4700 Block (5.5 to 4.8 MM) EB**  
**2009-2011 (Before ATE Cameras)**



**Causation of Crashes**  
**I-235 4200/4700 Block (5.5 to 4.8 MM) EB**  
**2011-2015 (After ATE Cameras)**





**Evaluate and document the automated traffic enforcement system's impact on addressing the critical traffic safety issue(s) listed in the justification report if a justification report was part of the system's initial approval process.**

- The intersections (MLK and School St., and E 15<sup>th</sup> and Maple) chosen for ATE cameras were selected based on numbers of high, right angle / broadside crashes.
- The 2005-2009 Statewide Intersection Safety Improvement Candidate Location List, identified the frequency rank of Martin Luther King and School St was #1 and E 15<sup>th</sup> and Maple St was #2.
- Using this same report for the years 2008-2012 (a portion of which was after the implementation of our camera program in July 2011, as was all of 2012), the frequency rank at the ML King and School location dropped to #2 and the E 15<sup>th</sup> and Maple location dropped to #10.
- The 2009-2013 Statewide Intersection Safety Improvement Candidate Location List, provided by the DOT, currently shows a continued decline as MLK and School dropped to a ranking of #5 and E15<sup>th</sup> and Maple ranking dropped to #23.
- The frequency ranking takes into account the severity and frequency of crashes and crash types.
  - The attributes that were considered were volume of traffic, controlled intersection, construction standards and future plans for intersection reconfiguration.
- The frequency ranking at these two intersections continue to reduce in recent years.
- High risk locations are those where the safety of citizens or law enforcement officers would be at higher risk through conventional traffic enforcement methods.
- As previously stated, the ATE cameras affixed on I-235 are a safer alternative than traditional traffic enforcement.
  - The roadway in this area narrows particularly the left shoulder, nearest the median barrier, as the roadway begins a series of curves.
  - This makes traditional speed enforcement hazardous for police officers at this location.
- Due to the high-risk characteristics that impact safe traditional traffic enforcement at this location, the I-235 ATE cameras are an effective tool to our enforcement efforts.
- There were 55,484 speed citations issued in 2015, which demonstrates the continued need for ATE camera enforcement in an effort to slow traffic and enhance motorist safety.
- **The ATE cameras provide the Des Moines Police Department with an avenue to enforce speed at this location without endangering the lives of citizens or law enforcement officers.**

**Provide the total number of citations issued for each calendar year the system has been in operation.**

<b>Citations Issued</b>	2011	2012	2013	2014	2015
Red Light Intersections	2583 (July 2 – Dec 31)	6094	6639	6143	6987
I-235 4700 block Speed	19486 (Sep 27-Dec 31)	36202	42156	44602	55384

*Data provided from Gatso Inc., and include the Issued Citations by Approach.*

**Mobile Speed Camera:**

- **The mobile ATE unit does not deploy to primary highways within the City of Des Moines, in compliance with the Iowa DOT guidelines, which were established in June, 2012.**

**Certify that the calibration requirements of sub-rule 144.6 (4) have been met.**

- The yearly speed calibration verification (of each lane of I-235) was conducted on **7-09-15** by GATSO USA.
- DOT calibration requirement is quarterly.
- DMPD calibration verification were conducted:
  - January 13, 2015
  - February 10, 2015
  - March 10, 2015
  - April 9, 2015
  - May 4, 2015
  - June 8, 2015
  - July 7, 2015
  - August 11, 2015
  - September – none due to DOT road construction
  - October 7, 2015
  - November – none due to staffing / 4 complicated fatality accidents
  - December 1, 2015
  - January 6, 2016
  - February 1, 2016
- DMPD Police Traffic units, conducting calibrated tests, are outfitted with a speed sensor.