



AUTOMATED TRAFFIC ENFORCEMENT

BIENNIAL SURVEY

Iowa Governor's Traffic Safety Bureau

Submitted for Fiscal Year 2018



Executive Summary

The Iowa Governor's Traffic Safety Bureau (GTSB) took the lead in conducting a survey of state automated traffic enforcement systems as required under the FAST ACT. The survey was conducted with the assistance of the Department of Transportation (DOT) and the cities and counties within Iowa that use automated traffic enforcement. The state of Iowa's DOT has drafted and oversees Iowa's administrative code that regulates automated traffic enforcement on Iowa's primary road system. Jurisdictions that use mobile automated enforcement devices that are not on the primary road system are regulated by city and county ordinances and their board of supervisors or city councils. In Iowa there are 6 cities that use automated traffic enforcement systems on the primary and secondary road system and two jurisdictions that use mobile devices on secondary roadways only.

This survey provides a copy of the DOT administrative rules, a list of all automated traffic enforcement systems in the state, collected data that measures the transparency, accountability and safety attributes of each system. The administrative code overseeing automated enforcement used speed enforcement camera systems operation guidelines and the red light cameras systems operational guidelines as a template when crafting the state administrative rules.

Kim Reynolds
Governor
Adam Gregg
Lt. Governor



Department of Public Safety

Roxann M. Ryan
Commissioner

Iowa's six jurisdictions that use Automated Traffic Enforcement (ATE) on Iowa's primary road system;

1. Des Moines
2. Davenport
3. Council Bluffs
4. Muscatine
5. Sioux City
6. Cedar Rapids

Iowa's two jurisdictions that use mobile Automated Traffic Enforcement on Iowa's secondary road system

1. Polk County Sheriff's Office
2. Windsor Heights Police Department

(d) Biennial survey of State automated traffic enforcement systems requirement.

- (1) Beginning with fiscal year 2018 highway safety plans** and biennially thereafter, the **State** must either -
- (i)** Certify, as provided in Appendix A, that automated traffic enforcement systems are not used on any **public road** in the **State**; or
 - (ii)**
 - (A)** Conduct a survey during the fiscal year of the grant meeting the requirements of paragraph (d)(2) of this section and provide assurances, as provided in Appendix A, that it will do so; and
 - (B)** Submit the survey results to the NHTSA Regional office no later than March 1 of the fiscal year of the grant.

(2) Survey contents. The survey shall include information about all automated traffic enforcement systems installed in the **State**, including systems installed in political subdivisions. The survey shall include:

- (i)** List of automated traffic enforcement systems in the **State**;
- (ii)** Adequate data to measure the transparency, accountability, and safety attributes of each automated traffic enforcement system; and
- (iii)** Comparison of each automated traffic enforcement system with -
 - (A)** "Speed Enforcement Camera Systems Operational Guidelines" (DOT HS 810 916), as updated; and
 - (B)** "Red Light Camera Systems Operational Guidelines" (FHWA-SA-05-002), as updated.

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CHAPTER 144
AUTOMATED TRAFFIC ENFORCEMENT ON THE PRIMARY ROAD SYSTEM

761—144.1(307) Purpose. The purpose of this chapter is to establish requirements, procedures, and responsibilities in the use of automated traffic enforcement systems on the primary road system. This chapter ensures consistency statewide in the use of automated traffic enforcement systems on the primary road system and pertains to fixed and mobile automated enforcement.
[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.2(307) Contact information. Information relating to this chapter may be obtained from the Office of Traffic and Safety, Iowa Department of Transportation, 800 Lincoln Way, Ames, Iowa 50010.
[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.3(307) Definitions. As used in this chapter:

“*Automated enforcement*” means the use of automated traffic enforcement systems for enforcement of laws regulating vehicular traffic.

“*Automated traffic enforcement system*” means a system that operates in conjunction with an official traffic-control signal, as described in Iowa Code section 321.257, or a speed measuring device to produce recorded images of vehicles being operated in violation of traffic or speed laws.

“*High-crash location*” means a location where data indicates a greater frequency or higher rate of crashes when compared with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

“*High-risk location*” means a location where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.

“*Interstate roads*” means the same as defined in Iowa Code section 306.3.

“*Local jurisdiction*” means a city or county.

“*Primary road system*” means the same as defined in Iowa Code section 306.3.
[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.4(307) Overview.

144.4(1) General.

a. Automated enforcement shall only be considered after other engineering and enforcement solutions have been explored and implemented.

b. An automated traffic enforcement system should not be used as a long-term solution for speeding or red-light running.

c. Automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.

d. Automated enforcement shall only be considered in areas with a documented high-crash or high-risk location in any of the following:

(1) An area or intersection with a significant history of crashes which can be attributed to red-light running or speeding.

(2) A school zone.

144.4(2) Applicability.

a. These rules apply only to local jurisdictions using or planning to use automated enforcement on the primary road system.

b. The department does not have the authority to own or operate any automated traffic enforcement system.

c. The department shall not receive any financial payment from any automated traffic enforcement system owned or operated by a local jurisdiction.

144.4(3) Department approval. A local jurisdiction must obtain approval from the department prior to using an automated traffic enforcement system on the primary road system.

[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.5(307) Automated traffic enforcement system request.

144.5(1) Justification report. A local jurisdiction requesting to use an automated traffic enforcement system on the primary road system shall provide the department a justification report. A licensed, professional engineer knowledgeable in traffic safety shall sign the justification report.

a. The justification report shall provide all necessary information and documentation to clearly define the area, provide evidence documenting why the area is a high-crash or high-risk location, and describe the process used to justify the automated traffic enforcement request.

b. At a minimum, the justification report shall:

(1) Document existing traffic speeds, posted speed limits, traffic volumes, and intersection or roadway geometry. Provide assurance that existing speed limits and traffic signal timings are appropriate and describe how they were established.

(2) Document applicable crash history, the primary crash types, crash causes, crash severity, and traffic violations. Only crashes attributable to speeding or the running of a red light shall be included in this report. Compare crash data with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

(3) Identify the critical traffic safety issue(s) from the data in subparagraphs 144.5(1) "b"(1) and (2) above and provide a comprehensive list of countermeasures that may address the critical traffic safety issue(s).

(4) Document solutions or safety countermeasures that have been implemented along with those that have been considered but not implemented. These may include law enforcement, engineering, public education campaigns, and other safety countermeasures.

(5) Document discussions held and actions taken with partnering agencies that have resources which could aid in the reduction of crashes attributable to speeding or the running of a red light.

(6) Document why the local jurisdiction believes automated enforcement is the best solution to address the critical traffic safety issue(s).

c. If the request is for a mobile automated enforcement system, the justification report shall also:

(1) Include a description of the mobile unit.

(2) Include the proposed duration of use at each location and indicate where the unit will be physically placed relative to the curb, shoulder, median, etc.

144.5(2) Request to department. The local jurisdiction shall submit a request and a justification report to the appropriate district engineer.

144.5(3) Department review. Within 90 days of receipt of the request and a complete justification report, the department will either approve or deny specific automated enforcement locations. The department may need additional response time if collection of data is needed, such as conducting a speed study. Incomplete justification reports will be returned to the local jurisdiction. The department will review the request and justification report, evaluate the process used, and determine if the proposed automated traffic enforcement system is needed and warranted. If approval to proceed is granted to the local jurisdiction, the department shall prepare an agreement which will be signed by the department and the local jurisdiction.

144.5(4) Public notice. Once the department receives a request and a complete justification report from a local jurisdiction, the department may notify the public and include information on the department's Web site.

[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.6(306,307,318,321) Minimum requirements for automated traffic enforcement systems. The following minimum requirements must be met for each automated traffic enforcement system.

144.6(1) Safe environment for motorists.

a. Any fixed or mobile automated traffic enforcement system must not create a potentially unsafe environment for motorists.

b. The system shall:

(1) Be installed and maintained in a safe manner.

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- (2) Be located where it does not impede, oppose or interfere with free passage along the primary highway right-of-way.
- (3) Be located where it does not create a visual obstruction to passing motorists.
- (4) Not be placed or parked on any shoulder or median of any interstate highway.
- (5) Not be placed or parked within 15 feet of the outside traffic lane of any interstate highway, unless shielded by a crashworthy barrier.
- (6) Not be placed or parked on the outside shoulder of any other primary highway for longer than 48 hours unless shielded by a crashworthy barrier.
- (7) Not be placed or parked within 2 feet of the back of the curb of a municipal extension of any primary road.
- (8) Be placed in a manner to avoid creating traffic backups or delays.
- (9) Not be placed nor operational within the defined limits of any construction or maintenance work zone.
- (10) Not be placed within the first 1,000 feet of a lower speed limit.

144.6(2) Signage.

- a. Permanent signs may be posted on primary access roads entering local jurisdictions that use automated enforcement technology.
- b. For all fixed automated traffic enforcement systems, permanent signs shall be posted in advance of the locations where enforcement systems are in use to advise drivers that cameras are in place.
- c. For mobile automated traffic enforcement systems, temporary or permanent signs advising that speed is monitored by automated traffic technology shall be posted in advance of the enforcement area as agreed to by the department and the local jurisdiction.
- d. All signing shall be in accordance with the "Manual on Uniform Traffic Control Devices," as adopted in 761—Chapter 130.

144.6(3) Enforcement.

- a. If used, automated enforcement technology shall be used in conjunction with conventional law enforcement methods, not as a replacement for law enforcement officer contact.
- b. Mobile automated traffic enforcement systems in a vehicle shall be owned and operated by a law enforcement agency, be marked with official decals, and have an "official" license plate affixed to the vehicle.

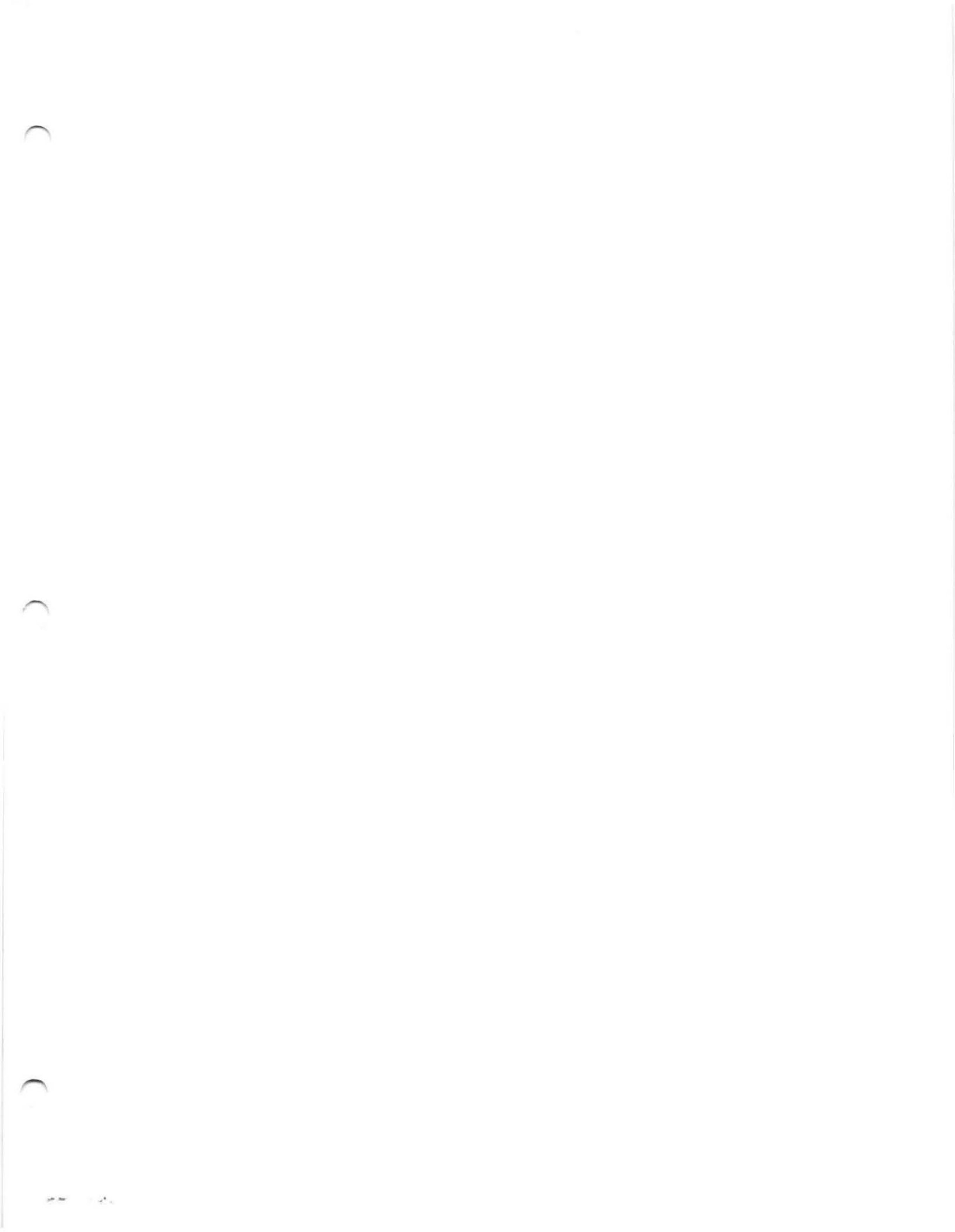
144.6(4) Calibration. Automated traffic enforcement systems require periodic calibration to ensure accuracy and reliability. Calibration shall be conducted by a local law enforcement officer, trained in the use and calibration of the system, at least quarterly for fixed systems and prior to being used at any new location for mobile systems.

[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.7(307) Evaluation and reporting.

144.7(1) Annual evaluation. Annually, each local jurisdiction with active automated enforcement on Iowa's primary highway system shall evaluate the effectiveness of its use.

- a. At a minimum, the evaluation shall:
 - (1) Address the impact of automated enforcement technology on reducing speeds or the number of red-light running violations for those sites being monitored.
 - (2) 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.
 - (3) 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.
 - (4) Provide the total number of citations issued for each calendar year the system has been in operation.
 - (5) Certify that the calibration requirements of subrule 144.6(4) have been met.
- b. Reserved.



144.7(2) Reporting requirements. The annual evaluation shall be reported to the department's office of traffic and safety at the address listed in rule 761—144.2(307) by May 1 each year following a full calendar year of operation and shall be based on performance for the previous year.

[ARC 1260C, IAB 1/8/14, effective 2/12/14]

761—144.8(307) Continued use of automated traffic enforcement system.

144.8(1) Reevaluation. The department will utilize information collected from the annual evaluation reports from local jurisdictions to assist in evaluating the continued need for such systems at each location. Continued use will be contingent on the effectiveness of the system, appropriate administration of it by the local jurisdiction, the continued compliance with these rules, changes in traffic patterns, infrastructure improvements, and implementation of other identified safety countermeasures.

144.8(2) Reserve the right. The department reserves the right to require removal or modification of a system in a particular location, as deemed appropriate.

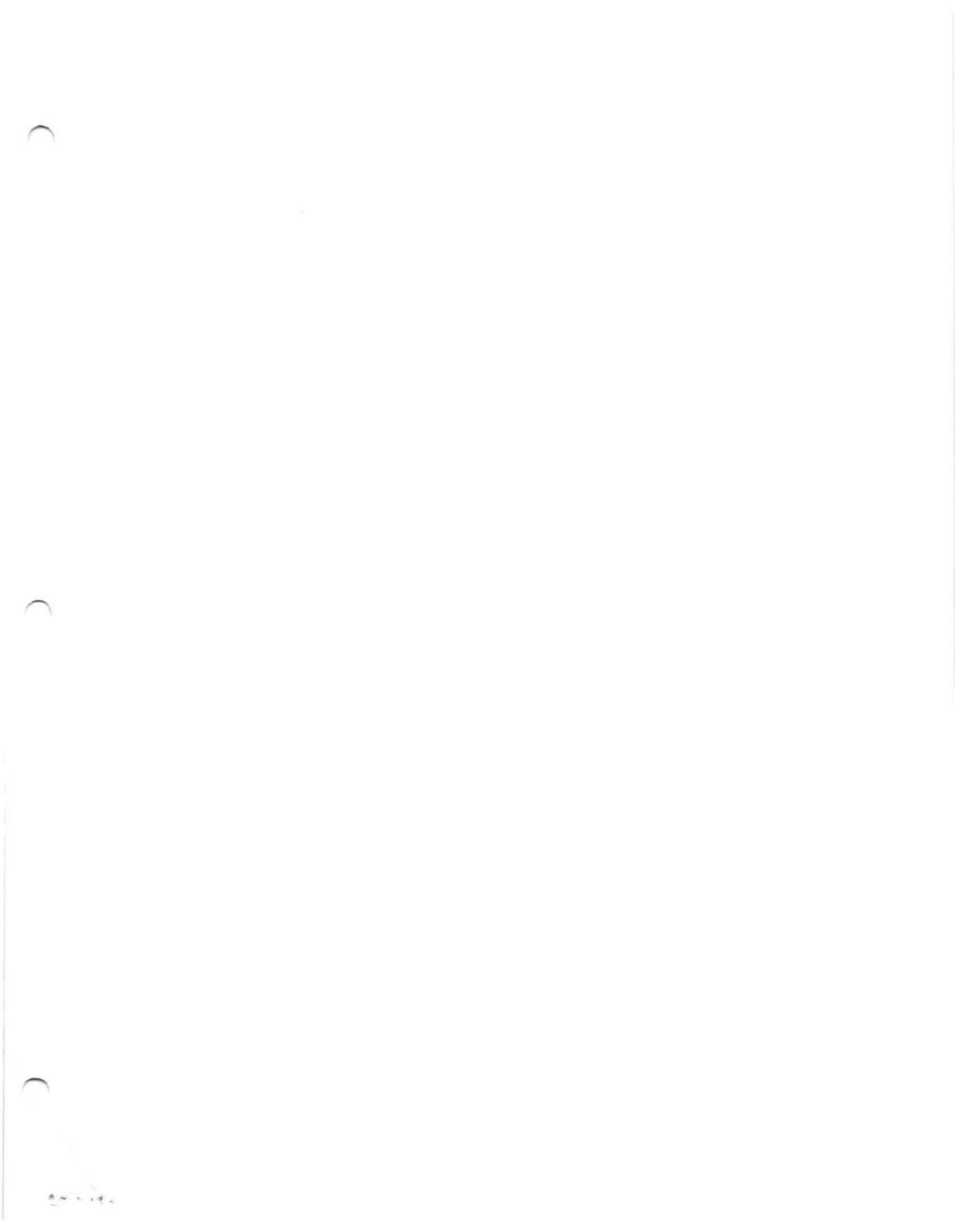
[ARC 1260C, IAB 1/8/14, effective 2/12/14]

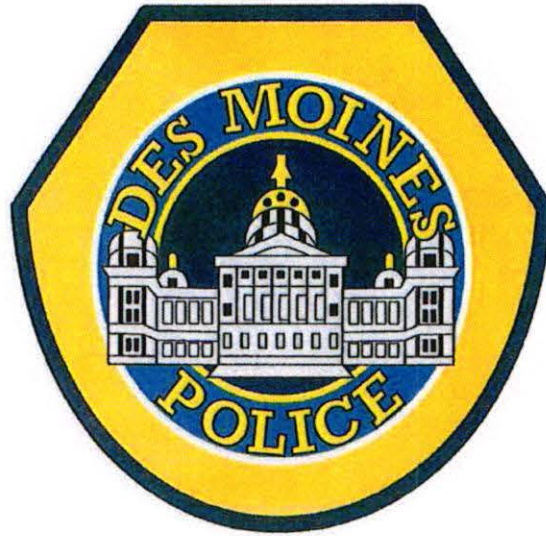
761—144.9(307) Appeal process. A local jurisdiction may appeal a decision made by the department as part of this chapter by submitting a written explanation of the issue and any supporting information to the director of transportation. Once the director receives the appeal, the director shall have 30 days to respond. The director's decision is final agency action.

These rules are intended to implement Iowa Code chapter 318 and sections 306.4, 307.12, 321.348 and 321.366.

[ARC 1260C, IAB 1/8/14, effective 2/12/14]

[Filed ARC 1260C (Notice ARC 1037C, IAB 10/2/13), IAB 1/8/14, effective 2/12/14]





**2016 ANNUAL REPORT
AUTOMATED TRAFFIC ENFORCEMENT ON
PRIMARY HIGHWAYS IN DES MOINES**



2016 ANNUAL REPORT

AUTOMATED TRAFFIC ENFORCEMENT ON PRIMARY HIGHWAYS IN DES MOINES

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Des Moines Police Department

2016 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	2016
E 15 th & Maple	950	1054	493	456	981	1609
MLK & School	1633	5040	6146	5687	6006	7627

**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 15th & 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 2016 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 plus the increase in 2016 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 15th 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	2016
E 15 th & Maple St. (NB)	16	10	4	5	5	6	1	10	13
MLK & School St. (EB)	16	12	4	6	6	10	8	11	13
I-235 / 4200-4700 Block (EB)	5	9	2	2	3	6	2	10	9

**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 15th & 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. Again, the number of crashes increase, by two, from 2015 to 2016 a total of 13.
- The number of crashes at **MLK and School St (EB)** decreased, as well, after the implementation of cameras. Again, 2015/2016 shows an increase in crashes and red light violations.
 - Measured improvement in 2014 with a reduction to 8, from 10 in 2013.
 - In 2015 and 2016 the number of crashes are on the rise to 11 and 13 respectfully, at the **MLK/School** intersection, indicating a continued need for enforcement.
- According to DOT data, the highest volume of traffic on Iowa's roadways is on I-235 in Des Moines between 56th and 42nd Street. This location is where the I-235 ATE cameras are utilized.
- DOT only estimates daily average daily traffic on I-235 every two years. These calculations are for both directions of I-235. The traffic count for 2016 are not available at the time of this report.
 - According to the DOT data, the average daily traffic on I-235 in 2012 was 82,900 vehicles per day, which calculates to approximately 30,258,500 vehicles per year.

- According to the DOT data, the average daily traffic on I-235 in 2014 was 90,000 vehicles per day, calculating to approximately 32,850,000 vehicles per year. This average is *both eastbound and westbound traffic*.
- **This represents an increase of 2,591,500 cars or 8.5%**
- For 2016, GATSO provided a total number of passes through the eastbound fixed cameras on I-235. This number is higher than the estimation of the DOT. The yearly total of **vehicles travelling EB I-235 is 23,667,375.**
- **Top speed captured on I-235 EB was 107mph.**
- Zero Passes – 2,938,412 (*Vehicles which speed/citations were unattainable. These are due to rejections for numerous reasons including but not limited to; inability to read the plate, changing lanes, plates not on file, semi-trailer plates, emergency vehicles running emergency.*)
- Recorded speeds – The speed limit at the fixed camera of EB I-235 is 60 mph. The City of Des Moines does not issue a civil citation until 11mph over the speed limit.
 - **1-60 mph 11,796,064 (Not speeding)**
 - **61-70 mph – 8,827,964 (Speeding but no citation issued)**
 - **71 mph (or faster) – 104,935 (Sent for review by an Officer)**
- *Of 104,935 citations, 60,826 citation were issued and mailed to the registered owner. 42% of the citations were not issued for reasons similar to that of the “zero passes” mentioned above. Of 23,667,375 passing vehicles, on four lanes of I-235, 60,826 citations were issued. This calculates to LESS THAN 1/2 of (1) ONE PERCENT (.0025) of all eastbound vehicles receiving a citation by automated traffic enforcement.*
- Breakdown of speeding citations by lane
 - Lane 1 – (Fast Lane) – 40,362 = 66% of all citations
 - Lane 2 - 10824 = 18 %
 - Lane 3 - 6284 = 10%
 - Lane 4 – (Slow Lane) 3356 = 6%
- **The cameras are functioning as intended. They identify the most aggressive drivers with the intent to change behavior; slow or calm traffic.**

○ **AVERAGE NUMBER OF CRASHES**

Location	Average number of crashes before ATE 2009-2011	Average number of crashes after ATE 2011-2016
E 15 th & Maple	12	7.2
MLK & School	12.8	9.8
I-235 EB between the 4200-4700 block (EB)	6.4	5.8

- The average number of crashes after ATE cameras has decreased significantly at each of these three locations.
 - **40% reduction in crashes on E15th / Maple.**
 - **23% reduction in crashes on MLK / School.**
 - **9% reduction in crashes on I-235.**

TYPES OF CRASHES - E 15th & 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
2016	13	7 Ran Light / Broadside 2 Rear End 3 Sideswipe 1 Unk/Other	1609

**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 statistical number of crashes caused by traffic violations has decreased by **40%** 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	Time	Description
16-868	1/9/2016	1419	NB RAN LIGHT VS WB
16-4081	2/10/2016	1400	WB LOST CONTROL VS NB, SLUSHY
16-6863	3/8/2016	0943	NB RAN LIGHT VS WB
16-7225	3/11/2016	1659	NB LEFT TURN VS NB SIDESWIPE
16-19582	6/30/2016	1857	NB RAN LIGHT VS WB
16-22922	7/30/2016	1035	NB ROLLED THROUGH LIGHT VS WB, DISTRACTED
16-28680	9/15/2016	2259	NB IMPROPER LEFT RUN VS NB
16-30937	10/3/2016	1720	NB VS NB REAR END HR
16-31831	10/11/2016	1238	NB LEFT TURN FTY TO PEDESTRIAN
16-32663	10/18/2016	1353	NB RAN LIGHT VS WB
16-35525	11/12/2016	1115	WB RAN LIGHT VS NB
16-36030	11/16/2016	2127	NB SIDESWIPE VS NB, LOST CONTROL
16-37557	12/1/2016	0900	NB VS NB VS NB REAR END

At Fault – Running the Light

Westbound vs Northbound = 2
 Northbound vs Westbound = 5

At Fault – Rear End

Northbound vs Northbound = 2

At Fault – Sideswipes

Northbound vs Northbound = 2
 Hit and Run = 1

FTY to Pedestrian

Northbound turning westbound = 1

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
2016	13	9 Ran Light / Broadside 1 Rear End 3 Sideswipe 0 Unk/Other	7627

**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 statistical number of crashes caused by traffic violations decreased by 23% 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 2016, which may be 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	Time	Description
16-1587	1/16/2016	1615	SB RAN LIGHT VS EB
16-6999	3/9/2016	1332	SB IMPROPER LEFT TURN VS SB SIDESWIPE
16-12902	5/4/2016	710	EB IMPROPER TURN VS EB SIDESWIPE
16-14047	5/14/2016	1602	SB RAN LIGHT VS EB
16-14796	5/21/2016	1521	SB RAN LIGHT VS EB
16-16761	6/7/2016	2054	SB RAN LIGHT VS EB
16-18349	6/20/2016	1710	EB RAN LIGHT VS SB
16-27729	9/7/2016	1900	SB RAN LIGHT VS EB
16-31827	10/11/16	1143	EB VS EB REAR END
16-32394	10/16/16	1250	EB VS EB SIDESWIPE
16-33596	10/26/16	1459	SB RAN LIGHT VS EB
16-34359	11/1/16	2028	SB VS EB (UNKNOWN)
16-40595	12/19/16	1000	SB RAN LIGHT VS EB

At Fault – Running the Light

Southbound vs Eastbound = 7

Eastbound vs Southbound = 1

SB vs EB = Unknown fault = 1

At Fault - Rear End

Eastbound vs Eastbound = 1

At Fault – Sideswipe

Eastbound vs Eastbound = 2

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
2016	9	1 Lost Control Lane 1 (Fast Lane) 40362 5 Rear End Lane 2 10824 2 Sideswipe Lane 3 6284 1 Unk/Other/Medical Lane 4 (slow lane) 3356	60826

**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 statistical number of crashes caused by traffic violations on I-235 (4700 block to 4200 block) have decreased by 9% 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.

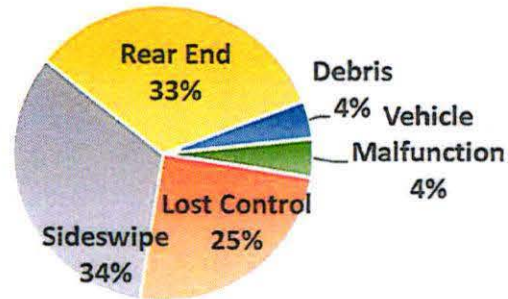
<i>Case Number</i>	<i>Date</i>	<i>Time</i>	<i>Description</i>
16-2012	1/21/16	0818	Single MV -Lost control (Ice) into barrier
16-2870	1/30/16	0029	MV-MV H&R - Rear end
16-10336	4/11/16	1230	Single MV – lost control into barrier - medical
16-10628	4/14/16	1013	MV-MV- Sideswipe
16-13194	5/6/16	1530	MV-MV Rear end - merging
16-15042	5/23/16	1748	MV-MV - Rear end- stopped traffic
16-15093	5/24/16	0858	MV-MV – Rear end – changing lanes
16-29052	9/19/16	0300	MV-MV-Sideswipe-speed
16-29185	9/20/16	0753	MV-MV – rear end – slowing traffic

At Fault - Rear End = 5

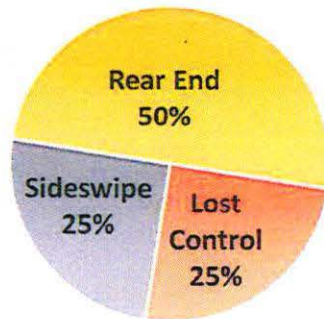
At Fault - Sideswipes = 2

At Fault - Lost Control = 2

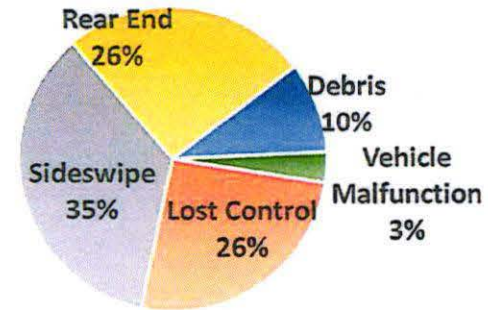
**Causation of Crashes
I-235 4200/4700 Block (5.5 to 4.8 MM) EB
2009-2016**

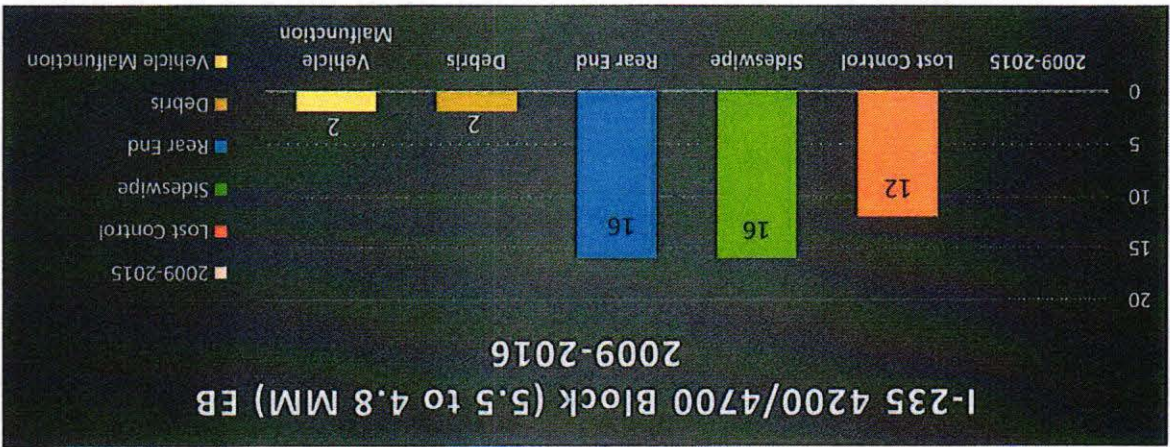
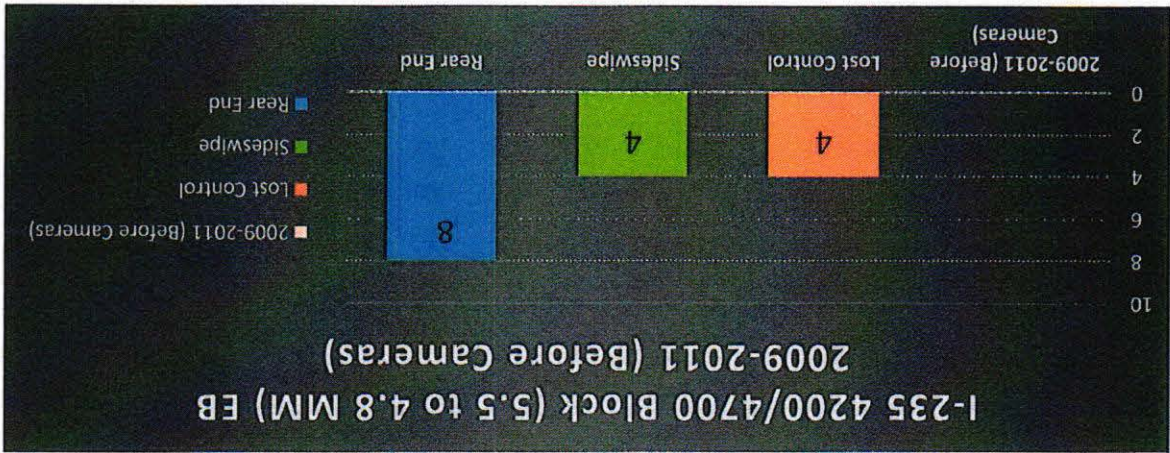
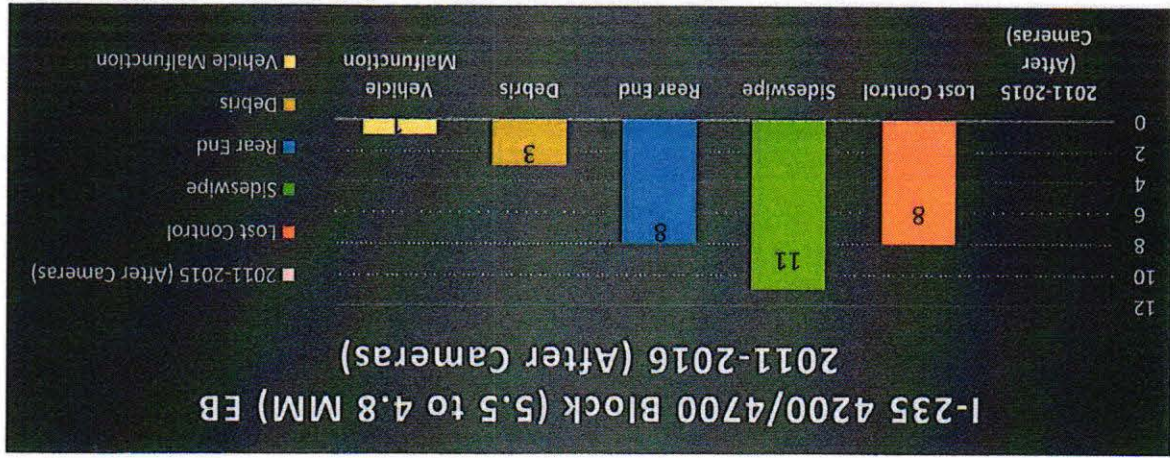


**Causation of Crashes
I-235 4200/4700 Block (5.5 to 4.8 MM) EB
2009-2011 (Before ATE Cameras)**



**Causation of Crashes
I-235 4200/4700 Block (5.5 to 4.8 MM) EB
2011-2016 (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 15th 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 15th 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 15th 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 E15th 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 and the motoring public 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 option to enforce speed at this location, through technology, 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.

Citations Issued	2011	2012	2013	2014	2015	2016
Red Light Intersections	2583 (July 2 – Dec 31)	6094	6639	6143	6987	9236
I-235 4700 block Speed	19486 (Sep 27- Dec 31)	36202	42156	44602	55384	60826

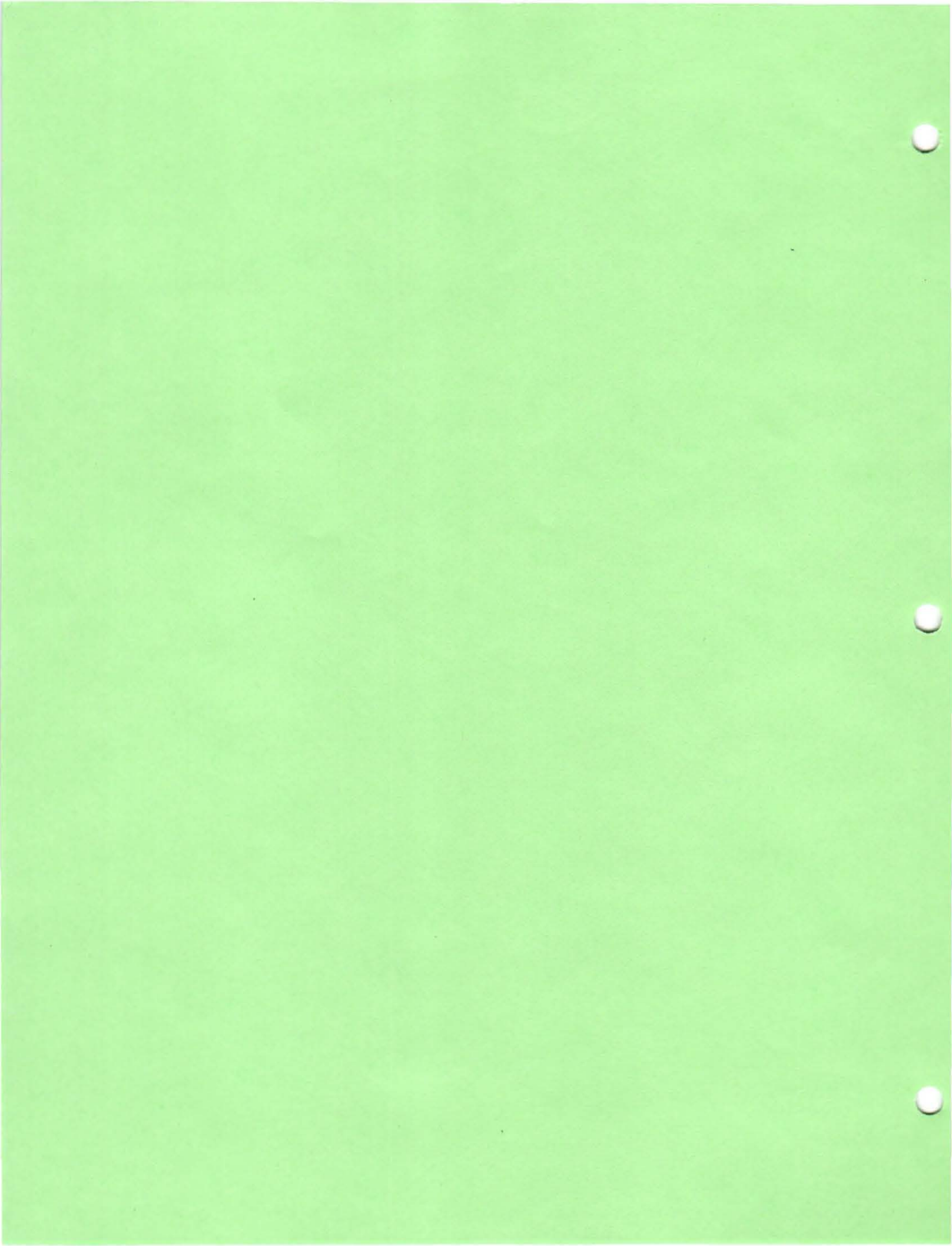
Data provided from Gatso Inc., and include the Issued Citations by Approach.

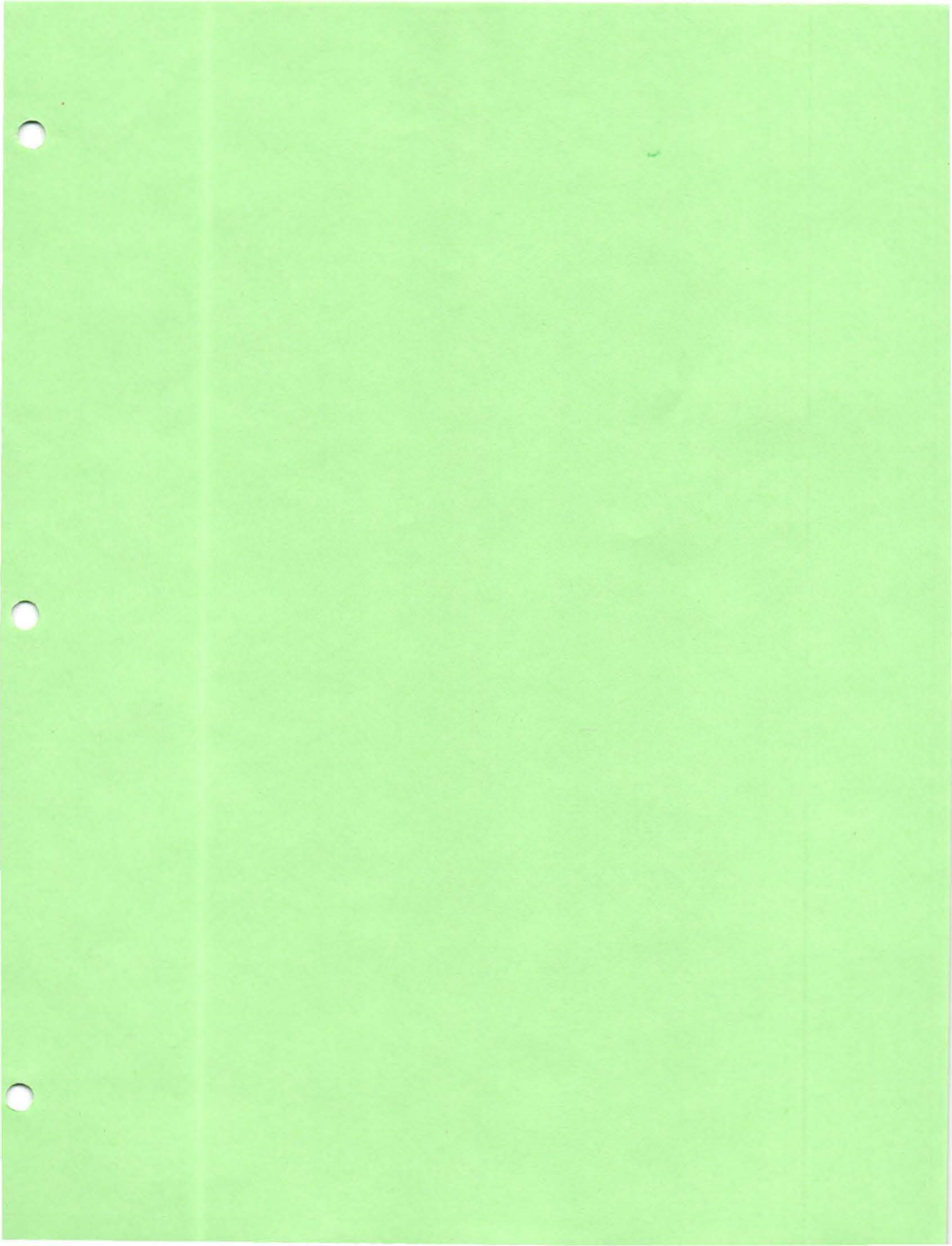
Mobile Speed Camera:

- 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 27 June 16 by GATSO USA.
- DOT calibration requirement is *quarterly*.
- DMPD calibration verification were conducted:
 - January 6, 2016
 - February 1, 2016
 - March 7, 2016
 - April 12, 2016
 - May 2016 – not done - Investigated 5 Serious/Fatal accident investigations.
 - June 1, 2016
 - July 20, 2016
 - August 2016 – not done - Investigated 5 Serious/Fatal accident investigations.
 - September 8, 2016
 - October 6, 2016
 - November – not done - Homicides of Des Moines / Urbandale Officers
 - December 14, 2016
 - January 2017 – not done -Scheduling conflict
 - February 1, 2017
 - March 13, 2017
- DMPD Police Traffic units, conducting calibrated tests, are outfitted with a speed sensor.





Evaluation of 2016 Automated Traffic Enforcement Report City of Des Moines

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Des Moines uses ATE systems to enforce red-light running violations at two signalized intersections on the primary highway system. In addition, they use an ATE system to enforce speed violations at one location along I-235.

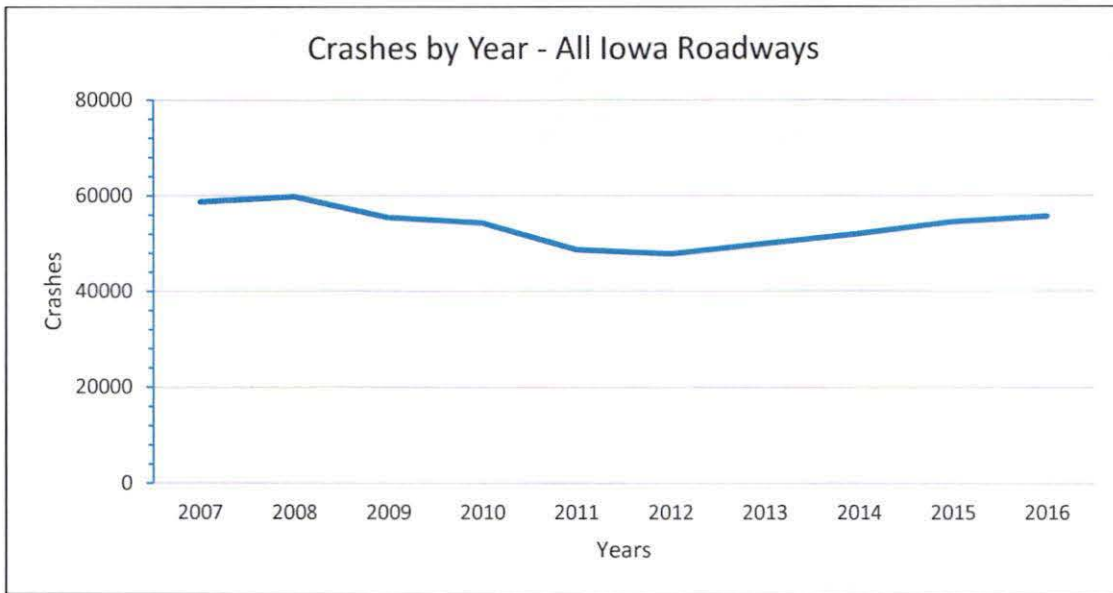
In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report focuses primarily on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The National Highway Traffic Safety Administration (NHTSA) conducted one of the most comprehensive reports to date on the causation of crashes in the United States. This report titled, "National Motor Vehicle Crash Causation Survey – Report to Congress" was published in 2008 and documents the investigation of 6,950 crashes nationwide. This study involved researchers being at the crash scene to assess relatively undisturbed information pertaining to the events and factors that led up to the crash and the opportunity to discuss the circumstances of the case with drivers, passengers, and witnesses while it was still fresh in their minds. The researchers on the scene were in an ideal position to gather first-hand information related to the vehicle, the roadway, the environmental conditions, and the human behavior factors. Some of the critical findings include:

- 95% of all crashes were caused by the drivers, 2.5% were caused by the vehicles, and 2.5% were caused by roadway/weather
- Of the 95% that were attributed to drivers:
 - o 40.6% was driver recognition error (inadequate surveillance, internal/external distraction, inattention, etc.)
 - o 34.1% was driver decision error (too fast for conditions, too fast for curve, false assumptions, illegal maneuver, misjudgment, etc.)
 - o 10.3% was driver performance error (overcompensation, poor control, etc.)
 - o 7.1% was driver non-performance error (sleep, heart attack/other physical impairment, etc.)
 - o 7.9% was other/unknown driver error

This report helps us better understand the primary causation of crashes. The speed at which a driver chose to drive was a primary cause in some of the crashes. Specifically, 8.4% were driving too fast for conditions and 4.9% were driving too fast for a curve. However, speed was not the primary causation in 86.7% of crashes caused by the driver, nor the crashes caused by vehicles or roadway/weather.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Des Moines Annual Report:

We have completed our review of your 2016 automated traffic enforcement (ATE) report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- "2016 Annual Report, Automated Traffic Enforcement on Primary Highways in Des Moines"
- I-235 Safety Audit, conducted November 24, 2014.
- Crash data obtained by the Iowa DOT using the Iowa crash database (includes all statewide reported crash reports)

Intersection speed and red light cameras:

The city has red-light violation cameras at two intersections on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

East 15th Street and Maple Street

Findings:

- Camera activated 7/2011.
- Northbound approach subject to traffic camera enforcement.
- Crash data (from city):

Year	Crashes
2009	16
2010	10
2011	9 -- Camera activated
2012	5
2013	6
2014	1 – some crash data unavailable...so incomplete information
2015	10
2016	13
- Crash data (DOT provided – includes all crashes using 75 feet radius):
 - 16 in 2004
 - 18 in 2005
 - 15 in 2006
 - 19 in 2007
 - 14 in 2008
 - 17 in 2009
 - 10 in 2010
 - 9 in 2011 – Camera activated
 - 6 in 2012
 - 8 in 2013
 - 3 in 2014
 - 10 in 2015
 - 12 in 2016

Resulting Action:

- Continue operation of red-light camera at this location.

Martin Luther King and School Street

Findings:

- Camera activated 7/2011.
- Eastbound approach subject to traffic camera enforcement.
- Crash data (from city):

Year Crashes	
2009	16
2010	12
2011	10 -- Camera activated
2012	6
2013	10
2014	8 – some crash data unavailable...so incomplete information
2015	11
2016	13
- Crash data (DOT provided – includes all crashes using 75 feet radius):

31 in 2004
30 in 2005
18 in 2006
16 in 2007
24 in 2008
17 in 2009
13 in 2010
10 in 2011 – Camera activated
7 in 2012
13 in 2013
9 in 2014
11 in 2015
13 in 2016
- This is an intersection of two, one-way streets. Traffic enters from the west and the north only.
 - o Approximately 90% of all crashes are a right-angle crash involving an eastbound and southbound vehicle
- The number of red-light citations at this location is very high:

5,040 in 2012
6,146 in 2013
5,687 in 2014
6,006 in 2015
7,627 in 2016

 - o A majority of the citations are from the far right lane involving drivers turning right on red, over 5,000 of 6,146 citations in 2013.

- In the summer of 2015, the Iowa DOT installed two additional "PHOTO ENFORCED" signs (one on the left and one on the right) on School Street/exit ramp closer to MLK Blvd. An existing "PHOTO ENFORCED" sign was previously, and still is, located approximately 650+ feet from the intersection.
- The DOT and the city conducted an evaluation of the intersection and agreed to prohibit all right-turn-on-red movements for eastbound School Street to southbound MLK Blvd. This change will occur in fall 2017.

Resulting Action:

- Continue operation of red-light camera at this location.

Fixed Speed Cameras on I-235:

Fixed speed cameras: The city has one set of fixed speed cameras located on I-235 near Waveland Golf Course. DOT's findings and resulting action are set forth below.

I-235 Eastbound near Mile Marker 4.9:

- Cameras activated 10/2011.
- Crash data (city provided – mile marker 4.8 to 5.5):

Year	Crashes
2009	5
2010	9
2011	4 -- Cameras activated
2012	3
2013	6
2014	2 – some crash data unavailable...so incomplete information
2015	10
2016	9
- Crash data (DOT provided – includes all crashes from mile marker 4.8 to 5.5):

8 in 2004
15 in 2005 – I-235 construction
25 in 2006 – I-235 construction
12 in 2007 – I-235 construction
10 in 2008
5 in 2009
12 in 2010
3 in 2011 – Camera activated
5 in 2012
9 in 2013
1 in 2014
7 in 2015
8 in 2016
- This location experiences a low crash rate -- as per I-235 Safety Audit.
- The number of speed citations at this location is extremely high:

36,202 in 2012
42,156 in 2013
44,602 in 2014
55,384 in 2015
60,826 in 2016

- Iowa Administrative Code 761-144.4(1)(c) provides that automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.
 - o Local drivers are typically aware of speed cameras and therefore monitor their speed accordingly. Non-familiar drivers often do not see/read the photo enforced signs and therefore may not monitor their speed accordingly.
- The reviews conducted by the Iowa DOT over the last three years resulted in the following determination:

Remove the eastbound I-235 cameras near Mile Marker 4.9.

- o *Crash rate was low before the cameras were installed*
- o *Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.*

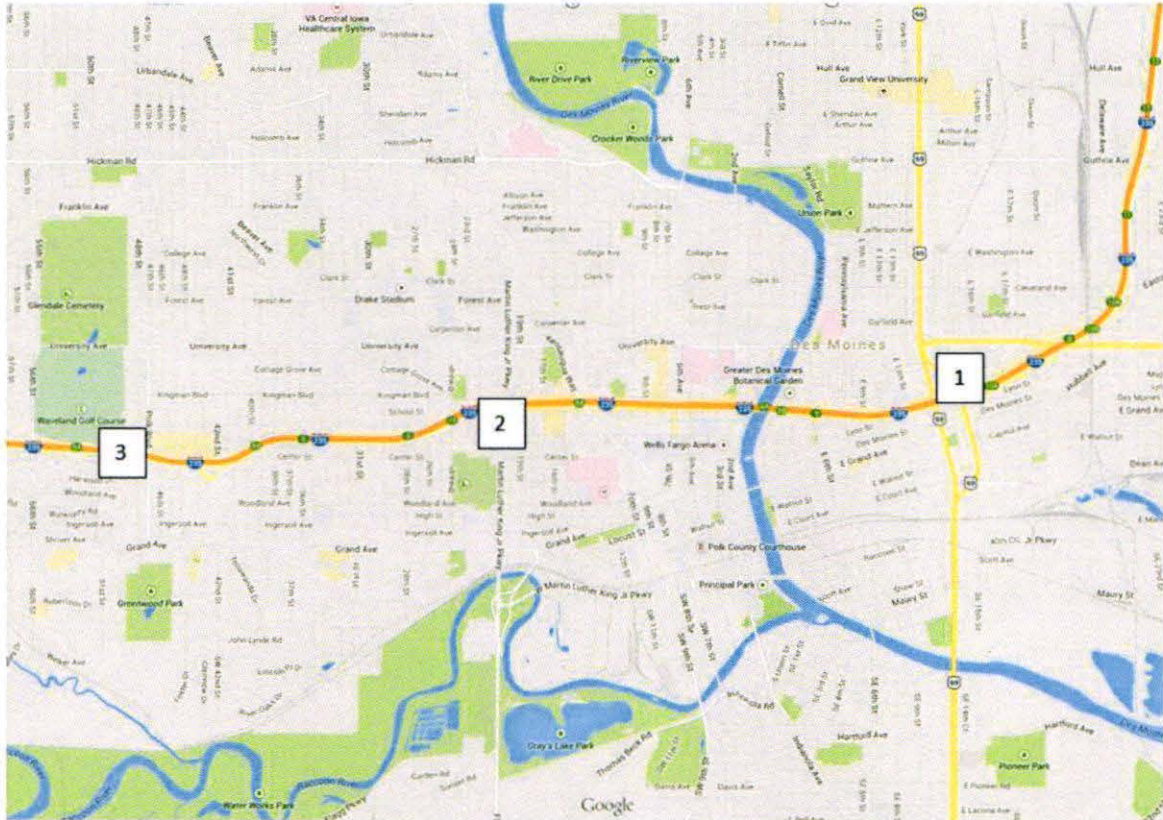
Resulting Action:

- Remove the eastbound I-235 cameras near Mile Marker 4.9.
 - o Crash rate was low before the cameras were installed
 - o Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

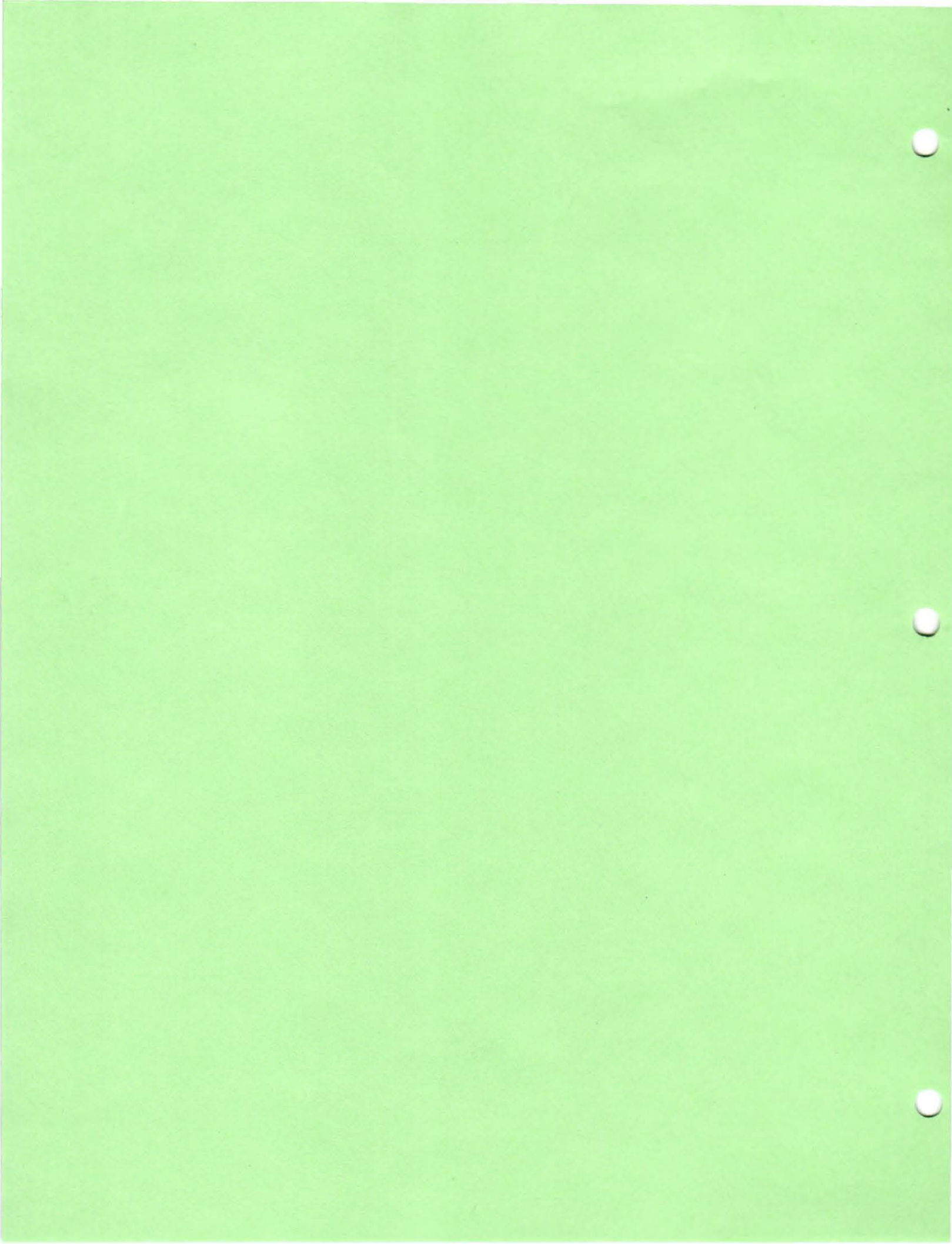
Summary:

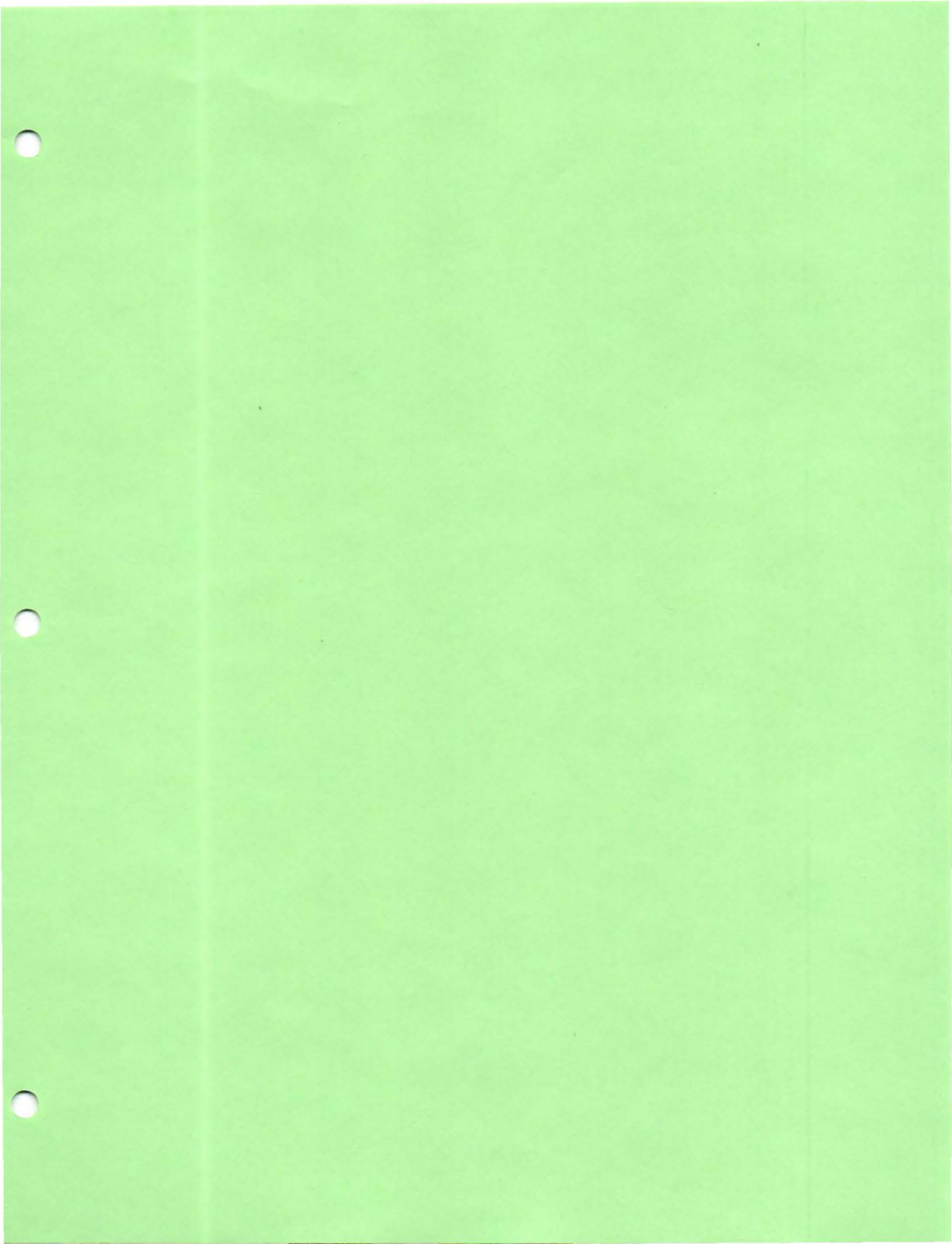
Based on the results of this review, the red-light running cameras located at East 15th Street and Maple Street, and Martin Luther King and School Street, may continue to be operated in accordance with Iowa Administrative Code 761—144. Because of the pending lawsuit, the Iowa DOT will not take legal action against the City to remove the set of speed cameras on I-235 until the court has rendered a final decision.

Map of Des Moines ATE systems on the primary highway system:



1. East 15th St and Maple St
2. MLK and School St
3. I-235 EB near Waveland Golf Course





DIVISION 3. Automated Traffic Enforcement

Sec. 114-243. Civil Automated Traffic Enforcement.

- (a) General. The city of Des Moines, in accordance with the police powers authorized it by the state of Iowa for governing safe traffic flow, may deploy, erect or cause to have erected an automated traffic enforcement system for making video images of vehicles that fail to obey red light traffic signals at intersections designated by the city manager or his designee or fail to obey speed regulations at other locations in the city. The system may be managed by the private contractor that owns and operates the requisite equipment with supervisory control vested in the city's police department. Video images shall be provided to the police department by the contractor for review. The police department will determine which vehicle owners are in violation of the city's traffic control ordinances and are to receive a notice of violation for the offense.

- (b) Definitions. The following phrases or terms when used in this section shall have the meanings ascribed to them herein:

Automated traffic enforcement system means an electronic system consisting of a photographic, video, or electronic camera and a vehicle sensor installed to work in conjunction with an official traffic controller or police department employee to automatically produce photographs, video or digital images of each vehicle violating a standard traffic control device or speed restriction.

Vehicle owner means the person or entity identified by the Iowa Department of Transportation, or registered with any other state vehicle registration office, as the registered owner of a vehicle.

- (c) Offense.

- (1) The vehicle owner shall be liable for a civil penalty as imposed below if such vehicle crosses a marked stop line or the intersection plane at a system location when the traffic signal for that vehicle's direction is emitting a steady red light or red arrow.
- (2) The vehicle owner shall be liable for a civil penalty as imposed below if such vehicle travels at a speed above the posted speed limit.
- (3) The violation may be rebutted by a showing that a stolen vehicle report was made on the vehicle encompassing the time period in question.
- (4) The notice of violation shall not be reported to the Iowa Department of Transportation or similar department of any other state for the purpose of being added to the vehicle owner's driving record.

- (d) Penalty and Appeal.

- (1) Any violation of subsection (c)(1) or subsection (c)(2) above shall be considered for a notice of violation for which a civil penalty in the amount specified in the schedule of administrative penalties adopted by city council by resolution shall be imposed, payable to the city at the city's finance department or a designee.
- (2) A recipient of an automated traffic enforcement notice of violation may dispute the notice of violation by requesting an administrative hearing pursuant to chapter 3 or by requesting issuance of a municipal infraction by the police department. The request for an administrative hearing or issuance of a municipal infraction must initially be made within 30 days of the date that the notice of violation is

issued. If the recipient of an automated traffic notice of violation who requests an administrative hearing is not satisfied with the determination of the hearing officer, he or she may request the police department to issue a municipal infraction within 30 days of the date of determination. If a timely request is made to the police department for the issuance of a municipal infraction, the city may issue a municipal infraction or dismiss the notice.

(C00, § 114-243; O.14,885, 15,594)

Secs. 114-244--114-254. Reserved.

2016 ANNUAL REPORT

AUTOMATED TRAFFIC ENFORCEMENT ON DES MOINES ROADWAYS (Non-Highway)

This document is in addition to the annual report provided to the DOT. This report is in response to a request from GTSB to provide additional ATE enforcement documentation to NHTSA. The annual report provided to DOT is information on ATE enforcement on primary highways. This report details the remaining red light intersection and mobile radar unit statistics at non-highway intersections and city roadways.

Red Light Locations	2011 (July-Dec)	2012	2013	2014	2015	2016
19 th / University	986	2056	2188	1290	2203	2004
9 th / Grand	330	1163	1005	1197	1662	764 Speed on Green (2016) 2433
SE 5 th / Army Post	847	1043	929	1170	1084	1033

**These statistics were pulled from Gatso, Inc., and are based on Citations Resulted from Captured Violations by Approach.*

CRASHES

Location	2009	2010	2011 Before Cameras	2011 After Cameras	2012	2013	2014	2015	2016
19 th / University	8	3	3	4	4	12	11	3	14
9 th / Grand	11	6	6	3	5	5	10	18	19
SE 5 th / Army Post	10	12	4	4	7	9	11	11	13

The data reflects crash data recorded by DMPD and the City of Des Moines

AVERAGE NUMBER OF CRASHES

Location	Average number of Crashes before cameras 2009-2011	Average number of Crashes after cameras 2011-2016
19 th / University	5.6	8.7
9 th / Grand	9.2	10.9
Se 5 th / Army Post	10.4	10

- 55% increase in crashes at 19th / University
- 18% increase in crashes at 9th / Grand
- 4% reduction in crashes at SE 5th / Army Post

Average crash comparisons are at a 2.5 years pre-cameras vs. 5.5 years for post-camera installation.

TYPES OF CRASHES – 9TH/GRAND - Southbound

Year	Number of Crashes	Crash Types		Red Light Violations Issued
2009	11	8	Ran Light	N/A
		0	Rear End	
		0	Sideswipe	
		3	Unk/Other/FTY	
2010	6	4	Ran Light	N/A
		0	Rear End	
		0	Sideswipe	
		2	Unk/Other/FTY	
2011* Before Camera	6	5	Ran Light	N/A
		0	Rear End	
		0	Sideswipe	
		0	Unk/Other/FTY	
2011* After Camera	3	3	Ran Light	330
		0	Rear End	
		0	Sideswipe	
		0	Unk/Other/FTY	
2012	5	5	Ran Light	1163
		0	Rear End	
		0	Sideswipe	
		0	Unk/Other/FTY	
2013	5	3	Ran Light	1005
		0	Rear End	
		0	Sideswipe	
		2	Unk/Other/FTY	
2014	10	6	Ran Light	1197
		0	Rear End	
		0	Sideswipe	
		2	Unk/Other/FTY	
2015	18	16	Ran Light	1662
		0	Rear End	
		1	Sideswipe	
		1	Unk/Other/FTY	
2016	19	11	Ran Light	764
		4	Rear End	
		2	Sideswipe	
		2	Unk/Other/FTY	

Case Number	Date	Time	Description
16-1425	1/15/2016	0230	WB VS WB REAR END, FOLLOW TOO CLOSE
16-4065	2/10/2016	1138	WB RAN LIGHT VS SB, SNOW
16-4302	2/12/2016	1228	WB VS SB UNKNOWN FAULT
16-8419	3/23/2016	1430	SB VS SB SIDESWIPE, IMPROPER LANE USE
16-8470	3/24/2016	0640	SB RAN LIGHT VS WB
16-10530	4/13/2016	1007	WB RAN LIGHT VS SB
16-20615	7/10/2016	1630	WB RAN LIGHT VS SB
16-21464	7/17/2016	1656	WB RAN LIGHT VS SB
16-22573	7/27/2016	0830	SB VS SB VS SB REAR END, FOLLOW TOO CLOSE
16-23681	8/6/2016	0238	WB VS WB SIDESWIPE, LOST CONTROL
16-25606	8/21/2016	2044	SB CAR OWI VS WB AMBULANCE WITH LIGHTS/SIREN
16-27539	9/6/2016	1403	WB RAN LIGHT VS SB
16-28135	9/11/2016	1125	WB RAN LIGHT VS WB
16-30783	10/2/2016	1128	SB RAN LIGHT VS WB
16-30792	10/2/2016	1408	WB RAN LIGHT VS SB
16-30866	10/3/2016	0920	SB VS SB REAR END
16-34813	11/5/2016	1939	SB VS SB REAR END
16-37949	12/4/2016	1911	SB BACKING HR VS SB STOPPED
16-40222	12/25/2017	2025	WB VS SB UNKNOWN FAULT, PROBABLY WB

At Fault – Running the Light

Westbound vs Southbound = 9
Southbound vs Westbound = 3

At Fault – Rear End

Southbound vs Southbound = 4
Westbound vs Westbound = 1

At Fault – Sideswipes

Westbound vs Westbound = 1
Southbound vs Southbound = 1

(8) eight of (19) nineteen vehicles southbound, were the causation of the crash. = 42%

TYPES OF CRASHES – 19TH/UNIVERSITY - Northbound

Year	Number of Crashes	Crash Types		Red Light Violations Issued
2009	8	8 0 0 0	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2010	3	1 0 1 1	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2011* Before Camera	3	2 0 1 0	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2011* After Camera	4	3 1 0 0	Ran Light Rear End Sideswipe Unk/Other/FTY	986
2012	4	2 0 1 1	Ran Light Rear End Sideswipe Unk/Other/FTY	2056
2013	12	7 3 0 2	Ran Light Rear End Sideswipe Unk/Other/FTY	2188
2014	11	4 2 0 5	Ran Light Rear End Sideswipe Unk/Other/FTY	1290
2015	3	2 1 0 0	Ran Light Rear End Sideswipe Unk/Other/FTY	2033
2016	14	5 6 2 1	Ran Light Rear End Sideswipe Unk/Other/FTY	2004

Case Number	Date	Time	Description
16-3775	2/6/2016	1120	WB VS WB REAR END, FOLLOW TOO CLOSE
16-12985	5/4/2016	2011	WB VS WB REAR END
16-13470	5/8/2016	2108	EB RAN LIGHT VS NB
16-13827	5/12/2016	1300	EB RAN LIGHT VS NB
16-14655	5/20/2016	0850	EB RAN LIGHT VS NB
16-17903	6/17/2016	1125	EB VS EB SIDESWIPE, IMPROPER LANE CHANGE
16-19309	6/28/2016	1558	WB VS WB REAR END
16-20400	7/8/2016	1113	NB VS NB VS NB VS NB REAR END, BRAKE FAILURE, ALL CARS ALREADY STOPPED
16-28301	9/12/2016	1829	WB LEFT TURN WRONG WAY VS NB
16-30384	9/29/2016	0820	WB VS WB REAR END, FOLLOW TOO CLOSE
16-34005	10/29/2016	2234	EB RAN LIGHT TURNING LEFT VS WB
16-34977	11/7/2016	1202	WB VS WB REAR END
16-35209	11/9/2016	1422	NB vs NB SIDESWIPE - OWI
16-36359	11/21/2016	1415	NB vs WB

At Fault – Running the Light

Eastbound vs Northbound = 3
 Eastbound vs Westbound = 1
 Westbound vs Northbound = 1
 Northbound vs Westbound = 1

At Fault – Rear End

Westbound vs Westbound = 5
 Northbound vs Northbound = 1

At Fault – Sideswipes

Northbound vs Northbound = 1
 Eastbound vs Eastbound = 1

(3) three of (14) fourteen northbound vehicles were the causation of the crash. = 21%

TYPES OF CRASHES – SE 5TH/ARMY POST - Eastbound

Year	Number of Crashes	Crash Types		Red Light Violations Issued
2009	10	3 5 1 1	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2010	12	3 3 0 6	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2011* Before Camera	4	0 1 0 3	Ran Light Rear End Sideswipe Unk/Other/FTY	N/A
2011* After Camera	4	2 1 1 0	Ran Light Rear End Sideswipe Unk/Other/FTY	847
2012	7	2 1 1 0	Ran Light Rear End Sideswipe Unk/Other/FTY	1043
2013	9	6 1 0 2	Ran Light Rear End Sideswipe Unk/Other/FTY	929
2014	14	5 0 0 9	Ran Light Rear End Sideswipe Unk/Other/FTY	1170
2015	11	2 5 0 4	Ran Light Rear End Sideswipe Unk/Other/FTY	1084
2016	13	6 5 1 1	Ran Light Rear End Sideswipe Unk/Other/FTY	1033

Case Number	Date	Time	Description
16-430	1-5-16	1324	NB RAN LIGHT VS EB
16-4161	2-11-16	0640	SB VS SB REAR END, ICE
16-9956	4-7-16	1646	NB IMPROPER TURN VS WB
16-10166	4-9-16	1419	NB LEFT TURN HR VS SB LEFT TURN
16-10288	4-10-16	2125	EB FTY LEFT TURN VS WB
16-13426	5-8-16	1248	SB VS SB REAR END
16-15513	5-27-16	1803	SB FTY LEFT TURN VS NB
16-22715	7-28-16	1258	NB SIDESWIPE VS NB
16-26570	8-29-16	1532	WB RAN LIGHT FTY LEFT TURN HR VS EB
16-33972	10-29-16	1425	WB VS WB VS WB REAR END
16-37095	11-27-16	1812	NB VS NB REAR END
16-38078	12-5-16	1835	NB LEFT TURN VS PED WALKING SB
16-39080	12-14-16	1555	SB VS SB REAR END, ICE

At Fault – Running the Light

Northbound vs Eastbound = 1

FTY Turning

Eastbound vs Westbound = 1

Southbound vs Northbound = 1

Northbound vs Southbound = 1

Westbound vs Eastbound = 1

Northbound vs Westbound = 1

At Fault – Rear End

Southbound vs Southbound = 3

Northbound vs Northbound = 1

Westbound vs Westbound = 1

At Fault – Sideswipes

Northbound vs Northbound = 1

FTY to Pedestrian

Northbound turning eastbound = 1

(1) One of (13) thirteen eastbound vehicles were the causation of the crash. = .07%

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

Citations Issued	2011	2012	2013	2014	2015	2016
Red Light Intersections	4746 (July 2 – Dec 31)	4262	4122	3657	4949	3801
Mobile Speed	2989 (July 2 – Dec 31)	6530	4442	3 Units Total = 7965	3 Units Total = 7882	3 units Total = 8596

The above is derived from Gatso, Inc., and include the Issued Citations by Approach.

Mobile Speed Camera:

- The mobile speed camera is utilized on roadways where we have a high number of documented citizen generated complaints of speeding vehicles.
- Documented Traffic complaints :
 - 2011 - 291
 - 2012 - 241
 - 2013 - 281
 - 2014 - 227
 - 2015 - 278
 - 2016 - 238
- The mobile radar unit is one tool used to address these complaints.
- Deployed in areas which historically has a validated or constant speed issue. Pro-Active enforcement by addressing the problem before complaints / accidents occur.
- The mobile radar speed camera can be used in school zones or construction zones as well.
- Provides an opportunity to enhance awareness in areas which are traditionally challenging to enforce through conventional traffic enforcement methods.
- The mobile unit's total number of citations issued varies from year to year for many reasons, including
 - Weather related conditions
 - Traffic flow
 - Non-valid complaints
- The mobile radar unit is an asset for our Traffic Unit, and is a safe alternative for enforcement efforts in problematic areas. Using technology as a resource to aid in enforcement and awareness.
- The mobile unit does not deploy to primary highways within the City of Des Moines, in compliance with the Iowa DOT guidelines that were established in June, 2012.



City of Davenport
Public Works Center

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April 21, 2017

Tim Crouch, P.E.
State Traffic Engineer
Office of Traffic and Safety
Iowa Dept. of Transportation
800 Lincoln Way – North Annex
Ames, IA 50010

Re: Automated Traffic Enforcement Evaluation Report

Dear Tim:

This letter with attachments will serve as our annual report on the effectiveness of the automated traffic enforcement cameras on the primary routes in the City of Davenport. I believe we have fulfilled the requirements stated in Chapter 144. We will continue to submit reports according to Iowa law, which might be changing in the near future.

As you know, Davenport was the first city in Iowa to install automated enforcement. We compiled three to four years of red-light crash data at many of our signalized intersections to see which ones were in need of photo enforcement. Some of the worst intersections had construction projects scheduled for the near future, so those were not considered for photo enforcement. I also changed the signal timing on some of the others to help reduce the red-light crashes. The intersections that were chosen had no obvious flaws in either signal timing or geometrics. We considered the use of the cameras to be a last resort in curbing red-light running crashes. A few years later, we added speed cameras to two locations that are not at intersections. Speed studies were done with the DOT and the speed limit on River Drive was raised from 35 to 40 mph so that the enforcement would be fair. We also have a mobile speed unit, but it is not used on DOT routes.

Our enforcement guidelines are very fair to the driver. Speed tickets are issued to drivers who exceed the speed limit by 12 mph or more. Red-light running tickets are issued to drivers who are completely behind the stop bar when the signal turns red and then still proceed through the intersection. All of our cameras are clearly marked with signage. The one-way streets have signage on both sides of the street in advance of the cameras. Our goal is not to ticket as many people as possible; it is to prevent as many crashes as possible. The yellow clearance times at the intersections are all 4.0 seconds with a 1.0 second red clearance time. All of the clearance times meet or exceed the minimum times



from the ITE's yellow interval formula for roads with these speeds and incoming grades. Our fines are \$65 for red-light running tickets and speeding tickets range from \$65 to \$150.

<u>MPH over speed limit</u>	<u>Fine</u>
12 through 20 mph	\$65
21 through 25 mph	\$85
26 through 30 mph	\$95
31 through 35 mph	\$110
36 through 40 mph	\$125
Over 40 mph	\$150

Here are the locations and directions of enforcement of our cameras:

Camera Locations on DOT Routes

<u>Location</u>	<u>Red Light Cameras</u>				<u>Speed Cameras</u>			
	<u>NB</u>	<u>SB</u>	<u>EB</u>	<u>WB</u>	<u>NB</u>	<u>SB</u>	<u>EB</u>	<u>WB</u>
Kimberly & Brady	X		X	X	X		X	
Kimberly & Welcome Way		X				X		
Harrison & 35th		X				X		
2700 block Brady St					X			
1400 block E River Dr								X

All of these locations meet the 10 minimum requirements stated in Chapter 144.5(306,307,318,321). None of the speed cameras are in the first 1000 feet of a lower speed limit. We have also complied with the signage requirements in 144.6(2). We do not have signs for drivers entering town, but we do have signs at all of the locations, as I stated earlier in this report. The signs indicate photo enforcement zones or red light photo enforcement, depending on the camera type. We added new signs in advance of the Brady Street speed camera and the intersection of 35th and Harrison based on your recommendations from 2 years ago. Our cameras are not used instead of law enforcement, only to enhance it. All tickets are looked at by someone in law enforcement. The cameras are calibrated once per month to ensure accuracy.

I have met most of the evaluation requirements that are stated in 144.7(1). We did not collect all crash data at the intersections before the camera installation though. We only collected the red-light running crashes, which is the primary reason for the cameras. Therefore, this report will compare red-light crashes before and after the photo enforcement was installed. The 3 full calendar years before installation (2001 – 2003) are compared to the past 6 years (2011 – 2016). Most of the red-light cameras were installed during the fall of 2004. I have attached a separate sheet for each location with the comparison of crash data and number of citations issued on a yearly basis. There is also an area at the bottom of each sheet summarizing the crashes that occurred in 2016,

including which crashes occurred in the direction of enforcement. As you can see by the chart below, the annual rate of red-light related crashes for the three intersections has dropped 65% overall and 78% for the direction of enforcement. I believe this proves the cameras have made a significant difference in safety.

RED LIGHT CRASHES AT INTERSECTIONS WITH CAMERAS ON STATE ROUTES 2011-2016

Intersection	ALL DIRECTIONS			DIRECTION OF ENFORCEMENT ONLY		
	Average	Average	Percent	Average	Avg.	Percent
	<u>2001-03</u>	<u>2011-16</u>	<u>difference</u>	<u>2001-03</u>	<u>2011-16</u>	<u>difference</u>
Kimberly at Welcome Way	8.33	3.67	-56%	4.33	0.67	-85%
Harrison at 35th	5.33	0.83	-84%	4.67	0.50	-89%
Kimberly at Brady	3.33	1.50	-55%	3.33	1.50	-55%
Total	17.00	6.00	-65%	12.33	2.67	-78%

2001-03 Direction of infractions	<u>NB</u>	<u>SB</u>	<u>EB</u>	<u>WB</u>	<u>Total</u>	<u>Total in dir of enforcement</u>	<u>Total Avg.</u>	<u>Dir of Enf Avg.</u>
Harrison at 35th	NA	14	1	1	16	14	5.33	4.67
Kimberly at Brady	5	NA	4	1	10	10	3.33	3.33

2011-16 Direction of infractions	<u>NB</u>	<u>SB</u>	<u>EB</u>	<u>WB</u>	<u>Total</u>	<u>Total in dir of enforcement</u>	<u>Total Avg.</u>	<u>Dir of Enf Avg.</u>
Harrison at 35th	NA	3	0	2	5	3	0.83	0.50
Kimberly at Brady	5	NA	3 (3 LT)	1	9	9	1.50	1.50

Key
 LT = left turn (protected left)
 NA = not applicable due to one-way street

Directions with cameras are shaded in.

I don't have as much data for the two stand-alone speed cameras though. Our data shows that the cameras have helped reduce speeds, even on River Drive where the speed limit was raised by 5 mph. The 85th percentile speed on River Drive is still lower than what it was when it had a higher speed limit. Most of the crashes resulted in drivers being cited for following too closely and inattentive driving, but not right at the camera location. We have updated the crash data from recent years to reflect the totals that you provided with your annual report.

SPEED CAMERA DATA

A speed study was conducted at the locations of the stand-alone speed cameras both before and after the installation of the cameras. Speed cameras were added to the intersections with red-light cameras a few years later when the original photo enforcement company was bought out. I don't have speed data from the time before those cameras were installed. These intersections had been on various lists produced by State Farm Insurance and the DOT as being some of the more dangerous in the city. City staff at that time believed that speeding and red-light running often went together as some people were speeding during the yellow clearance to avoid a ticket. We did not believe

that exceeding the speed limit to get across the stop bar in the nick of time was very safe, so that's why speed cameras were added to most of the directions of the red-light enforcement. We did not add one to westbound Kimberly at Brady because the speed limit became lower about 500 feet in advance of that intersection. We did not think that would be fair to the driver and based on your 1000-foot requirement, you obviously agree. These areas are all on multi-lane, divided highways, so drivers are apt to speed more on these types of roads than on others. These cameras have served their purpose, which was to prevent people from speeding through intersections to beat the red light. The recent speed studies were taken in 2016.

Brady Street near Columbia (35 mph speed limit)

Study before camera installation: Median speed 35.9 mph, 85th perc. speed 39.2 mph

Study after camera installation: Median 32.4 mph, 85th percentile 35.9 mph

Study of recent speeds: Median 35.1 mph, 85th percentile 37.7 mph

River Drive near College (40 mph speed limit)

Study before camera installation when street had 35 mph speed limit:

Median speed 39.0 mph, 85th percentile 43.6 mph

Speeds with camera and a 40 mph speed limit soon after camera installation:

Median speed 37.6 mph, 85th percentile 40.3 mph

Recent speeds with camera and 40 mph speed limit:

Median speed 38.8 mph, 85th percentile 42.2 mph

INTERSECTIONS (No speed data available before installation):

Kimberly at Brady (35 mph speed limit)

EB: Median speed 37.9 mph, 85th percentile 40.8 mph

NB: Median speed 38.6 mph, 85th percentile 41.2 mph

Kimberly at Welcome Way (35 mph speed limit)

SB: Median speed 34.6 mph, 85th percentile 38.9 mph

Harrison at 35th (35 mph speed limit)

SB: Median speed 36.2 mph, 85th percentile 38.8 mph

CITATION DATA

I have also included our citation data from DOT routes for the past 5 years. The lower counts from 2012 were largely attributed to two major construction projects on River Drive and on Welcome Way. The cameras were out of commission for a few months which led to the large decline that year. The photo enforcement was removed from Kimberly and Elmore in April, 2015, so that played a role in the drop of red light citations. That intersection averaged only 200 speed citations per year, so it had little effect on the speed totals.

	Total Number of Citations				
	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Red Light	8238	9595	9650	7688	8397
Fixed Speed	13,679	19,368	20,695	24,206	25,451
Total	21,917	28,963	30,345	31,894	33,848

As you recall, the DOT was involved in our process when we established the photo enforcement zones over a decade ago. We look forward to your involvement in the reevaluation process too. The traffic patterns in these areas have not changed much over the years, so we don't see any reason to remove any of these cameras. We are not looking to add any cameras in the near future either. The large reduction in red-light crashes has shown the effectiveness of our program and we hope you agree. We both have the same goal of reducing crashes on highways in Iowa. We also believe this program has raised awareness of the dangers of speeding and red-light running. The Police Department has noticed fewer red-light running incidents throughout the city since this program has been implemented. Our local hospital, Genesis Health Systems, reported that the monthly rate of trauma injuries in Davenport vehicle crashes has dropped 34% from the years before photo enforcement was first used here. They acknowledged that they "can't cite that traffic cameras are the only reason for the decline," but they added that they think the devices "are an important factor." We would not want to go back to the days when red-light running was more common throughout the city. Thank you for your time in reviewing our photo enforcement program. Please feel free to contact me with any questions you have about our program.

Sincerely,



Gary Statz, P.E.
 Traffic Engineer
 City of Davenport
 (563) 326-7754

CC: Jim Schnoebelen, P.E., District Engineer, IDOT District 6
 Brian Schadt, P.E., City Engineer & Deputy Director of Public Works, City of Davenport
 Paul Sikorski, Police Chief, City of Davenport

Intersection: Kimberly Rd and Brady St

Year	Number of Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2001	?	3 Broadside	N/A	N/A
2002	?	4 Broadside	N/A	N/A
2003	11	3 Broadside 4 Sideswipe 4 Rear End	N/A	N/A
2011	11	1 Broadside 3 Sideswipe 6 Rear End 1 Unk/Other	5339	3648
2012	17	1 Broadside 5 Sideswipe 10 Rear End 1 Unk/Other	4743	2541
2013	9	1 Broadside 2 Sideswipe 4 Rear End 2 Unk/Other	4989	2991
2014	11	2 Broadside 5 Sideswipe 3 Rear End 1 Unk/Other	5749	3090
2015	16	2 Broadside 5 Sideswipe 9 Rear End 0 Unk/Other	5191	3354
2016	12	2 Broadside 4 Sideswipe 5 Rear End 1 Unk/Other	5304	4421

Red light cameras activated in 2004; speed cameras in 2007.

Enforcement in all 3 directions.

2016 notes: None of the rear-end crashes occurred during the yellow phase or near the beginning of the red phase, so none could be attributed to the photo enforcement.

Intersection: Kimberly Rd and Welcome Way

Year	Number of Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2001	?	6 Broadside	N/A	N/A
2002	?	10 broadside	N/A	N/A
2003	17	9 broadside 3 Side Swipe 5 Rear End		
2011	14	3 Broadside 7 Sideswipe 4 Rear End 0 Unk/Other	1056	434
2012*	19	2 Broadside 9 Sideswipe 8 Rear End 0 Unk/Other	739	325
2013	21	3 Broadside 9 Sideswipe 8 Rear End 1 Unk/Other	1001	275
2014	18	4 Broadside 4 Sideswipe 10 Rear End 0 Unk/Other	1284	672
2015	19	5 Broadside 3 Sideswipe 9 Rear End 2 Unk/Other	1382	918
2016	21	5 Broadside 5 Sideswipe 8 Rear End 3 Unk/Other	1723	703

Red light cameras activated in 2004; speed cameras in 2007.

Southbound enforcement only.

Speed limit 35 mph

*Construction project in Summer 2012.

2016 notes: Only 2 of the 5 broadside crashes were caused by southbound (only direction with photo enforcement) drivers. Only one of the rear-end crashes occurred in the southbound direction during the yellow phase or beginning of the red phase, so that one crash is the only one that could possibly be attributed to photo enforcement.

Intersection: 35th St and Harrison St

Year	Number of Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2001	?	9 Broadside	N/A	N/A
2002	?	3 broadside	N/A	N/A
2003	10	4 broadside 4 sideswipe 2 Rear End		
2011	10	0 Broadside 1 Sideswipe 4 Rear End 2 Unk/Other	988	7633
2012	9	1 Broadside 3 Sideswipe 4 Rear End 1 Unk/Other	754	3040
2013	11	1 Broadside 3 Sideswipe 4 Rear End 2 Unk/Other	853	4977
2014	9	2 Broadside 1 Sideswipe 5 Rear End 1 Unk/Other	1108	7518
2015	9	2 Broadside 1 Sideswipe 0 Rear End 0 Unk/Other	1115	9570
2016	5	2 Broadside** 3 Sideswipe 0 Rear End 0 Unk/Other	1370	10,808

Speed limit 35 mph Southbound enforcement only.

Red light cameras activated in 2004; speed cameras in 2007.

****2016 notes:** The 2 broadside crashes occurred one hour apart during a power outage when the signals were dark. There were zero red-light crashes at this intersection in 2016.

New signage was installed in 2015, but citations still went up 14% from 2015 to 2016.

Fixed Speed Cameras: Located in the 1200 block of E River Drive

Year	Number of Crashes	Crash Types	Speed Violations Issued
2004	?	?	N/A
2005	?	?	N/A
2011	6	1 Broadside 0 Sideswipe 5 Rear End 0 Unk/Other	1673
2012*	8	0 Broadside 3 Sideswipe 3 Rear End 2 Unk/Other	771
2013	4	0 Broadside 2 Sideswipe 1 Rear End 1 Unk/Other	1604
2014	4	0 Broadside 1 Sideswipe 1 Rear End 2 Unk/Other	2311
2015	9	1 Broadside 0 Sideswipe 8 Rear End 0 Unk/Other	3260
2016	4	0 Broadside 1 Sideswipe 1 Rear End 2 Unk/Other	3849

*Construction project in 2012 led to much less traffic.

Crash data collected between College Ave and Oneida Ave, a distance of 765 feet.

No available data for before camera installation.

Location was chosen after looking at a map with dots for speed related crashes and picking locations with a high concentration of dots.

Fixed Speed Cameras: Located in the 2600 block of Brady St

Year	Number of Crashes	Crash Types	Speed Violations Issued
2005	?	?	N/A
2006	?	?	N/A
2011	3	2 Sideswipe 1 Rear End	8274
2012	3	1 driveway broadside 2 Sideswipe	6351
2013	3	3 Sideswipe	7117
2014	5	4 sideswipe 1 driveway broadside	6977
2015	1	1 sideswipe 0 driveway 0 broadside	7104
2016	5	3 sideswipe 1 other 1 broadside	5670

Speed limit 35 mph

Cameras activated in 2007; Northbound enforcement only.

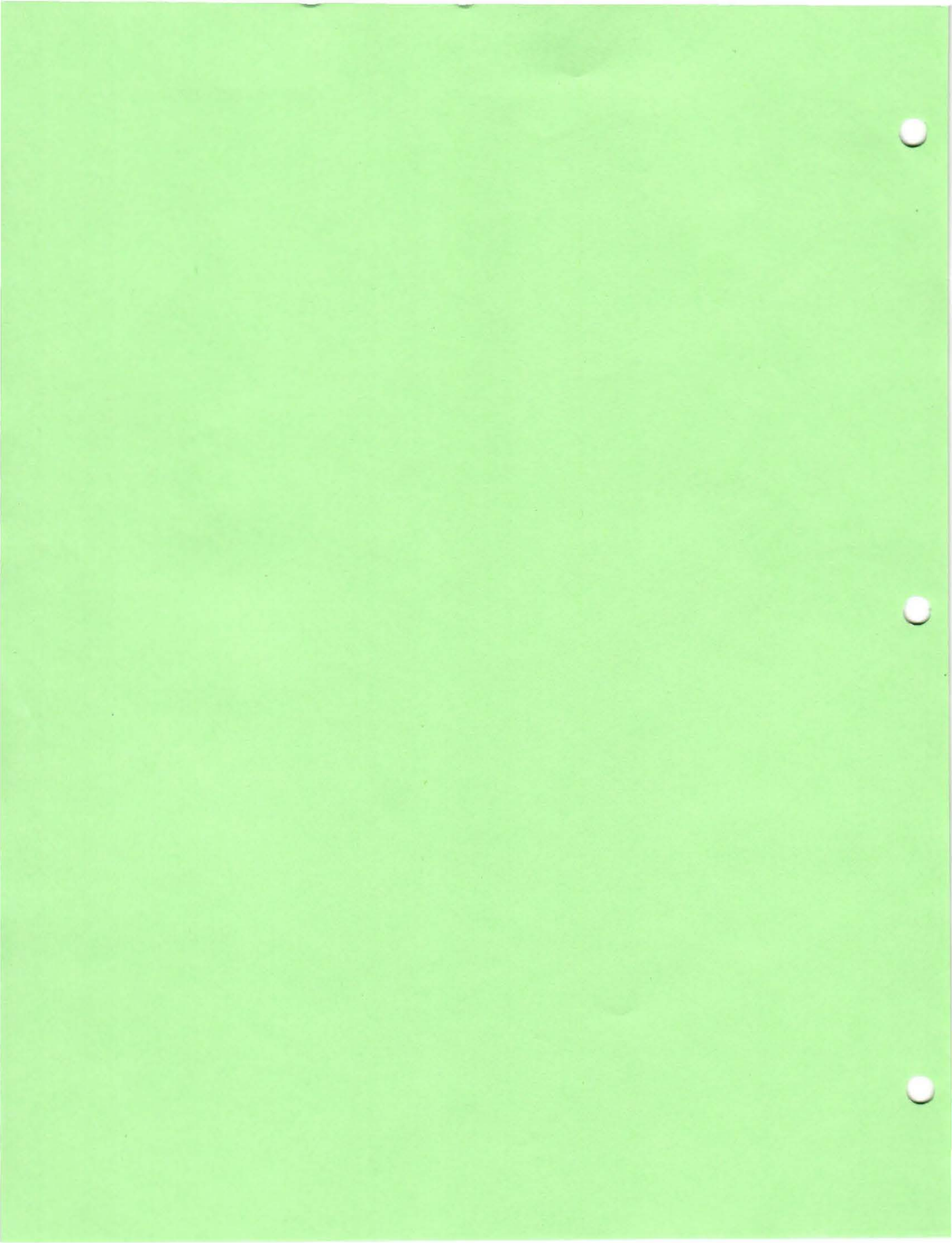
The crashes in the above table are all mainline crashes between Columbia Ave and E 29th St, a distance of 900 feet.

No crash data available for before cameras were installed.

Location based on a map with dots at every speed-related crash and cameras were installed at locations with a high concentration of dots.

This camera is in advance of a school crosswalk and a business district with buildings very close to the edge of the road.

New signage was installed in 2015 and the number of citations dropped 20% from 2015 to 2016.



Evaluation of 2016 Automated Traffic Enforcement Report

City of Davenport

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Davenport uses ATE systems to enforce red-light running and speed violations at three signalized intersections on the primary highway system. In addition, they use ATE systems to enforce speed violations along two urban arterials on the primary highway system.

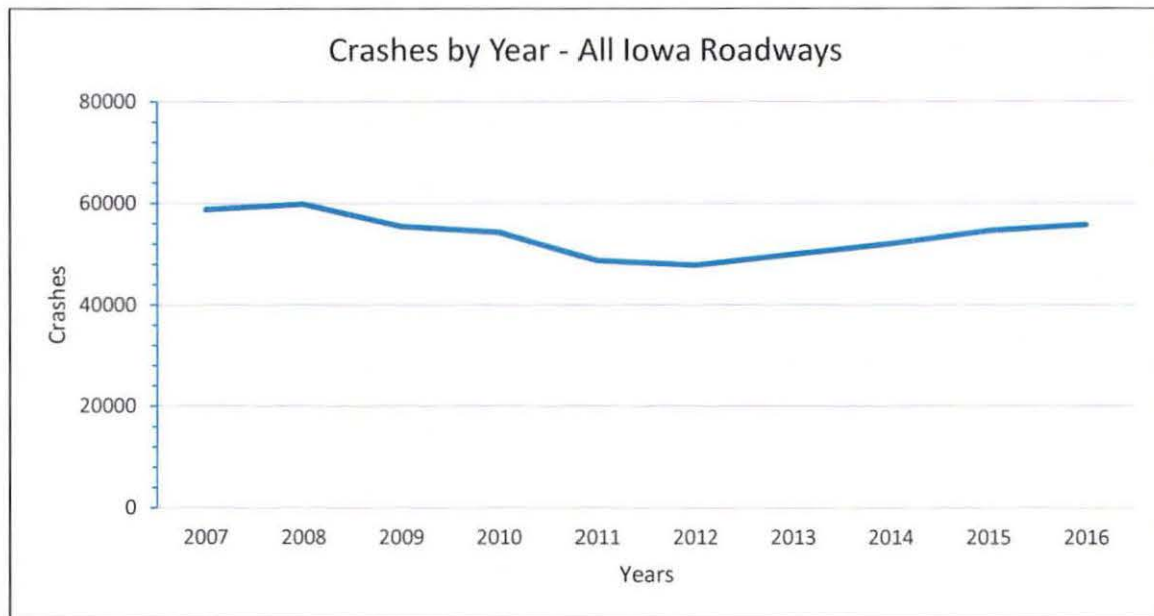
In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report focuses primarily on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The National Highway Traffic Safety Administration (NHTSA) conducted one of the most comprehensive reports to date on the causation of crashes in the United States. This report titled, "National Motor Vehicle Crash Causation Survey – Report to Congress" was published in 2008 and documents the investigation of 6,950 crashes nationwide. This study involved researchers being at the crash scene to assess relatively undisturbed information pertaining to the events and factors that led up to the crash and the opportunity to discuss the circumstances of the case with drivers, passengers, and witnesses while it was still fresh in their minds. The researchers on the scene were in an ideal position to gather first-hand information related to the vehicle, the roadway, the environmental conditions, and the human behavior factors. Some of the critical findings include:

- 95% of all crashes were caused by the drivers, 2.5% were caused by the vehicles, and 2.5% were caused by roadway/weather
- Of the 95% that were attributed to drivers:
 - o 40.6% was driver recognition error (inadequate surveillance, internal/external distraction, inattention, etc.)
 - o 34.1% was driver decision error (too fast for conditions, too fast for curve, false assumptions, illegal maneuver, misjudgment, etc.)
 - o 10.3% was driver performance error (overcompensation, poor control, etc.)
 - o 7.1% was driver non-performance error (sleep, heart attack/other physical impairment, etc.)
 - o 7.9% was other/unknown driver error

This report helps us better understand the primary causation of crashes. The speed at which a driver chose to drive was a primary cause in some of the crashes. Specifically, 8.4% were driving too fast for conditions and 4.9% were driving too fast for a curve. However, speed was not the primary causation in 86.7% of crashes caused by the driver, nor the crashes caused by vehicles or roadway/weather.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Davenport's Annual Report:

We have completed our review of your 2016 automated traffic enforcement (ATE) report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- "Automated Traffic Enforcement Evaluation Report" City of Davenport, to Tim Crouch, April 21, 2017;
- "The Effectiveness of Iowa's Automated Red Light Running Enforcement Programs, Final Report, 2007" by Center for Transportation Research and Education (CTRE) at Iowa State University;
- Crash data obtained by the Iowa DOT using the Iowa crash database (includes all statewide reported crash reports)

Intersection speed and red light cameras:

The city has speed and red-light violation cameras at four intersections on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

35th Street and Harrison Street

Findings:

- Red light camera activated in 2004, Speed camera activated in 2007.
- Southbound approach subject to traffic camera enforcement.
- The number of speed citations at this location is very high:
 - 7,633 in 2011
 - 3,040 in 2012
 - 4,977 in 2013
 - 7,518 in 2014
 - 9,570 in 2015
 - 10,808 in 2016

- Crash data (city provided):

Year	Broadside crashes only	Total Crashes
2001	9	unavailable
2002	3	unavailable
2003	4	10
...
2011	0	10
2012	1	9
2013	1	11
2014	2	9
2015	2	9
2016	2	5

- Crash data (DOT provided – includes all crashes using 75 feet radius):

- 10 in 2004 – red light camera activated
- 8 in 2005
- 6 in 2006
- 9 in 2007 – speed camera activated
- 13 in 2008
- 5 in 2009
- 7 in 2010
- 6 in 2011
- 5 in 2012
- 9 in 2013
- 5 in 2014
- 3 in 2015
- 5 in 2016

- Total intersection crash data: 11.68 average crashes per year before activation (3 years of data); 7 average crashes per year after activation (2 years of data) – from CTRE/ISU study.

Resulting Actions:

- Continue operation of speed and red-light cameras at this location.
- In 2015, additional and more visible signage was installed for southbound approaching vehicles to assist motorists in driving an appropriate speed. However, seeing that the number of speed violations continues to increase, the Iowa DOT will conduct a speed study in this area to ensure posted speed limits are appropriate.

Kimberly Road and Brady Street

Findings:

- Red light cameras activated in 2004, Speed cameras activated in 2007.
- Northbound, eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data (city provided):

Year	Broadside crashes only	Total Crashes
2001	3	unavailable
2002	4	unavailable
2003	3	11
...
2011	1	11
2012	1	17
2013	1	9
2014	2	11
2015	2	16
2016	2	12

- Crash data (DOT provided – includes all crashes using 75 feet radius):
 - 14 in 2004 – red light cameras activated
 - 17 in 2005
 - 12 in 2006
 - 20 in 2007 – speed cameras activated
 - 15 in 2008
 - 13 in 2009
 - 15 in 2010
 - 12 in 2011
 - 20 in 2012
 - 15 in 2013
 - 15 in 2014
 - 15 in 2015
 - 11 in 2016
- Total intersection crash data: 18.32 average crashes per year before activation (3 years of data); 16 average crashes per year after activation (2 years of data) – from CTRE/ISU study.

Resulting Action:

- Continue operation of speed and red-light cameras at this location.

Kimberly Road and Welcome Way

Findings:

- Red light camera activated in 2004, Speed camera activated in 2007.
- Southbound approach subject to traffic camera enforcement.
- Crash data (city provided):

Year	Broadside crashes only	Total Crashes
2001	6	unavailable
2002	10	unavailable
2003	9	17
...
2011	3	14
2012	2	19
2013	3	21
2014	4	18
2015	5	19
2016	5	21

- Crash data (DOT provided – includes all crashes using 75 feet radius):
 - 21 in 2004 – red light cameras activated
 - 17 in 2005
 - 10 in 2006
 - 12 in 2007 – speed cameras activated
 - 17 in 2008
 - 16 in 2009
 - 17 in 2010
 - 13 in 2011
 - 16 in 2012
 - 20 in 2013
 - 18 in 2014
 - 19 in 2015
 - 23 in 2016
- Total intersection crash data: 21.68 average crashes per year before activation (3 years of data); 15.52 average crashes per year after activation (2 years of data) – from CTRE/ISU study.

Resulting Action:

- Continue operation of this speed and red-light cameras at this location.

Fixed Speed Cameras on Urban Arterials:

Fixed speed cameras: The city has two fixed speed cameras, one located in the 2600 block of Brady Street and one in the 1200 block of East River Drive. DOT's findings and resulting action as to each location are set forth below.

2600 Block of Brady Street

Findings:

- Cameras activated in 2007.
- Northbound traffic subject to automated enforcement.
- The number of speed citations at this location is very high:
 - 8,274 in 2011
 - 6,351 in 2012
 - 7,117 in 2013
 - 6,977 in 2014
 - 7,104 in 2015
 - 5,670 in 2016
- Crash data (city provided mainline crashes only located between Columbia Ave and E. 29th St. – city did not provide crash data for years prior to camera activation):
 - 3 in 2011
 - 3 in 2012
 - 3 in 2013
 - 5 in 2014
 - 1 in 2015
 - 5 in 2016
- Crash data (DOT provided all crashes on Brady between and including intersections with East Columbia Ave, and north to East 29th Street):
 - 15 in 2004
 - 7 in 2005
 - 9 in 2006
 - 2 in 2007 – speed camera activated
 - 6 in 2008
 - 1 in 2009
 - 4 in 2010
 - 3 in 2011
 - 3 in 2012
 - 3 in 2013
 - 7 in 2014
 - 1 in 2015
 - 4 in 2016

Resulting Actions:

- Continue operation of this speed camera at this location.
- The review from 2014 resulted in the installation of additional signage and/or more visible signage for approaching vehicles to assist motorists in driving an appropriate speed. The number of violations is still high at this location.

1200 Block of East River Drive

Findings:

- Cameras activated in 2007.
- Westbound traffic subject to automated enforcement.
- The number of speed citations at this location shows a steady increase:
 - 1,673 in 2011
 - 711 in 2012 Construction project led to less traffic
 - 1,604 in 2013
 - 2,311 in 2014
 - 3,260 in 2015
 - 3,849 in 2016
- Crash data (city provided mainline crashes only located between College Ave and Oneida Ave – city did not provide crash data for years prior to camera activation):
 - 6 in 2011
 - 8 in 2012
 - 4 in 2013
 - 4 in 2014
 - 9 in 2015
 - 4 in 2016
- Crash data (DOT provided all crashes on East River Drive between and including intersections with College Ave east to Oneida Ave):
 - 18 in 2004
 - 16 in 2005
 - 13 in 2006
 - 9 in 2007 – speed camera activated
 - 12 in 2008
 - 8 in 2009
 - 10 in 2010
 - 5 in 2011
 - 8 in 2012
 - 4 in 2013
 - 5 in 2014
 - 7 in 2015
 - 3 in 2016

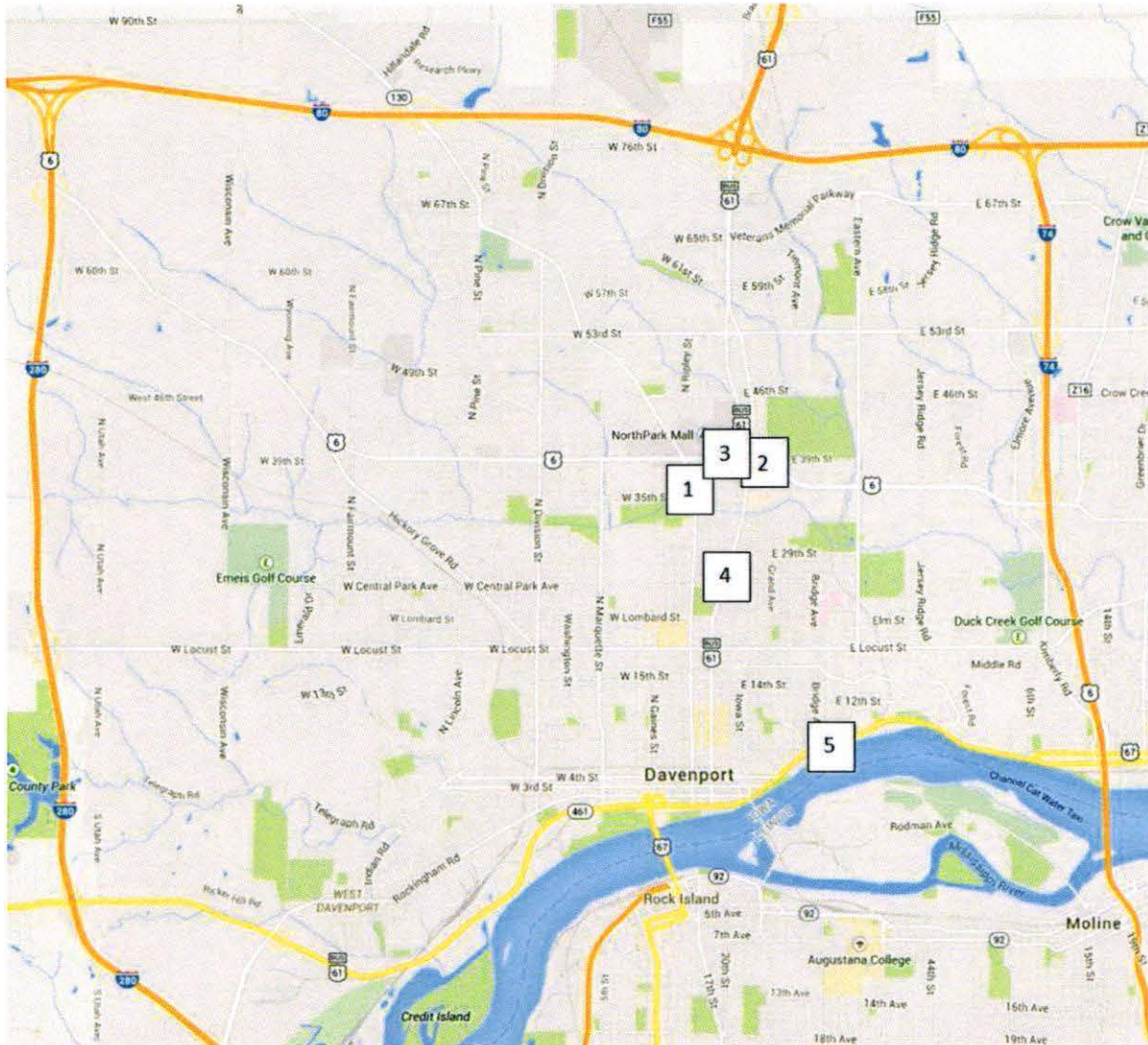
Resulting Action:

- Continue operation of this speed camera at this location.

Summary:

Based on the results of this review, all of the automated traffic enforcement cameras may continue to be operated in accordance with Iowa Administrative Code 761—144. Iowa DOT will conduct a speed study on Harrison Street just north of 35th Street to ensure the speed limit is set appropriately.

Map of Davenport's ATE systems on the primary highway system:



1. 35th St and Harrison St
2. Kimberly Road and Brady St
3. Kimberly Road and Welcome Way
4. 2600 block of Brady St
5. 1200 block of East River Drive

Hoye, Patrick [DPS]

From: Grant, Larry [DPS]
Sent: Monday, October 02, 2017 9:30 AM
To: Hoye, Patrick [DPS]
Subject: FW: ATE for Davenport

Here is Davenport's response.

Larry

Captain Larry Grant
Phone: 515-725-6124

From: Voigts, Shawn [mailto:svoigts@ci.davenport.ia.us]
Sent: Thursday, September 21, 2017 10:33 AM
To: Grant, Larry [DPS] <grant@dps.state.ia.us>
Cc: Miller, Samuel <p12380@ci.davenport.ia.us>; Voigts, Shawn <svoigts@ci.davenport.ia.us>; Statz, Gary <gjs@ci.davenport.ia.us>
Subject: ATE for Davenport

Larry,

In response to your request from last week:

This is a copy of the Davenport ATE ordinance.

It should be noted that even though there is a fine schedule listed, the city does NOT issue speeding citations for violations under 12 mph over the posted limit.

10.16.070 Automated traffic enforcement.

A. General. The city of Davenport, in accordance with the police powers authorized it by the state of Iowa for governing safe traffic flow, may deploy, erect or cause to have erected an **automated traffic enforcement** system for making video images of vehicles that fail to obey red light traffic signals at intersections designated by the city administrator or his designee or fail to obey speed regulations at other locations in the city. The system may be managed by the private contractor that owns and operates the requisite equipment with supervisory control vested in the city's police department. Video images shall be provided to the police department by the contractor for review. The police department will determine which vehicle owners are in violation of the city's traffic control ordinances and are to receive a notice of violation for the offense.

B. Definitions.

1. "**Automated traffic enforcement** system" shall mean an electronic system consisting of a photographic, video, or electronic camera and a vehicle sensor installed to work in conjunction with an official traffic controller or police department employee to automatically produce photographs, video or digital images of each vehicle violating a standard traffic control device or speed restriction.

2. "Vehicle owner" shall mean the person or entity identified by the Iowa Department of Transportation, or registered with any other state vehicle registration office, as the registered owner of a vehicle.

C. Offense.

1. The vehicle owner shall be liable for a fine as imposed below if such vehicle crosses a marked stop line or the intersection plane at a system location when the traffic signal for that vehicle's direction is emitting a steady red light or red arrow.

2. The vehicle owner shall be liable for a fine as imposed below if such vehicle travels at a speed above the posted speed limit.

3. The violation may be rebutted by a showing that a stolen vehicle report was made on the vehicle encompassing the time period in question.

4. The citation will in no event be sent or reported to the Iowa Department of Transportation or similar department of any other state for the purpose of being added to the vehicle owner's driving record.

D. Penalty and Appeal.

1. Any violation of subsection C,1 above shall be considered a notice of violation for which a civil fine of sixty-five dollars shall be imposed, payable to the city of Davenport at the city's finance department.

2. Any violation of subsection C,2 above shall be considered a notice of violation for which a civil fine as listed in the table below shall be imposed, payable to the city of Davenport at the city's finance department.

Speed over limit	Civil fine
1 through 7 mph	\$5
8 through 11 mph	\$45
12 through 20 mph	\$65
21 through 25 mph	\$85
26 through 30 mph	\$95
31 through 35 mph	\$110
36 through 40 mph	\$125
over 40 mph	\$150

3. A recipient of an **automated** traffic citation may dispute the citation by requesting an issuance of a municipal infraction citation by the police department. Such request will result in a required court appearance by the recipient and in the scheduling of a trial before a judge or magistrate at the Scott County Courthouse. The issuance of a municipal infraction citation will cause the imposition of state mandated court costs to be added to the amount of the violation in the event of a guilty finding by the court.

4. If a recipient of a notice of violation does not request the issuance of a municipal infraction citation to dispute the alleged violation by contested proceedings before a judge or magistrate within the time specified within the notice of violation, the recipient will be deemed to have waived his right to dispute the violation, and the violation will be admitted with the civil penalty being due and owing to the city. A notice of intent to default will be mailed to the recipient at least ten days prior to the deadline for contesting. (Ord. 2009-337 § 1; Ord. 2005-361; Ord. 2004-35).

We also operate a mobile speed van utilizing a handheld LIDAR system. This van is mainly used in school zones and high complaint areas. We also have several other fixed locations that that are not on a state highway.

In 2016, the mobile unit issued 3,086 speeding citations in 138 different locations. We also have the following fixed locations that are not on an Iowa DOT route:

<u>Location:</u>	<u>2016 Citations:</u>
2100 W 3 rd St	646 (speed)
3300 Division St	1,958 (speed)
2400 W Locust St	519 (speed) 1,433 (red light)

Lt. Shawn Voigts #620
Traffic Safety Bureau Commander
563-888-3552

svoigts@ci.davenport.ia.us

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**2016 ANNUAL REPORT
AUTOMATED TRAFFIC ENFORCEMENT
FOR THE CITY OF COUNCIL BLUFFS**

In compliance to the requirements of Administrative Rules 761-144 this report documents the Red Light ATE program in the city on the state primary highway system.

The Council Bluffs Police Department does not have the resources to assign officers to monitor intersections for red light running. ATE offers an economical and effective deterrent to red light running.

The city ATE program consists of 12 red light cameras. The city installed 7 cameras in 2005 and 6 additional cameras in 2009. One camera was ordered removed by IDOT in 2014. Currently cameras are installed on 8 of the 96 signalized intersections in the city. Over the years many cameras were temporarily turned off for months at a time due to construction activities. The city does not use speed camera ATE.

The camera locations are:

2005 installations

- W Broadway/35th St eastbound (local roadway)
- W Broadway/21st St westbound (local roadway)
- W Broadway/16th St eastbound and westbound (local roadway)
- W Broadway/8th St eastbound and westbound (local roadway)
- S 7th St/Willow Ave southbound (local roadway)

2009 installations

- W Broadway/25th St eastbound and westbound (local roadway)
- S Expressway/30th Ave northbound (local roadway)
- Kaneshville Blvd/Harrison St eastbound and westbound**

Effective May 2016 the City of Council Bluffs assumed jurisdiction of portions of US 6 and IA 192 (n 16th St) within the city. This transfer of jurisdiction removed 9 cameras from the state primary road system. The IDOT will transfer the remainder of IA 192 (S Expressway/S 6th St/S 7th ST) this coming summer removing one additional camera from the primary system. The Iowa Code requirement to provide an annual report to IDOT is only applicable to state jurisdiction roads. This report provides the data requested only for the two cameras on state jurisdiction roads: **Kaneshville Blvd/Harrison St eastbound and westbound.**

All camera locations are permanently marked with advance warning signs that are in conformance to IDOT and MUTCD recommendations. Also, the Council Bluffs Police Department Traffic Unit provides information on the "Stop on Red" page of their web site.

<http://ia-councilbluffs2.civicplus.com/471/Stop-on-Red-Red-Light-Cameras>

The ATE data is reviewed every year to assure the program is making the streets safer in Council Bluffs.

**2016 ANNUAL REPORT
AUTOMATED TRAFFIC ENFORCEMENT
FOR THE CITY OF COUNCIL BLUFFS**

761-144.7(1)a. Evaluation and reporting.

- (1) The red light running problem in Council Bluffs is exacerbated by the proximity to Omaha, Nebraska. Red light running (RLR) is a very common occurrence in Omaha, which does not have an ATE program. Thirteen percent of intersection crashes in Omaha are attributed to red-light running. Omaha has several fatalities from red light running each year. The city of Council Bluffs has a metro area reputation as a place "you do not run red lights, because you will get a ticket."

There was one red light running incident at Kaneshville/Blvd/Harrison St in 2016, well below the pre-camera average. In the two years prior to camera installation red light running incidents averaged 3.5 per year. Total incidents for 2016 were 7 which is below the pre-camera average of 10.5 per year. The city determined that the cameras were effective at reducing red light running and improved safety.

**2016 ANNUAL REPORT
AUTOMATED TRAFFIC ENFORCEMENT
FOR THE CITY OF COUNCIL BLUFFS**

761-144.7(1)a.

(2) Attachment B is a list of intersections with ATE for red light enforcement. Each intersection list shows by year the number of crashes, the crash types, and the citations issued by ATE. As directed by IDOT, the numbers of crashes shown are the total at that intersection, not the number at the ATE monitored approaches.

(3) The city's ATE cameras were installed prior to the requirement of a justification report. The selection of intersections for ATE was originally based on collision history and observed measurement of red light running occurrences.

(4) See Attachment B for annual totals

(5) The city's red light camera program is photograph based therefore calibration of the system is not applicable. The determination of a violation is based on photographic evidence that the vehicle is behind the stop bar when the signal is red and a second photo of the vehicle in the intersection when the light is red. The system does perform a Certificate of Correct Functioning for every incident. Examples certificates are provided as Attachment C.

ATTACHMENT A

Harrison and Kanesville 2016 Motor Vehicle Accident Summary

16-005639 02/10/16 @ 15:44: Both vehicles were westbound on Kanesville. Driver #1 said he hit his brakes hard for traffic, or something, in front of him and was struck from behind. The at fault driver said she did not see any reason why the vehicle in front slammed on his brakes.

16-009802 03/09/16 @ 15:30: Both vehicles were westbound on Kanesville. The at fault driver struck the other vehicle from behind. The other driver said she was stopping for a yellow light and was struck from behind.

16-022545 06/05/16 @ 10:59: Both vehicles were northbound on 1st street at Kanesville Blvd. One vehicle was stopped for the red light when he was struck from behind. The striking vehicle driver then fled the scene however was later located and cited.

16-026027 06/27/16 @10:11: Both vehicles were eastbound on Kanesville Blvd. One vehicle was stopped for the red light when she was struck from behind.

16-033418 08/13/16 @08:50: Both vehicles were southbound on Harrison Street. One vehicle was stopped for the red light. The at fault driver stated he could not feel the brakes due to some type of health condition. He was cited and referred to the DOT for a re-evaluation.

16-037056 09/06/16 @ 07:25: One vehicle was northbound on Harrison Street and one vehicle was southbound on Harrison Street. These two vehicles had green lights and were proceeding through the intersection. The at fault driver was eastbound on Kanesville, ran the red light and struck the other two vehicles.

16-041471 10/04/16 @ 13:22: Both vehicles were westbound on Kanesville Blvd. Traffic that was approaching the intersection had slowed. The at fault driver said due to the extremely heavy rain, she was unable to stop in time and struck the vehicle in front of her.

ATTACHMENT B

Intersection: Harrison St & E. Kaneshville Blvd

Year	Number of Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2007	9	5 Ran Traffic Signal 2 FTYROW: Making Left 1 Made Improper Turn 1 Followed Too Close		
2008	12	2 Ran Traffic Signal 1 FTYROW: Making Right Turn on Red Signal 3 FTYROW: Making Left 3 Followed Too Close 1 Lost Control 1 Other: Other Improper Action 1 Unknown		
2009*	5	2 FTYROW: Making Left 1 Swerving/Evasive Action 2 Lost Control	1351	

2010	8	<p>2 Ran Traffic Signal</p> <p>3 Followed Too Close</p> <p>1 Other: Other Improper Action</p> <p>1 Unknown</p> <p>1 Other: No Improper Action</p>	2144	
2011	7	<p>3 Ran Traffic Signal</p> <p>1 FTYROW: Making Left</p> <p>1 Made Improper Turn</p> <p>1 Lost Control</p> <p>1 Unknown</p>	1939	
2012	5	<p>1 Ran Traffic Signal</p> <p>1 FTYROW: Making Right Turn on Red Signal</p> <p>1 Followed Too Close</p> <p>1 Lost Control</p> <p>1 Other: Other Improper Action</p>	1386	
2013	11	<p>3 Ran Traffic Signal</p> <p>3 FTYROW: Making Left</p> <p>1 Made Improper Turn</p> <p>1 Other: Other Improper Action</p>	1238	

		1 Unknown 2 Other: No Improper Action		
2014	6	1 Ran Traffic Signal 2 Followed Too Close 3 Other: Other Improper Action	1343	
2015	17	4 Ran Traffic Signal 4 FTYROW: Making Left 2 Made Improper Turn 1 Improper Lane Change 3 Followed Too Close 1 Lost Control 1 Other: Other Improper Action 1 Unknown	1679	
2016	7	1 Ran Traffic Signal 1 Lost Control 4 Followed too close 1 Unknown	1676	

*Cameras activated:

A crash diagram may be included for each year in lieu of the "Crash Types" column.

ATTACHMENT C1

AUTOMATICALLY GENERATED CERTIFICATE OF CORRECT FUNCTIONING

VIOLATION - TICKET - CITATION

Date/Time: 12/30/2016 10:04:50PM

City/State/Approach Location: COU-KAHA-01

Incident Number: 304277037

Violation/Ticket/Citation Identification No.: CR00182192

This computer generated Certificate of Correct Functioning documents that an automated verification routine was performed in the ordinary and normal course of business on the above-designated camera system and that the alarms described below were not triggered as of the time and date of the violation, ticket, or citation indicated above. The computer-automated alarm verification routine is performed automatically one (1) time per day, every day. The system would not have captured an incident if any of the alarms listed below had been triggered.

The alarms described below operate on the above-designated camera system, camera housing and containers and/or the related electronic components or computers. The computer-automated alarm verification routine detects and records a specific type of interruption, disruption, and/or stoppage of system operations which would trigger or activate the alarms.

The information and data contained herein is stored on a secured computer server owned and operated by Redflex Traffic Systems, Inc. located in Phoenix, Arizona.

ALARM DESCRIPTION AND DETECTION

<i>ALARM DESCRIPTION:</i>	<i>ALARM TRIGGERED: Yes or No</i>
1) Invalid Computer Authentication	No
2) Computer Memory Capacity Exceeded	No
3) Software Program Malfunction	No
4) Repeated Software Program Malfunction	No
5) Invalid Computer Time-Clock	No

Redflex Traffic Systems, Inc. 23751 N. 23rd Ave, Suite 150, Phoenix, Arizona 85085

ATTACHMENT C2

AUTOMATICALLY GENERATED CERTIFICATE OF CORRECT FUNCTIONING

VIOLATION - TICKET - CITATION

Date/Time: 12/31/2016 5:15:34PM

City/State/Approach Location: COU-KAHA-02

Incident Number: 304277115

Violation/Ticket/Citation Identification No.: CR00182227

This computer generated Certificate of Correct Functioning documents that an automated verification routine was performed in the ordinary and normal course of business on the above-designated camera system and that the alarms described below were not triggered as of the time and date of the violation, ticket, or citation indicated above. The computer-automated alarm verification routine is performed automatically one (1) time per day, every day. The system would not have captured an incident if any of the alarms listed below had been triggered.

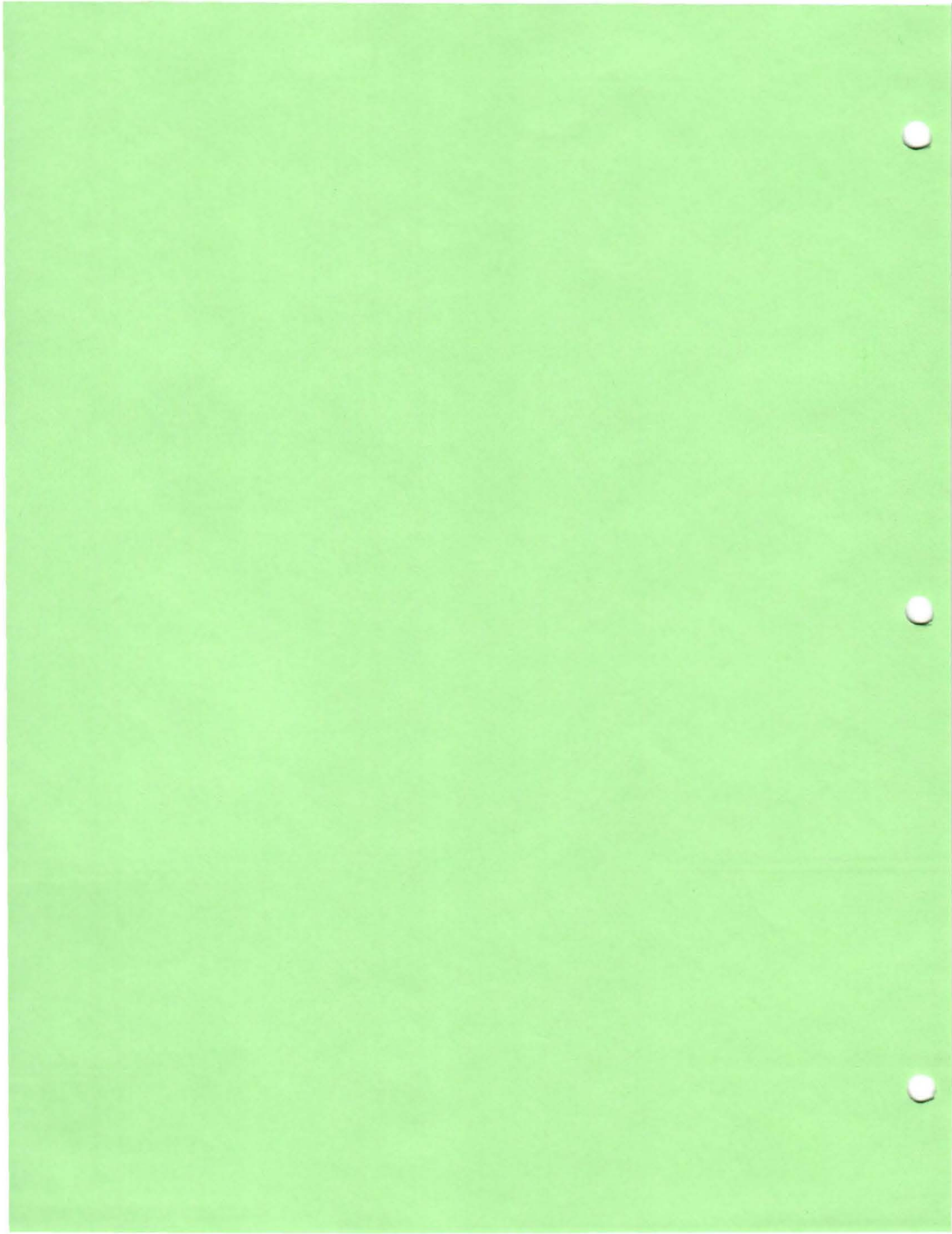
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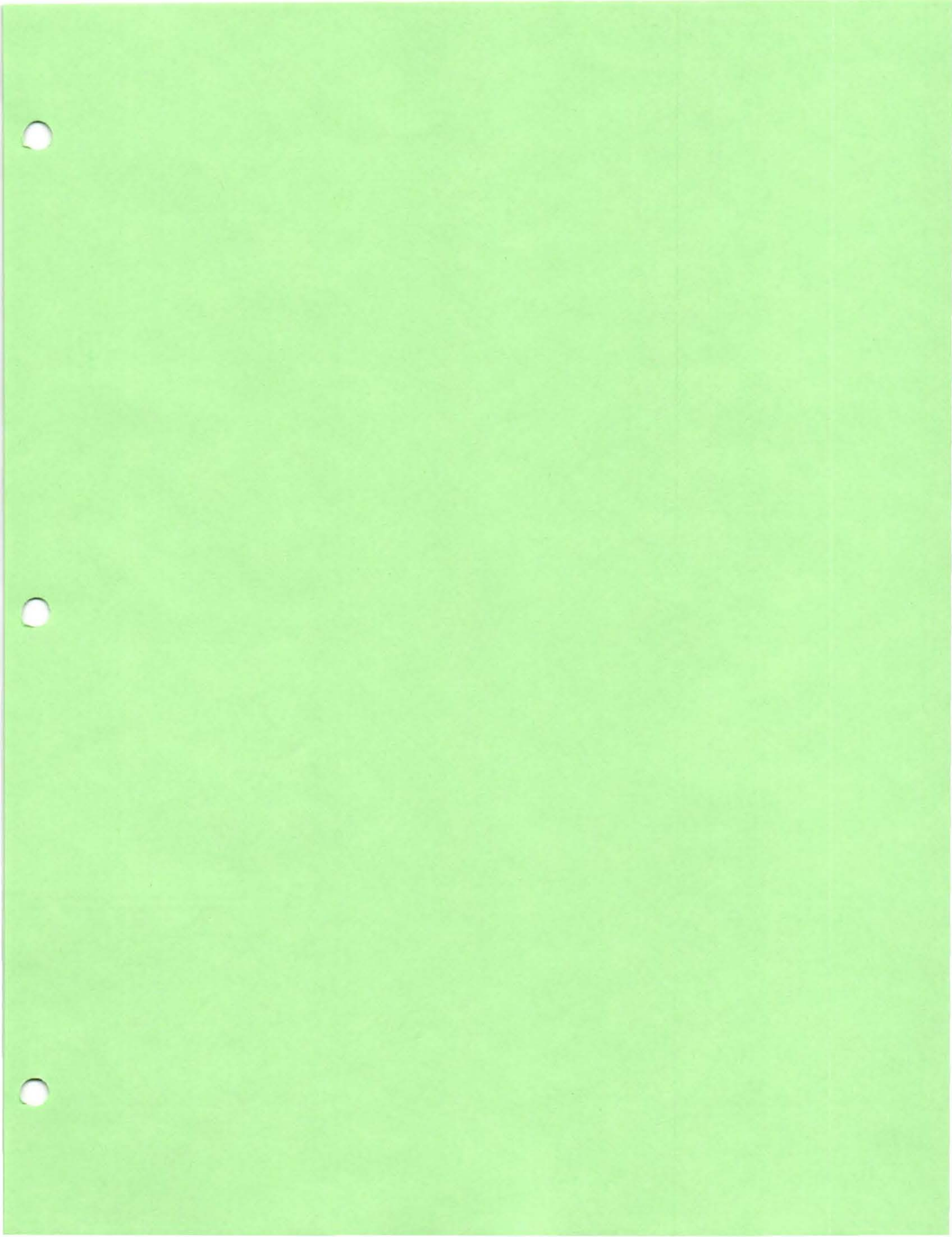
The information and data contained herein is stored on a secured computer server owned and operated by Redflex Traffic Systems, Inc. located in Phoenix, Arizona.

ALARM DESCRIPTION AND DETECTION

<i>ALARM DESCRIPTION:</i>	<i>ALARM TRIGGERED: Yes or No</i>
1) Invalid Computer Authentication	No
2) Computer Memory Capacity Exceeded	No
3) Software Program Malfunction	No
4) Repeated Software Program Malfunction	No
5) Invalid Computer Time-Clock	No

Redflex Traffic Systems, Inc. 23751 N. 23rd Ave, Suite 150, Phoenix, Arizona 85085





Evaluation of 2016 Automated Traffic Enforcement Report

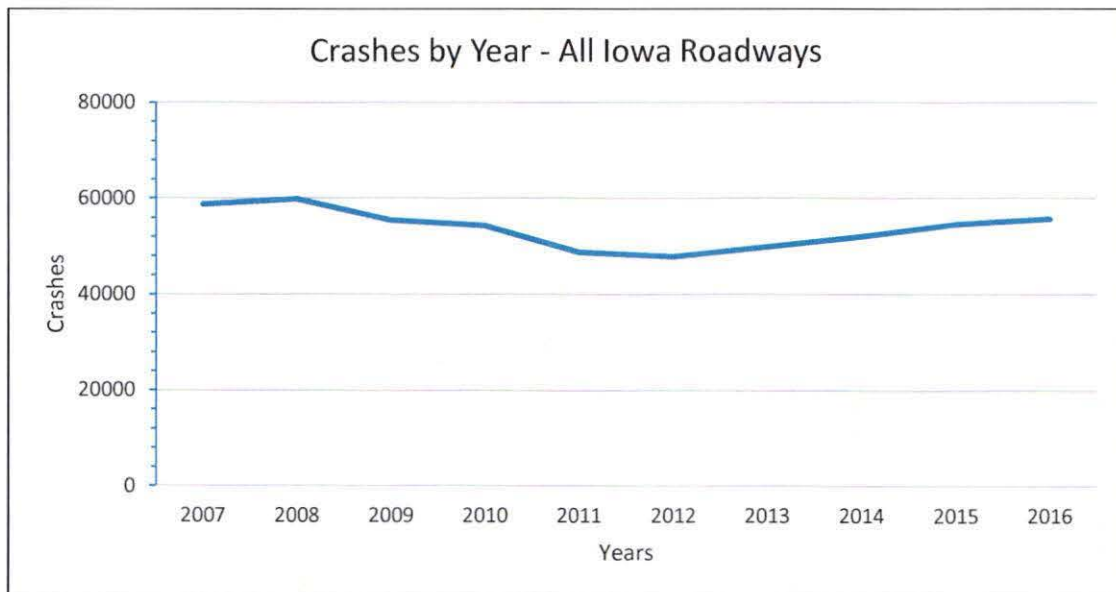
City of Council Bluffs

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Council Bluffs uses ATE systems to enforce red-light running violations at one signalized intersection on the primary highway system (in 2016 and 2017, the city of Council Bluffs assumed jurisdiction of portions of US 6 and Iowa 192 within the city limits, therefore eliminating DOT oversight on 6 intersections previously included in the DOT evaluation).

In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report focuses primarily on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Council Bluffs Annual Report:

We have completed our review of your 2016 automated traffic enforcement (ATE) report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- "2016 Annual Report, Automated Traffic Enforcement for the City of Council Bluffs"
- Intersection crash data obtained by the Iowa DOT using the Iowa crash database (includes all statewide reported crash reports)

Intersection red light cameras:

The city has red-light violation cameras at one intersection on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

Harrison Street and East Kanesville Blvd

Findings:

- Cameras activated 2009.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data (city provided):
 - 9 in 2007
 - 12 in 2008
 - 5 in 2009 – red light camera activated
 - 8 in 2010
 - 7 in 2011
 - 5 in 2012
 - 11 in 2013
 - 6 in 2014
 - 17 in 2015
 - 7 in 2016

- Crash data (DOT provided – includes all crashes using 75 feet radius):
 - 2 in 2004
 - 3 in 2005
 - 4 in 2006
 - 10 in 2007
 - 12 in 2008
 - 5 in 2009 – red light camera activated
 - 8 in 2010
 - 7 in 2011
 - 5 in 2012
 - 11 in 2013
 - 12 in 2014
 - 16 in 2015
 - 10 in 2016

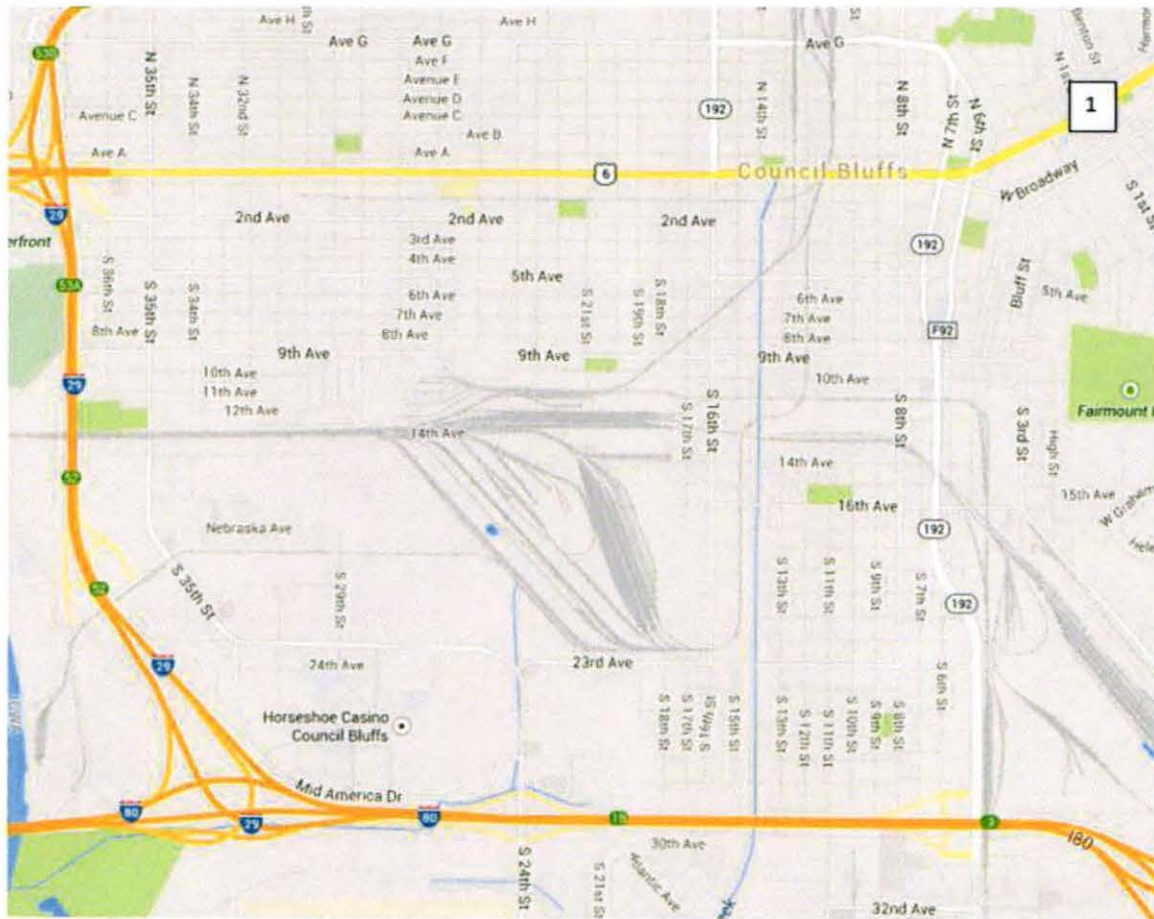
Resulting Action:

- Continue operation of red-light cameras at this location.

Summary:

Based on the results of this review, the automated traffic enforcement cameras at Harrison Street and East Kanesville Blvd may continue to be operated in accordance with Iowa Administrative Code 761—144. However, the crash data does not appear to be showing a safety benefit in the most recent years. Because of the reconstruction of I-80/I-29 through Council Bluffs, US 6 in this area will be relocated and the City of Council Bluffs will take ownership of the existing roadway. Once this transfer-of-jurisdiction occurs, the one intersection reviewed in this report will be off the primary highway system and therefore not subject to the requirements of Iowa Administrative Code 761—144. This planned transfer-of-jurisdiction was an important consideration when allowing the cameras to stay at the Harrison Street and East Kanesville Blvd intersection.

Map of Council Bluffs ATE systems on the primary highway system:



1. Harrison St and East Kanesville Blvd

City of Muscatine

Automated Traffic Enforcement

Report

The following report has been created in response to a public records request of the Iowa Department of Transportation Primary Highway System ATE guidelines, for the 2016 calendar year.

Background

In 2010, the City of Muscatine awarded the contract for our Automated Traffic Enforcement (ATE) initiative to Gatso USA. Through accident data as well as speed and red light violation surveys we decided that eight (8) approaches at five intersections would receive the equipment. The system was set up to monitor red light violations as well as speed violations at all five (5) intersections. The intersections selected for the ATE equipment were:

Washington St at Park Ave (north and south approaches)
Cleveland St at Park Ave (north and south approaches)
Cedar St at Houser St (east and west approaches)
University Dr at US Hwy 61 (westbound approach)
Mulberry Ave at US Hwy 61 (westbound approach)

The ATE equipment was built and installed by Gatso USA at no cost to the City of Muscatine. The City and Gatso USA submitted engineered construction plans and worked closely with the Iowa Department of Transportation to ensure that the entire construction and sign placements were completed to their requirements. Winter weather delayed the construction process during December and January. Each intersection has speed limit signs and red light signs that clearly advise that photo enforcement equipment is used at those intersections. In addition to those signs, the City elected to put up "traffic laws photo enforced" signs on every corporate limit signs posts on roadways entering Muscatine.

The City developed with Gatso Business Rules. These rules set in writing how all different kinds of violation events should be handled by Gatso. Some examples were: what if an emergency vehicle commits a violation without their flashing lights turned on, and what if a city vehicle commits a violation. The camera/radar system detects violators and passes the violation information to a Gatso employee who applies the Business Rules and verifies that a violation appears to have occurred and then they create a violation package that includes location information, violation information and vehicle information. This event package is

then sent to our department for review. A police officer who attended an organized training class on the system reviews the data and determines if a violation of the city ordinance has actually occurred and if the violation, location and vehicle information matches what is viewed in the photos and video. If everything matches up and a violation has actually occurred then the officer will issue a citation. The officers approval is transmitted back to Gatso who then prints and mails the paper violation.

The ATE equipment not only detects and documents red light and speed violations but also has other capabilities. The system can be set for license plate recognition for Amber Alerts or other major crimes that occur close to these intersections. The video that the system archives has been used multiple times as evidence in court for citation issued due to traffic crashes in the area of the ATE equipment. The system also provides a live video view. This feature allows a city-authorized person to look through the camera at the intersection whenever they may need to.

In 2016 the department utilized the video and license plate recognition functions of the ATE system on multiple occasions. Three times we had stolen vehicles that occurred while administrative staff were at work and we were able to switch the system over to LPR status in an attempt to locate the stolen vehicle. The archived video was used as part of investigations of stolen vehicles and drive by shootings. We had a stolen vehicle that was taken during overnight hours that was tracked using the archived video. Likewise, the video from the ATE system was instrumental in one of our drive by shootings this past year. We were able to use it to identify a vehicle, track it through town and it helped lead to search warrants and the arrest of a suspect in that case.

The paper citation the citizen received at their home contains color images of the violation and their license plate. Also contained are easy to read instructions explaining why they received the citations and how to pay it or request an administrative review. The paper citation also contains information on a website where the citizen can view the still photos printed on the paper citations and also a video of the violation. There is also information about paying the citation on-line or requesting an administrative review.

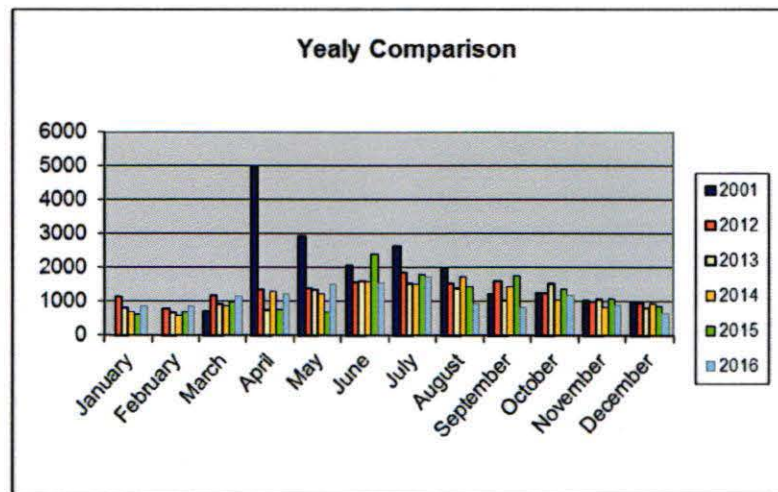
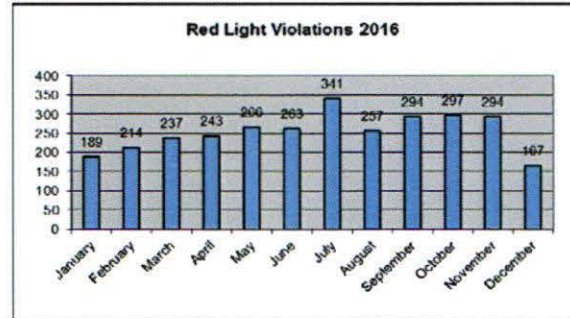
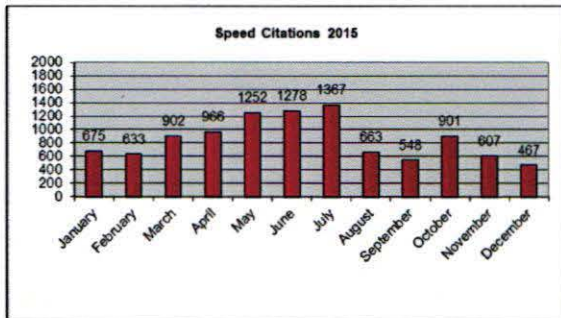
Prior to the implementation of the ATE equipment, public hearings and meetings were held during City Council meetings for at least a year prior to implementation, posters were put up at many locations across the city, informational pamphlets were distributed to the public and information was disseminated via email and the internet.

On March 11, 2011, the Automated Traffic Enforcement equipment was activated at the intersection of Cedar St and Houser St. On March 18, 2011, the Automated

Traffic Enforcement equipment was activated at the intersections of US Hwy 61 and Mulberry Ave, US Hwy 61 and University Ave and Park Ave and Cleveland St. Because of property questions and construction delays, the intersection of Washington St and Park Ave wasn't active until May 21, 2011. Each intersection had a warning period of 30 days.

Current Citation and Crash Statistics

2016 was the fifth full calendar year with all of the intersections active and recording violations. During 2016 there were a total of 13,322 citations issued. 3,062 citations were issued for red light violations and 10,259 speed citations were issued for speed violations. Comparing this data to the violations issued in 2015, there was an 8% (1,125) reduction in citations issued for calendar year 2016. An increase of 239 (8%) red light violations was experienced in 2016. However, speed violations decreased by 1,365 (12%) violations compared to 2015.



During administrative reviews (contested violations) we continue to routinely hear that vehicle owners and drivers are still under the impression that automated traffic enforcement has been ruled illegal by the Iowa DOT. Particularly the approach at Hwy 61 and University Ave.

During the initial project planning stages the City decided to set up ATE equipment on one west bound approach each at the intersections of US Hwy 61/Mulberry Ave and US Hwy 61/University Dr. The primary reason for the University/US 61 approach was speed enforcement and accident reduction as well as speed reduction at Mulberry/US 61 approach. It is a critical safety issue to the citizens of Muscatine to slow drivers down as they enter this business district and the new business district in the area of US 61/Mulberry Ave.

US Hwy 61/University is a main corridor to the City's east end business district with plans for expanded commercial businesses. The speed leading up to University is 45 mph. During initial planning stages for this intersection we had lengthy discussions with Iowa DOT engineers regarding the appropriate speed for the business district and sign placement. The city asked that the 45 mph speed limit sign be moved as close to the city limits sign as possible to give drivers as much chance to slow from 55 mph to the 45 mph zone. The Iowa DOT established where the 45 mph speed transition was going to be placed and erected the signs. Since the Iowa DOT Director created the new rule that speed zones aren't enforceable within 1000 feet of a speed transition area we have asked at least twice that the signs be moved to at least 1000 feet before this intersection.

Speed citations at this intersection have reduced dramatically. In 2011 (8 months active period) University/US 61 approach issued 12,851 speed violations. In 2012 that number dropped to 8,992 violations and, in 2015, the number of violations dropped again to 7,554 speed violations. It is interesting to note that for 2016 there was a decrease of 1,566 violations at that one approach with speed violations constituting a 99% of this decrease (5,999 speed violations for 2016). Since we started this program there has been a 53% decrease in speed and red light violations for this west bound approach.

New for 2016 was the introduction of mobile speed enforcement to Muscatine. At a City Council meeting in the spring we discussed the ATE program with the City Council and the Mayor. City Council and the Mayor approved of the expansion of the ATE speed enforcement program. In July and August the department did some testing with various equipment and decided on the Chevy Sonic. On the first day we used the Chevy Sonic for testing there would have been 362 violations on Bidwell Rd in the first 15 hours. In mid-November the Sonic was first deployed for speed enforcement. The tentative locations are posted on the City's website and Facebook page. We received twelve (12) requests for the Chevy Sonic from citizens even before the unit was deployed for the first time. In the 1.5 months the Sonic was active there were 112 violations generated. All of the locations the Chevy Sonic have been deployed have been on city streets not under any control of the Iowa DOT.

Since 2011 we have seen a reduction in crashes at each intersection where ATE equipment is operating in comparison to pre-ATE implementation. The chart below lists crashes since 2010 at the intersections where ATE equipment is installed.

Year	Total	PI	PD
2010	34	9	25
2011	28	9	19
2012	26	6	20
2013	19	4	15
2014	25	2	23
2015	19	2	17
2016	28	4	24

For calendar year 2016 we saw an increase in the crash rate of 30% from 2015. This is still a reduction from the pre-ATE era. The injury crashes remained very low with only 4 PI crashes at these intersections!

The department continues to conduct calibration compliance checks for each radar head for the through lanes where the ATE equipment is set up. These checks are conducted by department officers in patrol cars equipped with speed measuring equipment.

In January 2017 we found out that there was a three-month period that the yellow timing at Park Ave and Cleveland St was wrong. We found out that in September Muscatine Power and Water (MPW) had a controller failure. A new controller was installed by MPW personnel but the yellow time was set incorrectly to a pre-ATE installation setting. In December the controller was again replaced. However, this time the yellow time was correctly set at the 4.3 seconds specified by MPW following the speed increase in 2011. The minimum timing for the intersection is 3.5 seconds per IDOT permits. Following an extensive review of violation data from the period of incorrect yellow time we found 1,149 paid citations needed to be refunded and 1,028 unpaid citations were cancelled. This is the first issue we have had with MPW conducting maintenance and the yellow timing has been not reset correctly. This was not an issue relating to any conduct or services from Gatso USA nor the Police Department.

Are the traffic cameras having any effect on the driving habits of area drivers? After looking at the statistics for citations and crashes for the time the ATE systems have been installed and running we believe it is clear that they are. We continue to have less crashes at these intersections then the year prior to implementation. University and Hwy 61 has continued to see reductions in speed violations. This is what was targeted for this approach. 2011 saw 12,857 speed violations where in 2016 there were only 5,999 speed violations. This is the same

approach the IDOT has been trying to force the City to deactivate for years. Even though we saw an increase in red light violations this year we are still had 8% fewer violations this year than last year and a 33% reduction compared to the first year of this program. As a reminder, the ATE systems were not activated for the full year in 2011.

University Dr at US Hwy 61

Year	Number of Crashes	Crash Types	RL Violations Issued	Speed Violations Issued
2009	5	PI - 1 PD - 4	NA	NA
2010	5	PI - 1 PD - 4	NA	NA
2011	7	PI - 4 PD - 3	83	12851
2012	6	PI - 1 PD - 5	126	8992
2013	5	PI - 1 PD - 4	102	7638
2014	5	PI - 1 PD - 4	124	8018
2015	4	PI - 1 PD - 3	148	7554
2016	7	PI - 1 PD - 6	137	5999

8 month period

Mulberry Ave at US Hwy 61

Year	Number of Crashes	Crash Types	RL Violations Issued	Speed Violations Issued
2009	5	PI - 0 PD - 5	NA	NA
2010	10	PI - 4 PD - 6	NA	NA
2011	10	PI - 3 PD - 7	214	2600
2012	8	PI - 4 PD - 4	192	1551
2013	4	PI - 1 PD - 3	227	868
2014	3	PI - 0 PD - 3	168	1086
2015	4	PI - 0 PD - 4	239	1332
2016	6	PI - 0 PD - 6	340	1621

8 month period

Cleveland and Park Ave (Business Hwy 61)

Year	Number of Crashes	Crash Types	RL Violations Issued	Speed Violations Issued
2009	8	PI - 1 PD - 7	NA	NA
2010	5	PI - 2 PD - 3	NA	NA
2011	6	PI - 0 PD - 6	812	1904
2012	4	PI - 0 PD - 4	1102	1709
2013	5	PI - 2 PD - 3	824	1582
2014	8	PI - 0 PD - 8	994	1872
2015	2	PI - 0 PD - 2	971	2086
2016	6	PI - 2 PD - 4	1237	1917

8 month period

Washington and Park Ave (Business Hwy 61)

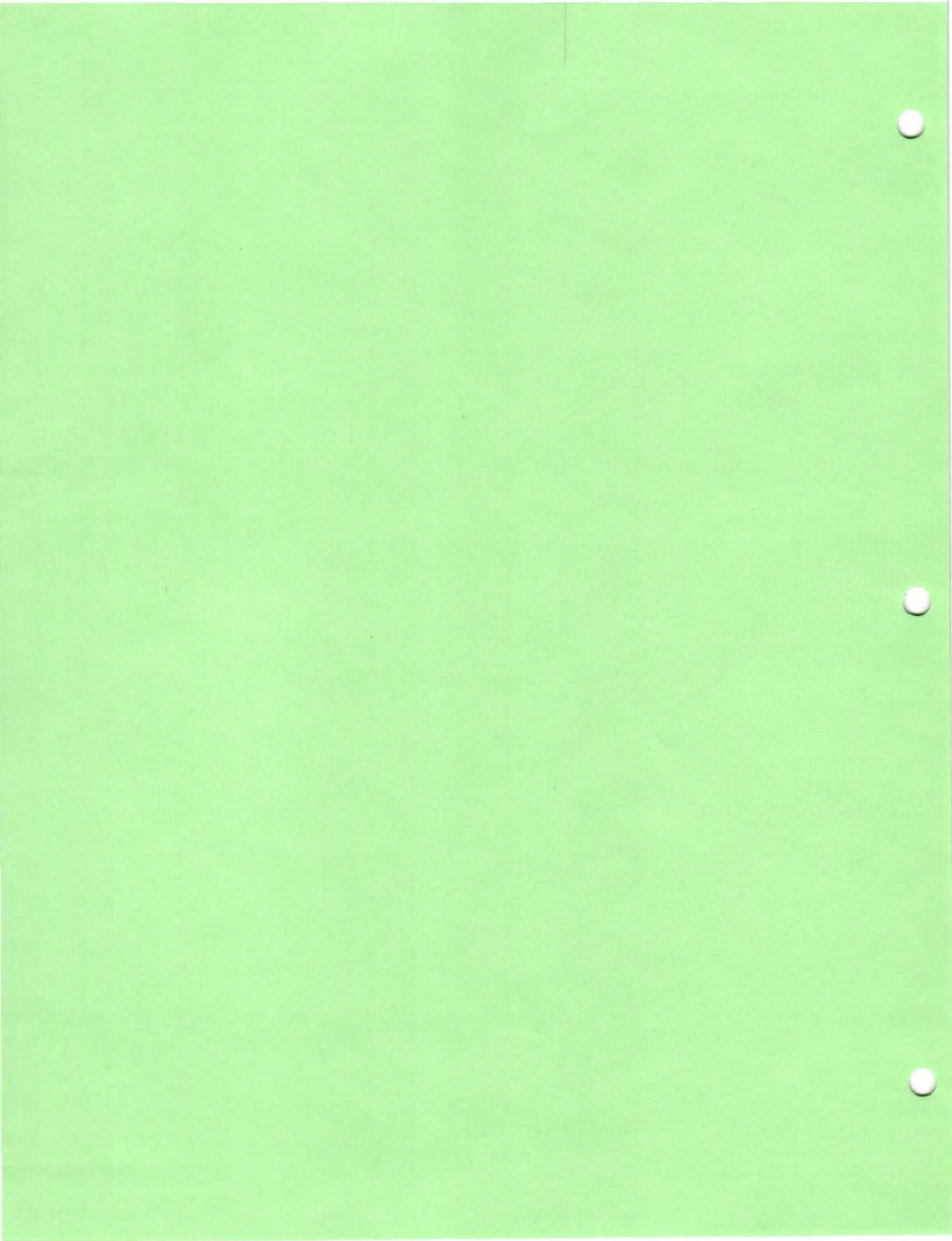
Year	Number of Crashes	Crash Types	RL Violations Issued	Speed Violations Issued
2009	10	PI - 4 PD - 6	NA	NA
2010	5	PI - 1 PD - 4	NA	NA
2011	3	PI - 1 PD - 2	305	336
2012	3	PI - 1 PD - 2	763	422
2013	4	PI - 0 PD - 4	681	589
2014	3	PI - 1 PD - 2	723	425
2015	4	PI - 0 PD - 4	782	626

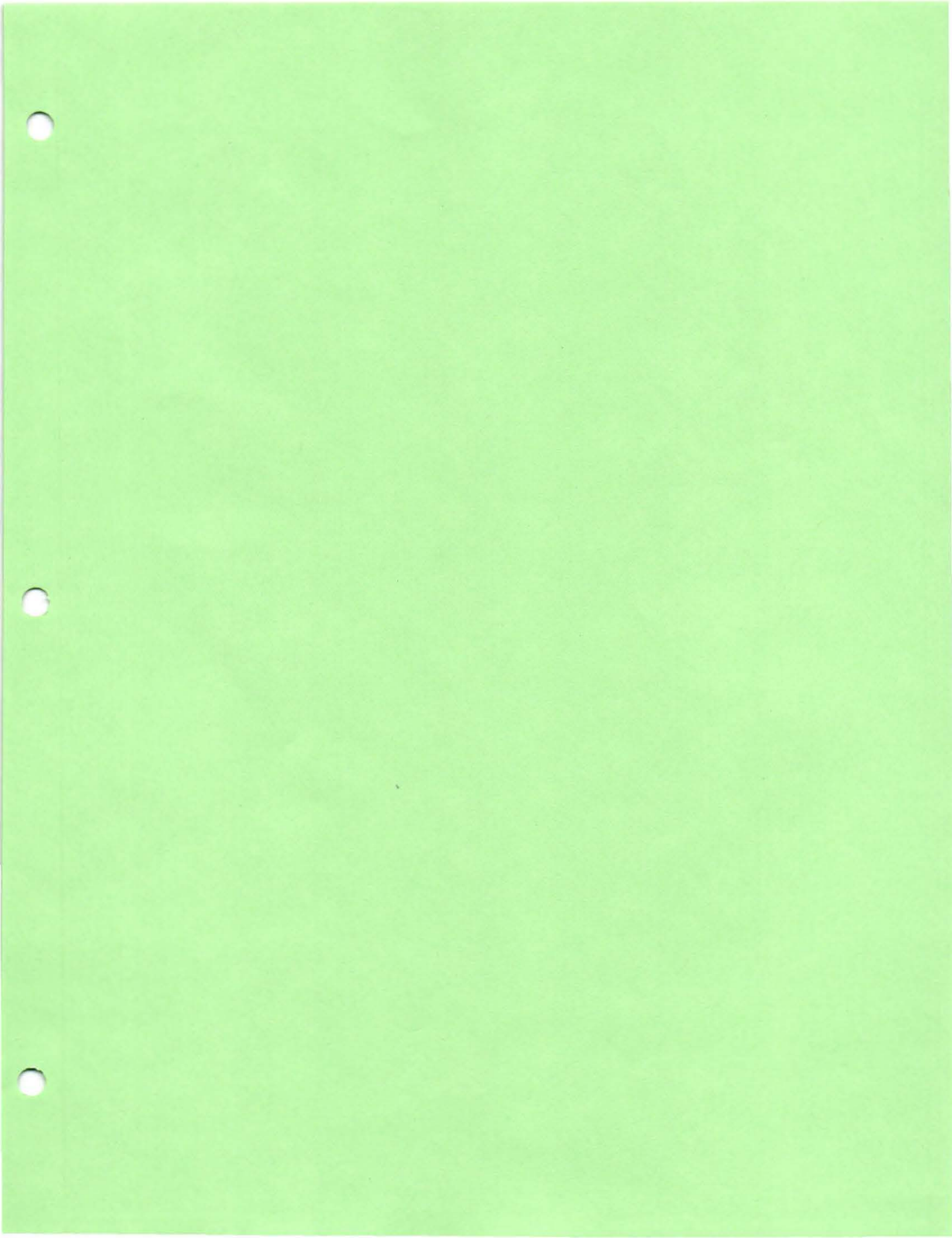
7 month period

Cedar St at Houser St

Year	Number of Crashes	Crash Types	RL Violations Issued	Speed Violations Issued
2009	6	PI - 2 PD - 4	NA	NA
2010	9	PI - 1 PD - 8	NA	NA
2011	2	PI - 1 PD - 1	513	131
2012	5	PI - 0 PD - 5	493	112
2013	1	PI - 0 PD - 1	713	145
2014	6	PI - 0 PD - 6	231	35
2015	2	PI - 0 PD - 2	799	93
2016	5	PI - 1 PD - 4	466	80

8 month period





Evaluation of 2016 Automated Traffic Enforcement Report

City of Muscatine

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Muscatine uses ATE systems to enforce red-light running and speed violations at four signalized intersections on the primary highway system.

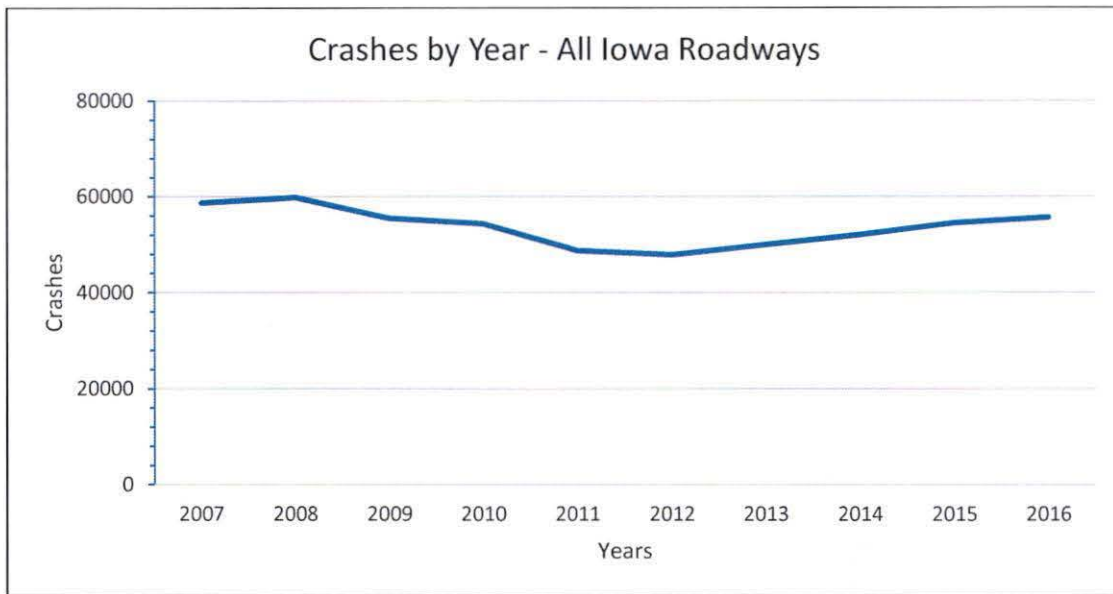
In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report focuses primarily on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The National Highway Traffic Safety Administration (NHTSA) conducted one of the most comprehensive reports to date on the causation of crashes in the United States. This report titled, "National Motor Vehicle Crash Causation Survey – Report to Congress" was published in 2008 and documents the investigation of 6,950 crashes nationwide. This study involved researchers being at the crash scene to assess relatively undisturbed information pertaining to the events and factors that led up to the crash and the opportunity to discuss the circumstances of the case with drivers, passengers, and witnesses while it was still fresh in their minds. The researchers on the scene were in an ideal position to gather first-hand information related to the vehicle, the roadway, the environmental conditions, and the human behavior factors. Some of the critical findings include:

- 95% of all crashes were caused by the drivers, 2.5% were caused by the vehicles, and 2.5% were caused by roadway/weather
- Of the 95% that were attributed to drivers:
 - o 40.6% was driver recognition error (inadequate surveillance, internal/external distraction, inattention, etc.)
 - o 34.1% was driver decision error (too fast for conditions, too fast for curve, false assumptions, illegal maneuver, misjudgment, etc.)
 - o 10.3% was driver performance error (overcompensation, poor control, etc.)
 - o 7.1% was driver non-performance error (sleep, heart attack/other physical impairment, etc.)
 - o 7.9% was other/unknown driver error

This report helps us better understand the primary causation of crashes. The speed at which a driver chose to drive was a primary cause in some of the crashes. Specifically, 8.4% were driving too fast for conditions and 4.9% were driving too fast for a curve. However, speed was not the primary causation in 86.7% of crashes caused by the driver, nor the crashes caused by vehicles or roadway/weather.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Muscatine’s Annual Report:

We have completed our review of your 2016 automated traffic enforcement report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- “City of Muscatine Automated Traffic Enforcement Report” covering calendar year 2016

Intersection speed and red light cameras:

The city has speed and red-light violation cameras at four intersections on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

University Dr. at US 61

Findings:

- Camera activated 3/18/2011.
- Westbound approach subject to traffic camera enforcement.
- Crash data (city provided):
 - 5 in 2009
 - 5 in 2010
 - 7 in 2011 – red light and speed camera activated
 - 6 in 2012
 - 5 in 2013
 - 5 in 2014
 - 4 in 2015
 - 7 in 2016
- The westbound camera on US 61 is located approximately 830 feet after a lower speed limit sign (55 mph to 45 mph).
 - o Iowa Administrative Code 761-144.6(1)(b)(10) provides that automated enforcement should not be placed within the first 1,000 feet of a lower speed limit.
- The number of speed citations at this location is very high:
 - 8,992 in 2012
 - 7,262 in 2013
 - 8,018 in 2014
 - 7,554 in 2015
 - 5,999 in 2016
- The DOT reviewed the concept of adding advance signal warning flashers (Be Prepared to Stop When Flashing) to the north side of this intersection similar to two other signalized intersections on the US 61 Muscatine bypass. It was determined to not move forward primarily because all other systems in the state are placed in areas with higher speed zones and the limited number of crashes that may be impacted.
- The reviews conducted by the Iowa DOT the last three years resulted in the following determination:
 - Permanently remove the westbound camera at University Drive and US 61*
 - o *Crashes have increased/stayed about the same since the camera was installed*
 - o *High number of speed violations*
 - o *Camera is within 1,000 feet of a lower speed limit*

Resulting Action:

- Permanently remove the westbound camera at University Drive and US 61
 - o Crashes have increased since the camera was installed
 - o High number of speed violations
 - o Camera is within 1,000 feet of a lower speed limit

Mulberry Ave at US 61

Findings:

- Camera activated 3/18/11.
- Westbound approach subject to traffic camera enforcement.
- Crash data (city provided):
 - 5 in 2009
 - 10 in 2010
 - 10 in 2011 – red light and speed camera activated
 - 8 in 2012
 - 4 in 2013
 - 3 in 2014
 - 4 in 2015
 - 6 in 2016

Resulting Action:

- Continue operation of speed and red-light cameras at this location.

Cleveland and Park Ave (Business US 61)

Findings:

- Cameras activated 3/18/2011.
- Northbound and southbound approaches are subject to traffic camera enforcement.
- Crash data (city provided):
 - 8 in 2009
 - 5 in 2010
 - 6 in 2011 – red light and speed camera activated
 - 4 in 2012
 - 5 in 2013
 - 8 in 2014
 - 2 in 2015
 - 6 in 2016

Resulting Action:

- Continue operation of this speed and red-light cameras at this location.

Washington and Park Ave (Business US 61)

Findings:

- Cameras activated 5/21/11.
- Northbound and southbound approaches are subject to traffic camera enforcement.
- Crash data (city provided):
 - 10 in 2009
 - 5 in 2010
 - 3 in 2011 – red light and speed camera activated
 - 3 in 2012
 - 4 in 2013
 - 3 in 2014
 - 7 in 2015
 - 4 in 2016

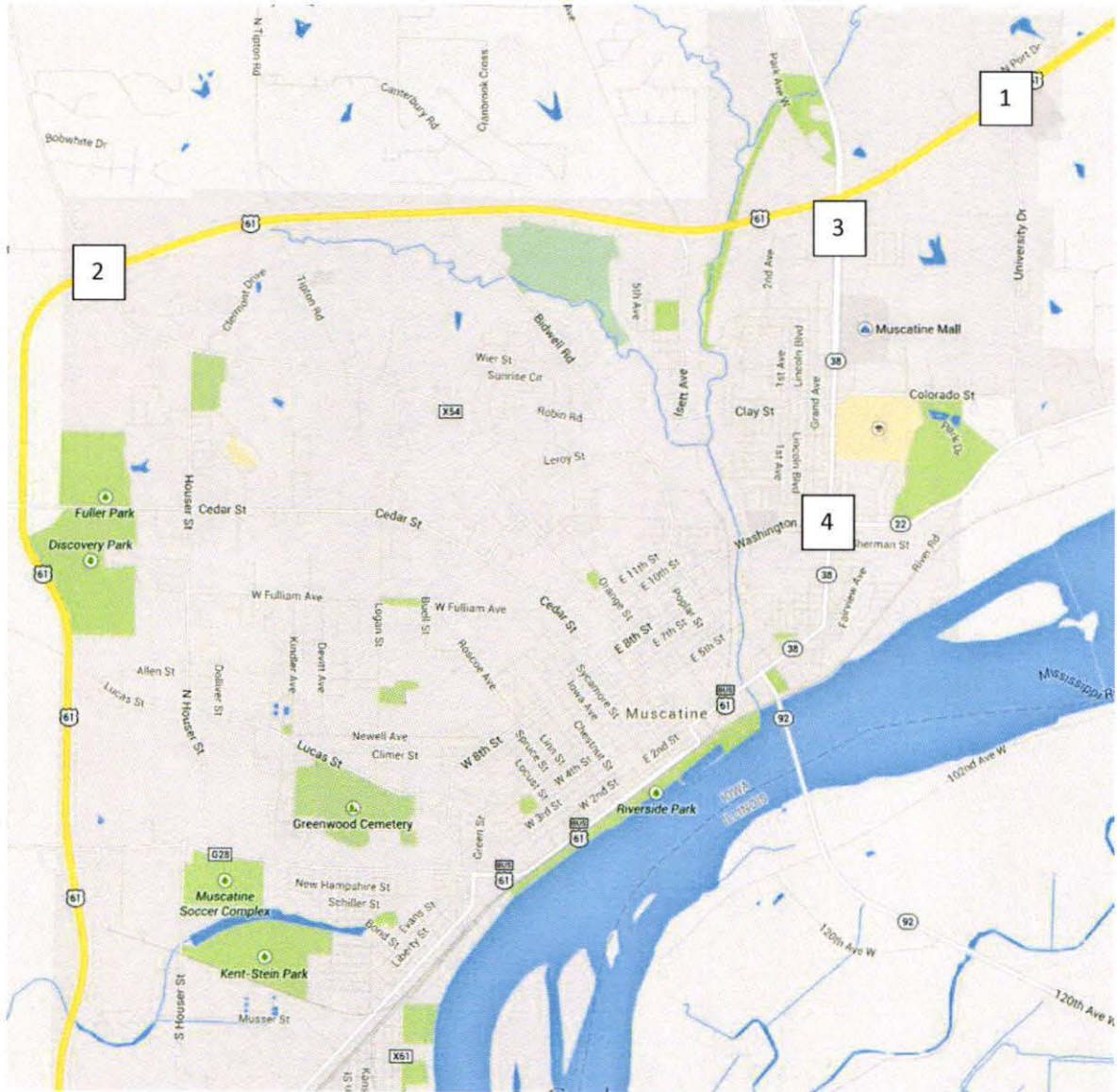
Resulting Action:

- Continue operation of speed and red-light cameras at this location.

Summary:

Based on the results of this review, the red-light running cameras located at Mulberry Ave and US 61, Cleveland and Park Ave, and Washington and Park Ave may continue to be operated in accordance with Iowa Administrative Code 761—144. Because of the pending lawsuit, the Iowa DOT will not take legal action against the City to remove the camera at University Drive and US 61 until the court has rendered a final decision.

Map of Muscatine's ATE systems on the primary highway system:



1. University Drive and US 61
2. Mulberry Ave. at US 61
3. Cleveland and Park Ave (Business US 61)
4. Washington and Park Ave (Business US 61)



April 12, 2017

REF: ATE Information Request

State Traffic Engineer Tim Crouch
Iowa Department of Transportation
Office of Traffic and Safety, Iowa DOT
800 Lincoln Way
Ames, Iowa 50010

Dear Tim:

Please find the following information in response to your request for statistical data concerning the City of Sioux City's ATE Systems. The City is providing this information to you based upon both our prior history and the future need for cooperation between our agencies. The City of Sioux City is committed to its continuing efforts to increase the safety of the public and persons involved in construction, reconstruction, and travel along our primary roadways.

Please be advised that the City's response to the Iowa DOT's request for information should not be seen as an indication that the City agrees with the Iowa DOT's attempt to implement rules governing the use of ATEs by Cities within the State of Iowa. The City maintains that the Iowa DOT does not have the authority to issue such rules outside and apart from any lawful rulemaking authority or legislative action. Additionally, the City maintains that the rules do not constitute lawful authority which may govern the City on the placement and operation of the City's ATE's.

Without acknowledging that the request for information or the resulting report is or can be lawfully required of the City by the Iowa DOT, and reserving all rights related thereto, the City of Sioux City respectfully provides the following public records to IDOT. This report will only cover the two approaches approved by the Iowa DOT for continued operation.

The City of Sioux City currently operates; two (2) Iowa DOT approved fixed red light photo enforcement systems on the primary road extensions within the city limits of City of Sioux City.

Red Light ATE's

The red light systems are located at; Gordon Drive and Palmetto for westbound traffic and Gordon Drive and Fairmount for west bound traffic. IDOT preapproved each installation and IDOT approved signage is posted before each approach. All violations are approved by sworn Sioux City Police Officers.

POLICE DEPARTMENT

Table with 8 columns: ADMINISTRATION, PROFESSIONAL STANDARDS, UNIFORMED SERVICES, INVESTIGATIONS, I.D. PROPERTY, COMMUNICATIONS, CRIME ANALYSIS, RECORDS/INFORMATION. Includes phone, fax, and web information for each department.

****Traffic patterns in Sioux City have changed considerably due to lengthy traffic delays during the I-29 reconstruction project. In particular a significant amount of traffic has stopped using I-29 and started using Gordon Drive.**

Red Light Violation History:

Intersection:	Gordon Drive & Palmetto	Gordon Drive & Fairmount
<u>Pre-deployment Accident History</u>		
2007 Accidents (all causes)	3	10
2008 Accidents (all causes)	4	9
Date On-Line - Deployed	6/26/09	06/26/09
2009 -12 HR Survey # Violations	14	14
Total Violations Issued	479	458
Daily Violation Average	2.53	2.42
Accidents (all causes)	2	3
Accidents (Red Light Running)	0	1
2010		
Total Violations Issued	540	164***
Daily Violation Average	1.48	.45**
Accidents (all causes)	1	5
Accidents (Red Light Running)	0	1
2011		
Total Violations Issued	407	176**
Daily Violation Average	1.12	.48**
Accidents (all causes)	1	3
Accidents (Red Light Running)	1	1
2012		
Total Violations Issued	395*	687***
Daily Violation Average	1.30	1.88
Accidents (all causes)	2	3
Accidents (Red Light Running)	0	0
2013		
Total Violations Issued	259	768
Daily Violation Average	.71	2.10
Accidents (all causes)	3	1
Accidents (Red Light Running)	0	0
2014		
Total Violations Issued	298	934
Daily Violation Average	.81	2.55
Accidents (all causes)	3	4
Accidents (Red Light Running)	2	2

Intersection:	Gordon Drive & Palmetto	Gordon Drive & Fairmount
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2015

Total Violations Issued	2,450	736
Daily Violation Average	6.71	2.02
Accidents (all causes)	4	9
Accidents (Red Light Running)	2	1

2016

Total Violations Issued	3,012	427
Daily Violation Average	8.25	1.17
Accidents (all causes)	4	5
Accidents (Red Light Running)	1	1

Percentage of Change:

12 Hour Survey to 2016 Daily Average (24 hours):	-41.07%	-90.93%
2009 Daily Average to 2016 Daily Average:	+226.09%	-53.75%
Accidents (all causes 2007\2008 to 2016):	+14.29%	-47.37%

*2014 Gordon Drive\Palmetto was closed down for 60 days – average adjusted for limited days

**Gordon Drive\Fairmount right hand turn lane down all of 2010 and first 9 months of 2011.

***2014 Gordon Drive\Fairmount had several lanes closed for 62 days

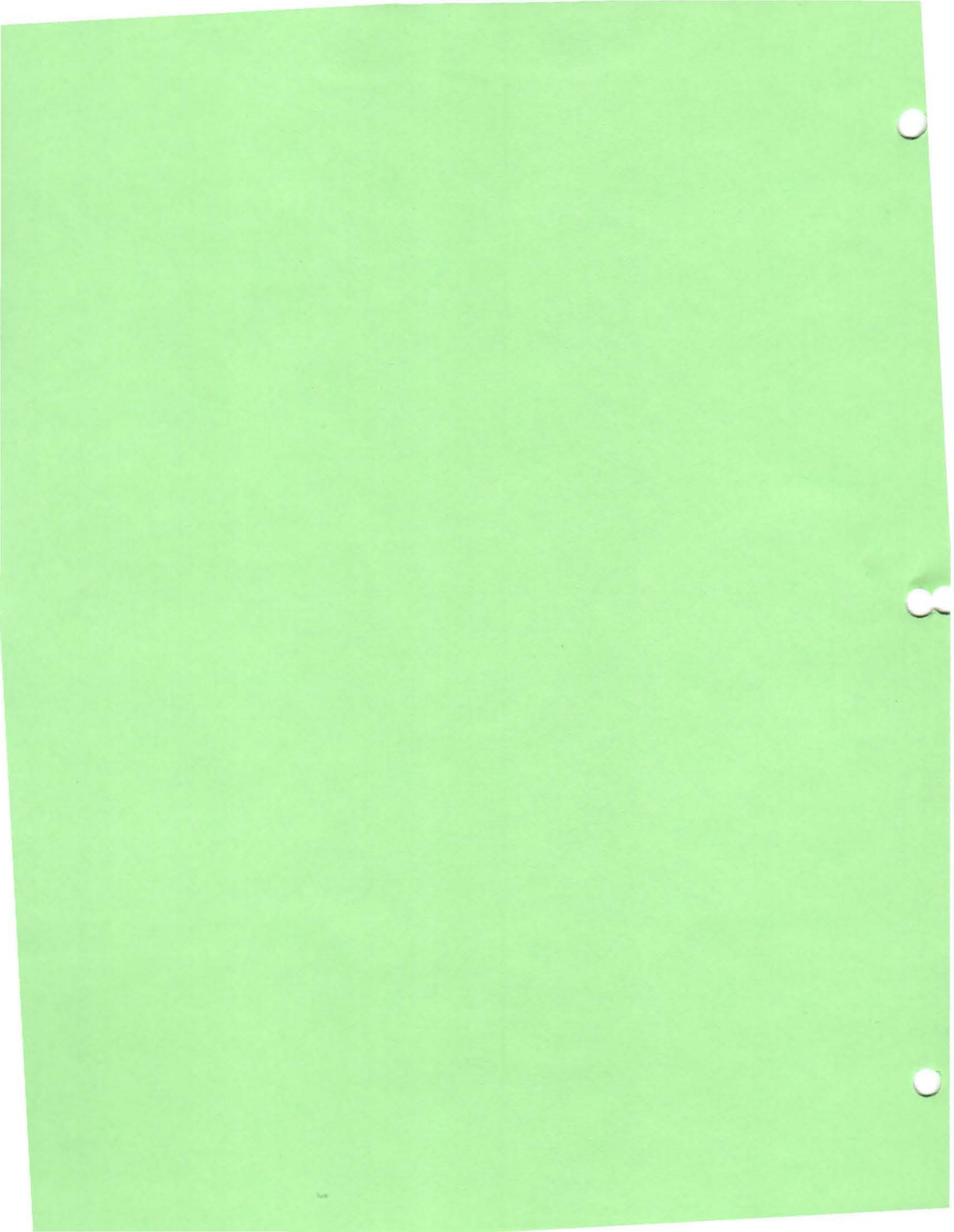
Conclusion:

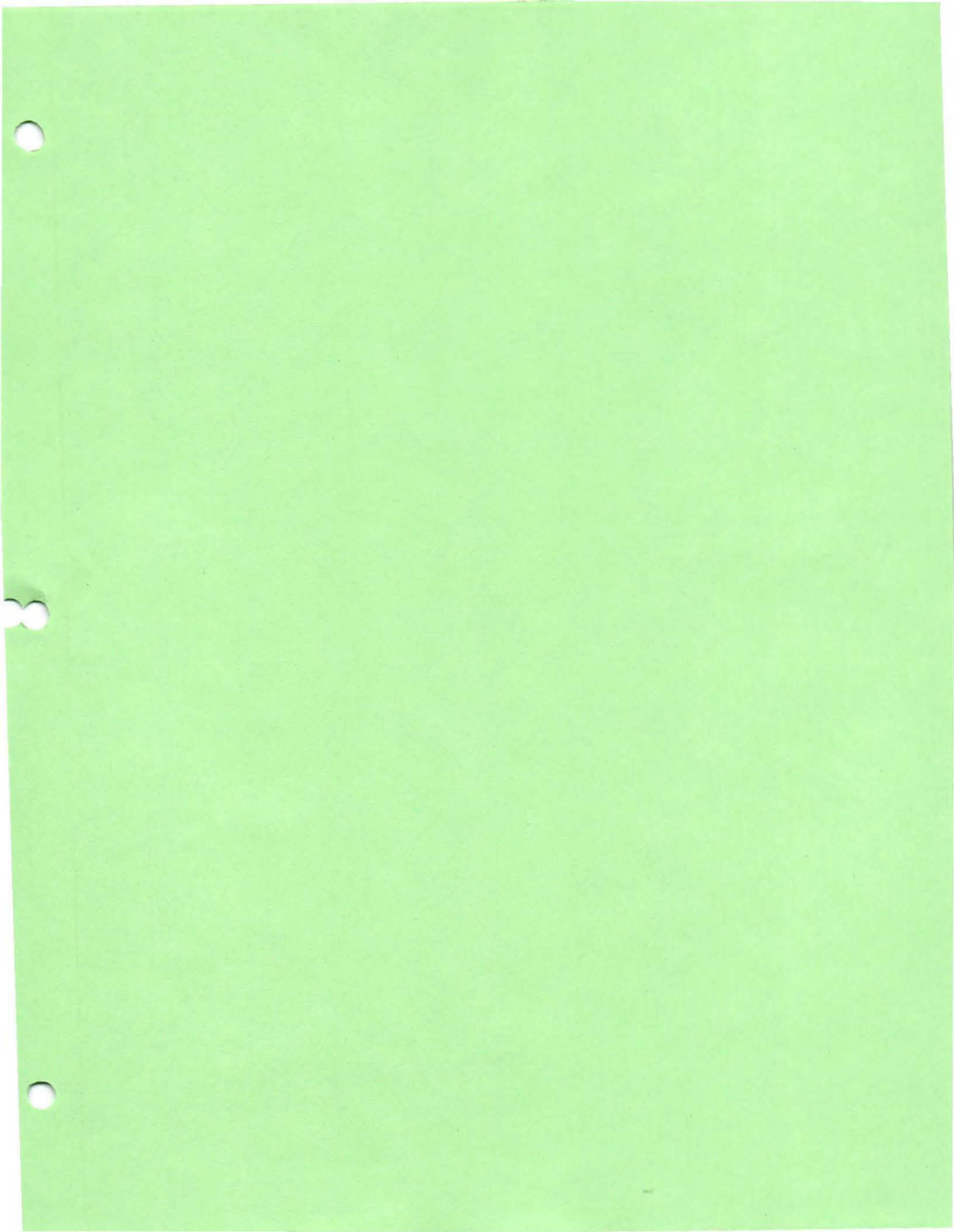
This report confirms that deploying ATEs on the primary roadways has increased safety at those locations. Additionally, ATE deployment has also raised overall driver awareness and resulted in improved safety and a reduction in overall traffic violations in locations that are not monitored by ATEs.

Respectfully,

Lisa M. Claeys

Captain Lisa M. Claeys





Evaluation of 2016 Automated Traffic Enforcement Report

City of Sioux City

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Sioux City uses ATE systems to enforce red-light running at four signalized intersections on the primary highway system. In addition, they use two portable ATE units to enforce speed violations on I-29.

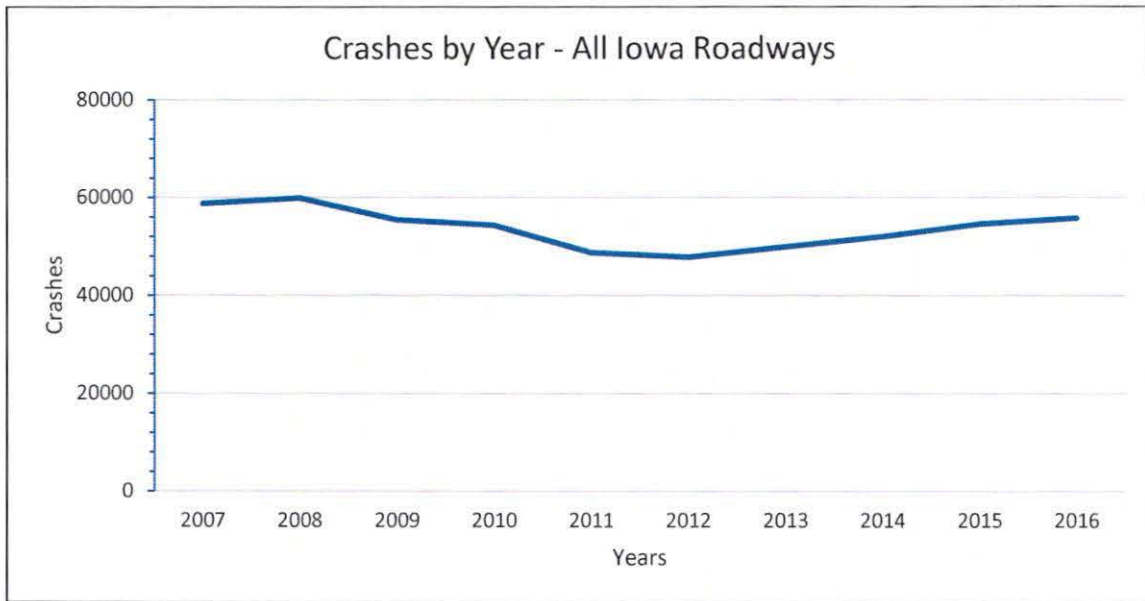
In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report primarily focuses on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The National Highway Traffic Safety Administration (NHTSA) conducted one of the most comprehensive reports to date on the causation of crashes in the United States. This report titled, "National Motor Vehicle Crash Causation Survey – Report to Congress" was published in 2008 and documents the investigation of 6,950 crashes nationwide. This study involved researchers being at the crash scene to assess relatively undisturbed information pertaining to the events and factors that led up to the crash and the opportunity to discuss the circumstances of the case with drivers, passengers, and witnesses while it was still fresh in their minds. The researchers on the scene were in an ideal position to gather first-hand information related to the vehicle, the roadway, the environmental conditions, and the human behavior factors. Some of the critical findings include:

- 95% of all crashes were caused by the drivers, 2.5% were caused by the vehicles, and 2.5% were caused by roadway/weather
- Of the 95% that were attributed to drivers:
 - o 40.6% was driver recognition error (inadequate surveillance, internal/external distraction, inattention, etc.)
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This report helps us better understand the primary causation of crashes. The speed at which a driver chose to drive was a primary cause in some of the crashes. Specifically, 8.4% were driving too fast for conditions and 4.9% were driving too fast for a curve. However, speed was not the primary causation in 86.7% of crashes caused by the driver, nor the crashes caused by vehicles or roadway/weather.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Sioux City's Annual Report:

We have completed our review of your 2016 automated traffic enforcement (ATE) report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- "ATE Information Request" from the City of Sioux City to the Iowa Department of Transportation, April 12, 2017 from Captain Lisa Claeys;
- Intersection and segment crash data obtained by the Iowa DOT using the Iowa crash database (includes all statewide reported crash reports)

Intersection red light cameras:

The city has red-light violation cameras at three intersections on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

Gordon Drive and Fairmount

Findings:

- Camera activated 6/26/2009.
- Westbound approach subject to traffic camera enforcement.
- Crash data: 9.5 crashes/year before activation (2007/2008); 4.3 crashes/year after activation (2010/2011/2012/2013/2014/2015/2016) – from city provided crash data.

Resulting Action:

- Continue operation of speed and red-light cameras at this location.

Gordon Drive and Palmetto

Findings:

- Camera activated 6/26/2009.
- Westbound approach subject to traffic camera enforcement.
- Crash data: 3.5 crashes/year before activation (2007/2008); 2.6 crashes/year after activation (2010/2011/2012/2013/2014/2015/2016) – from city provided crash data.
- The number of crashes at this intersection has decreased; however, there were very few crashes at this intersection prior to the camera installation.

Resulting Action:

- Continue operation of this red-light camera at this location.

Lewis Blvd and Outer Drive

Findings:

- Cameras activated 4/30/2010.
- Northbound and southbound approaches are subject to traffic camera enforcement.
- The previous reviews conducted by the Iowa DOT resulted in the following determination:
 - Remove the northbound and southbound cameras at this intersection
 - o Crashes increased after the cameras were installed.

***The City of Sioux City has scheduled removal of these cameras for late summer 2017

Mobile Speed Cameras on I-29:

The city typically places two mobile speed cameras on I-29, one in the northbound direction and one in the southbound direction. DOT's findings and resulting action as to each location are set forth below.

Findings:

- City began using these speed cameras in 2011 and they are moved periodically by the Sioux City Police
- Interstate 29 is undergoing a multi-year reconstruction; the first mainline work began in 2009.
- The City of Sioux City did not provide crash data in their annual report to the DOT on this I-29 segment.
- Crash data (DOT provided – includes all mainline crashes between US 20 interchange and the South Dakota border):
 - 101 in 2004
 - 69 in 2005
 - 53 in 2006
 - 112 in 2007
 - 167 in 2008
 - 130 in 2009 -- mainline construction began
 - 123 in 2010
 - 105 in 2011 -- camera use initiated
 - 65 in 2012
 - 77 in 2013
 - 109 in 2014
 - 114 in 2015
 - 93 in 2016
 - o Number of crashes varies greatly with decreasing trend from 2004 to 2006, increasing trend from 2006 to 2008, decreasing trend from 2008 to 2012, and increasing trend from 2012 to 2015 and then tapering off in 2016.
- Two work zone speed feedback signs were purchased by the DOT and used in the construction zones since 2013.
- Except for 2011, DOT contracted for extra enforcement in I-29 work zones every year since 2009.
- The number of speed citations is moderately high: 8,692 in 2011 (partial year), 33,818 in 2012 and 26,418 in 2013 (City of Sioux City has not provided citation data since 2013)
- Having two interstate cameras is significant compared to other cities in Iowa and in the country.
 - o Des Moines has one set of cameras on I-235 and Cedar Rapids has four sets on I-380. Other than the aforementioned cities, no other speed cameras exist on any rural or urban interstate in Iowa.
 - o Iowa is the only state in the nation, that we are aware of, that has permanent speed cameras on the interstate system.
- Iowa Administrative Code 761-144.4(1)(c) provides that automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.

- Local drivers are typically aware of speed cameras and therefore monitor their speed accordingly. Non-familiar drivers often do not see/read the photo enforced signs and therefore may not monitor their speed accordingly.
- The City has said they plan to remove the speed trailers once construction on I-29 is complete.
- The reviews conducted by the Iowa DOT in previous years has resulted in the following determination:
 - Remove the speed cameras from I-29.
 - The number of annual crashes varies greatly over the past 10 years with specific trends both upward and downward. It is difficult to determine the effect the speed trailers have had on the number of crashes.
 - The reconstruction project is in the process of building a new and safer freeway system throughout Sioux City.
 - Other safety countermeasures have been implemented.
 - Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

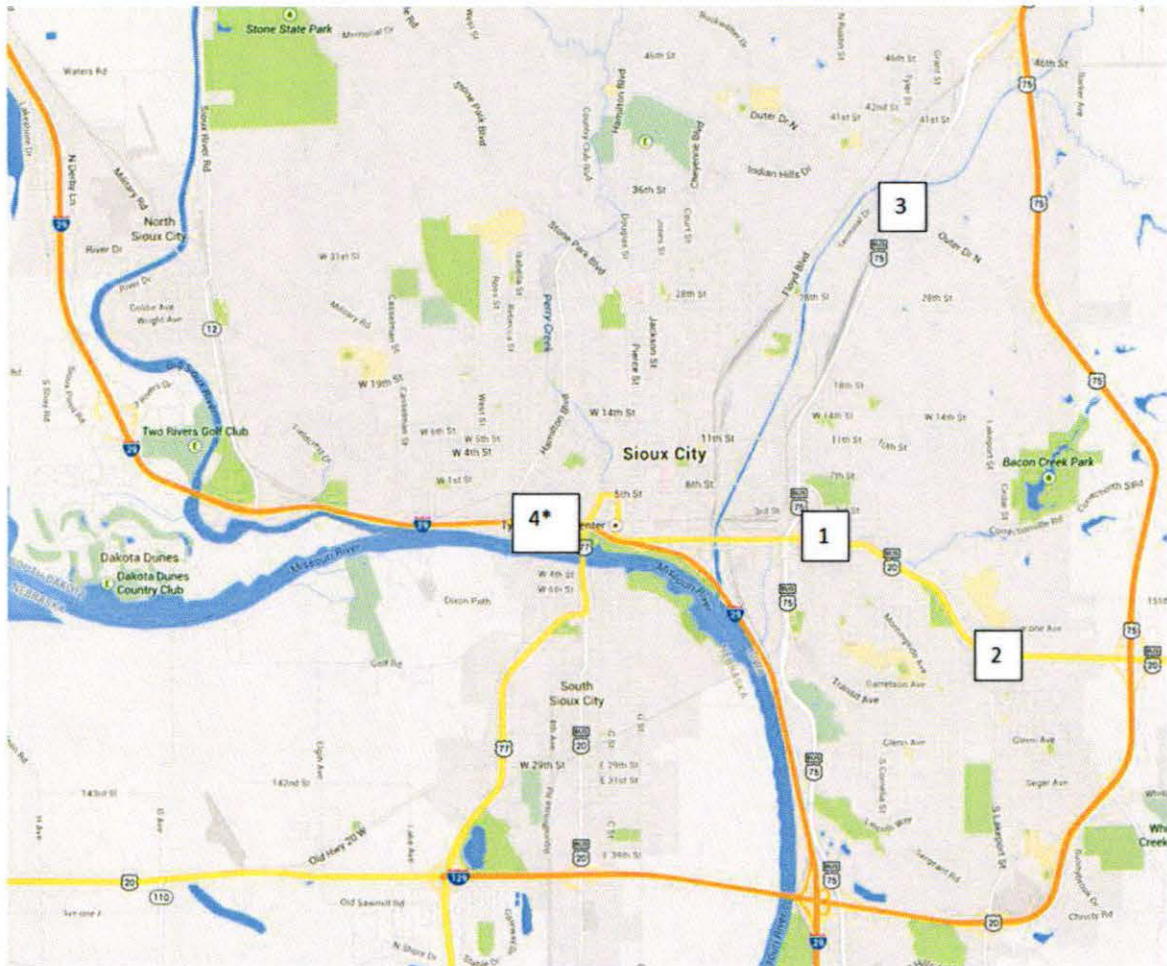
Resulting Action:

- Remove the speed cameras from I-29.
 - The number of annual crashes varies greatly over the past 10 years with specific trends both upward and downward. It is difficult to determine the effect the speed trailers have had on the number of crashes.
 - The reconstruction project is in the process of building a new and safer freeway system throughout Sioux City.
 - Other safety countermeasures have been implemented.
 - Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

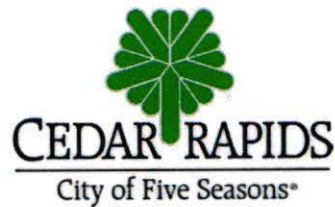
Summary:

Based on the results of this review, the red-light running cameras located at the intersections of Gordon Drive and Fairmount and Gordon Drive and Palmetto may continue to be operated in accordance with Iowa Administrative Code 761—144. The red-light running cameras located at the intersection of Lewis Blvd and Outer Drive are being removed in late summer 2017. Because of the pending lawsuit, the Iowa DOT will not take legal action against the City to remove the two mobile speed cameras on I-29 until the court has rendered a final decision.

Map of Sioux City's ATE systems on the primary highway system:



1. Gordon Drive and Fairmount
2. Gordon Drive and Palmetto
3. Lewis Blvd and Outer Drive
4. * Two portable speed trailers...placed on I-29, various locations



May 10, 2017

Mr. Tim Crouch
Office of Traffic and Safety
Iowa DOT
800 Lincoln Way
Ames, Iowa 50010

Dear Sir:

Pursuant to DOT rule 761 - 144.7 of the Iowa Administrative Code, the City of Cedar Rapids submits this report on its Automated Traffic Enforcement system for calendar year 2016. In so doing, however, the City does not acknowledge the validity of that rule as applied to Cedar Rapids, nor does it concede the report forms a valid basis for any evaluation by which the DOT purports to require changes to the City's ATE program.

Crash Data Summation:

Pre-ATE Period

Between January 1, 2007 and that part of 2010 before ATE was operational (a period of 41 ½ months), the City recorded 213 crash events on I-380. Of the 213 crashes, 92 involved at least one driver or passenger being injured. Three of those 92 crashes involved fatalities with a combined death toll of four. Researching crashes back to 2003 the City averaged 1 fatal crash per year along the stretch of I-380 currently monitored by ATE.

We ask you to note that in the DOT's Evaluations of the City's ATE program, the IDOT omits some crash data, namely 2 fatal crashes, one in 2004 and the other in 2009. The crash in 2004 killed 4 people. This inaccuracy in data creates inaccuracy of DOT's evaluations.

Post-ATE Period (through 12/31/16)

Since the start of ATE in 2010, through 2016, (a period of 78½ months), the City recorded 260 crash events on I-380. Of the 260 crashes, 67 resulted in at least one driver or passenger being injured. One crash resulted in the death of two people.

Comparison of Pre-ATE and Post ATE Periods:

The rate of collisions per month

Before ATE – 5.13 crashes per month
after ATE (through 12/31/16) - 3.29 crashes per month

The rate of personal injuries (not including death) per month

Before ATE was - 2.2 personal injury crashes per month
After ATE (through 12/31/16) - .81 injury crashes per month

There has been one fatal crash in the 7 years since the ATE program was started compared to 5 fatal crashes in the 6 years prior to ATE.

Cedar Rapids Police Department
505 First Street SW · Cedar Rapids, Iowa 52404-2103
(319) 286-5375 · FAX (319) 286-5462

To date there has not been a reported rear end crash at either camera location on I-380 which DOT regards as being in violation of the so called 1000 foot rule. The rationale behind that rule was that the presence of the cameras would cause drivers to "slam" on their brakes to avoid a citation. But this has not proven to be true -- no such crash has occurred in the nearly seven years ATE has been used there. The City continues to dispute the need for and logic of the 1000 foot rule but have asked the DOT, in the spirit of inter-agency cooperation, to move the 55 mph speed limit signs to create a 1000 foot distance between the signs and the locations of the ATE equipment. Unfortunately, the DOT has never responded directly to this request. The DOT has installed new signs, however, which are well beyond the 1000 foot mark, to warn of the 55 mph speed limit change ahead. To date, no reason has been provided why those signs could not have marked the point at which the speed limit drops from 60 to 55mph, so as to create a 1000 foot distance. This would address the DOT's stated concern about rear end collisions with virtually no additional time or disruption to traffic. The City would certainly pay for this to avoid the additional cost, time and disruption associated with moving ATE equipment from the very locations where DOT directed they be installed.

Approximately 1.2 million vehicles have passed the cameras each month. Of those vehicles, less than .05% were traveling at least 12 mph over the posted speed limit, for which they received an ATE citation. Stated otherwise, 99.05% of those passing the cameras were not cited. The data does not support DOT's characterization that the rate of citation is extremely high.

For traffic heading into the S-Curve (inbound traffic), the IDOT has directed the City to move or disable ATE equipment because violations are detected at a point just 150 feet or less short of the 1000 foot mark. It is implausible, however, to believe vehicles will decelerate from 67 to 55 mph within a mere 150 feet. While the City acknowledges DOT's desire to establish a statewide standard for the distance between any drop in the posted speed limit and ATE enforcement (a position with which the City disagrees), the rule is inappropriate with respect to Cedar Rapids' I-380 cameras. Given that IDOT directed the City where to install the cameras, and the probability that vehicles cannot slow from 67 to 55 mph in 150 feet, the City maintains that the 150 foot "shortfall" should be waived.

There are also two ATE locations for traffic heading out of the S-curve (outbound traffic): I-380 southbound at the 1st Ave west exit and I-380 northbound at J Ave NE. The DOT has ordered them removed as being "outside the area of concern." To address this, these ATE units can be moved closer to the center of the S-curve. See the enclosed map in appendix "A," describing proposed new locations. This would put ATE units for traffic heading out of the S-curve inside the area of concern and also preserve the two-cameras-per-direction which DOT originally permitted. As the City and DOT previously agreed, a pairing of ATE units ensures that motorists maintain a safe speed throughout the "S" curves, while a single ATE unit for traffic heading into the S-curve ensures only a safe speed at that single point.

Rules promulgated by the DOT state that ATE should only be used at a location with a high crash history and a proven hazardous location. There is no dispute that the "S" curves are hazardous and have a history of crashes. DOT has acknowledged that fact. The first (and to date only) fatal crash in seven years inside the S-curve actually highlights the continued hazards in that stretch of I-380. At the time of that crash in November, 2016, officers were positioned to warn motorists of an accident that had just occurred in the same area. They used their car as a "cover car" by parking it on the shoulder, off the travel lanes, with the arrow stick light activated on the back of the squad directing other drivers to move to the left, clear of the accident. Still, another car approaching from north of the accident struck the cover car, killing the occupants of that other car and injuring the officers in the cover car. One officer remains unable to return to work.

Denying Cedar Rapids the option of using ATE as originally designed and permitted by the DOT will significantly increase the risk of speed related accidents, in turn causing significantly increased hazards such as those which led to the one fatality accident which has occurred on the S- curve since the use of ATE there. The DOT's actions regarding ATE on the S- curve place an arbitrary and undue emphasis on the 1000 foot rule while ignoring the hazards of traditional enforcement in that area. Taking away a speed reduction program proven to lower the incidence of serious crashes will almost certainly mean more crashes and, in turn, a far greater chance for additional tragedy.

Intersection: 1st Ave and L St West

Year	Number of Crashes	Injury Crashes	Property Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2008	19	4	15		NA	NA
2009	11	2	9		NA	NA
2010*	20	3	17	See Attached Diagrams	NA	NA
2011	10	1	9		400	476
2012	6	1	5		929	578
2013	9	3	6		647	586
2014	8	2	6		428	561
2015	15	3	12		447	760
2016	18	2	16		417	883

Camera Installed 6/1/2010

Intersection: 1st Ave and 10th St East

Year	Number of Crashes	Injury Crashes	Property Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2008	10	2	8		NA	NA
2009	15	2	13		NA	NA
2010*	6	1	5	See Attached Diagrams	NA	NA
2011	4	0	4		293	491
2012	12	0	12		541	374
2013	9	2	7		412	663
2014	13	3	10		696	1252
2015	9	3	6		700	1593
2016	5	2	3		811	2101

Cameras installed 3/14/2010

Intersection: Williams and 16th SW

Year	Number of Crashes	Injury Crashes	Property Crashes	Crash Types	RLR Violations Issued	Speed Violations Issued
2008	13	3	10		NA	NA
2009	14	6	8		NA	NA
2010*	8	3	5	See Attached Diagrams	NA	NA
2011	6	1	5		425	1107
2012	7	0	7		509	1101
2013	5	0	5		637	1322
2014	6	0	6		379	985
2015	9	1	8		373	1355
2016	7	2	5		434	1400

Camera Installed 12/18/2010

Fixed Speed Cameras Located I-380 between mm 19-22

By Crash Type

	Year	Number of Crashes	Non Collision	Rear-End	SideSwipe	Other	Unknown
Pre-Camera Data	2007	54	20	13	16	2	2
	2008	67	25	13	20	5	4
	2009	69	19	15	18	13	4
	2010	23	12	3	5	0	0
Post-Camera Data	2010	12	3	2	5	2	0
	2011	32	10	8	10	4	0
	2012	36	14	16	5	0	1
	2013	38	10	11	15	2	0
	2014	46	24	10	9	3	0
	2015	46	17	6	2	5	0
	2016	50*	14	13	9	1	13

Fixed Speed Cameras Located I-380 Between mm 19-22

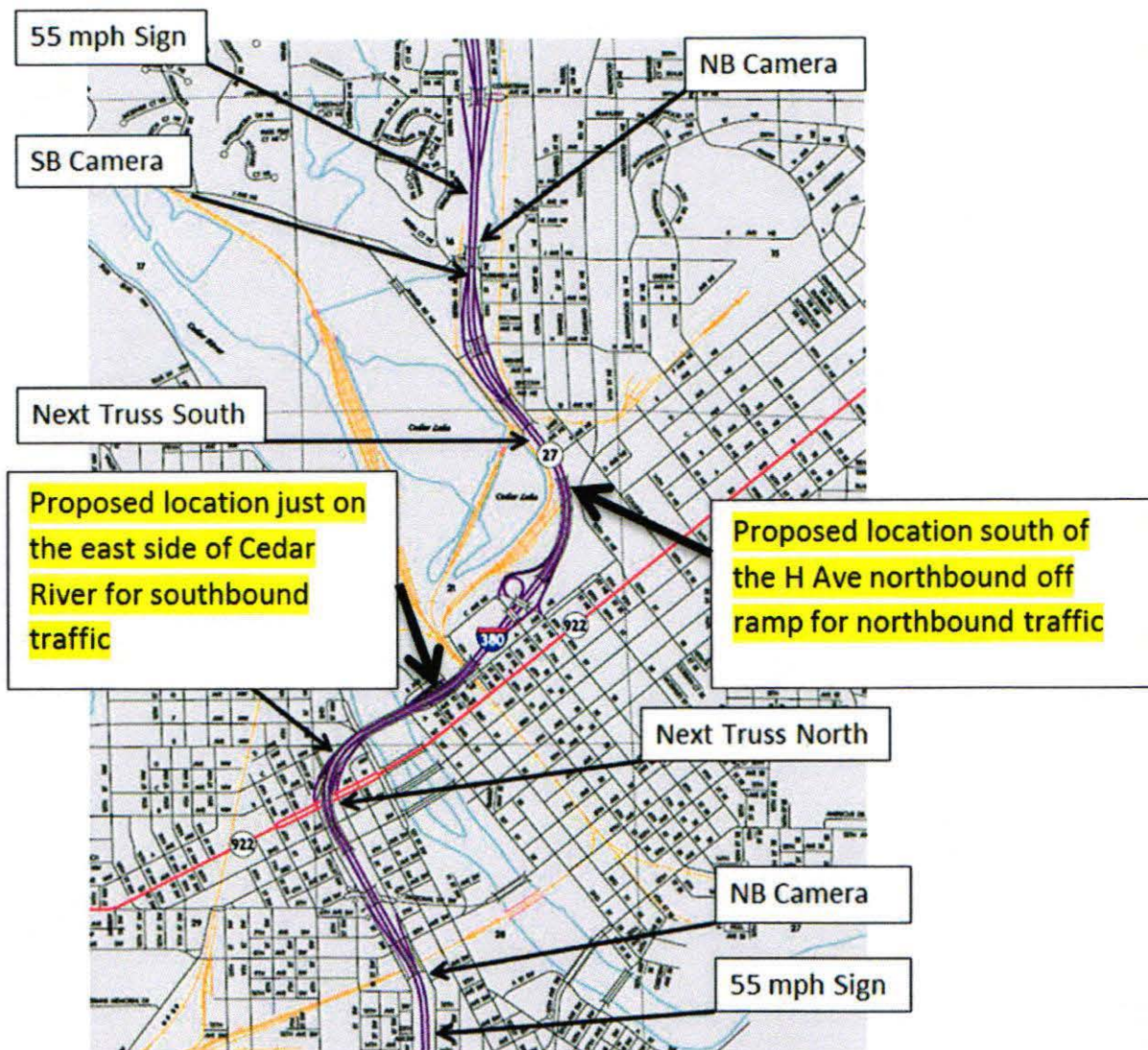
Fatal vs injury vs property damage accidents

	YEAR	Number of Crashes	Injury Crashes	Fatal Crashes	Property Damage Crashes
Pre-camera Data	2007	54	21	0	33
	2008	67	32	1	35
	2009	69	32	2	37
	2010	23	7	0	16
	Total	213	92	3	121
Post-Camera Data	2010	12	2	0	10
	2011	32	9	0	23
	2012	36	15	0	21
	2013	38	10	0	28
	2014	46	12	0	34
	2015	46	10	0	36
	2016	50	9	1	40
Total	260	67	1	192	

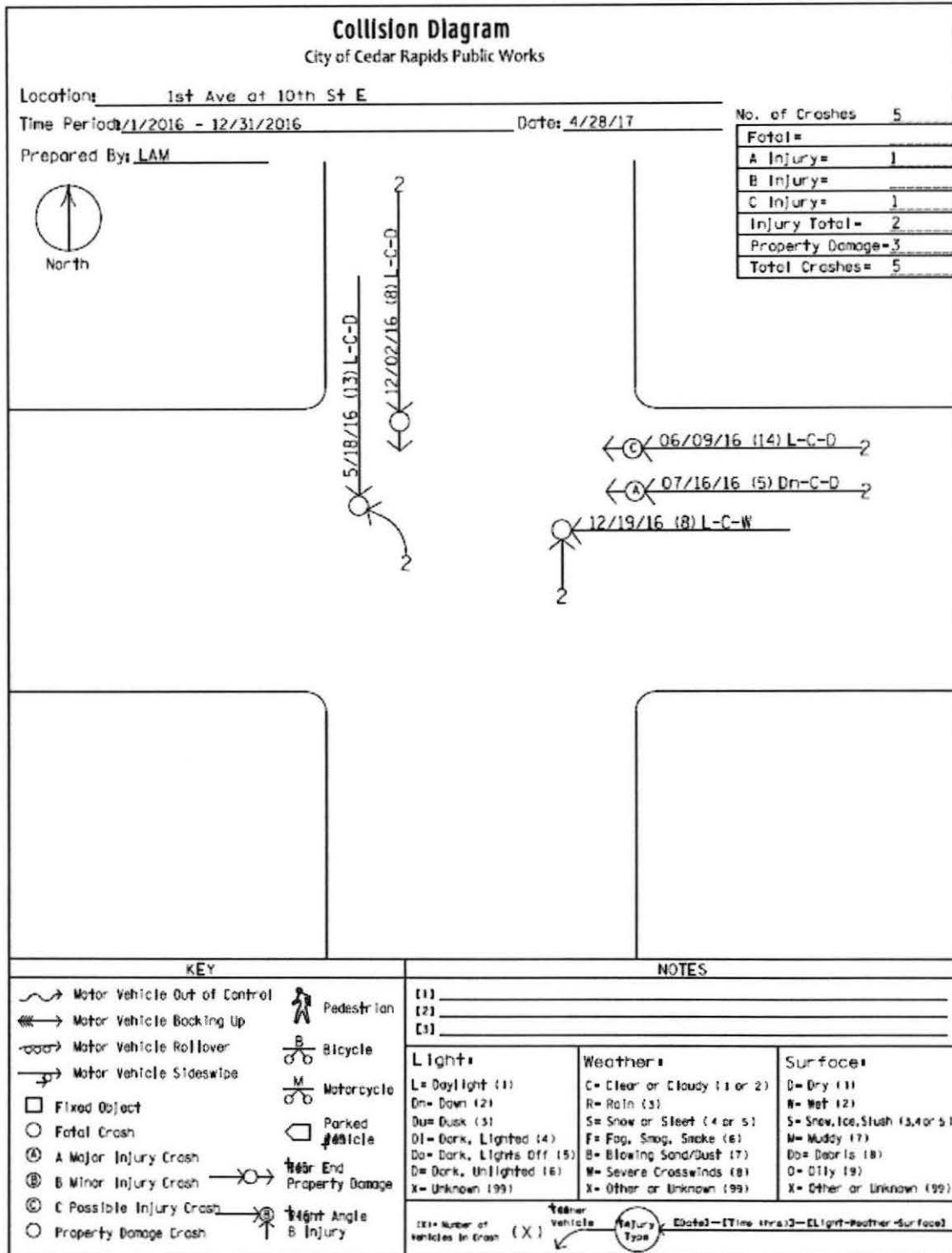
Citation Totals I-380

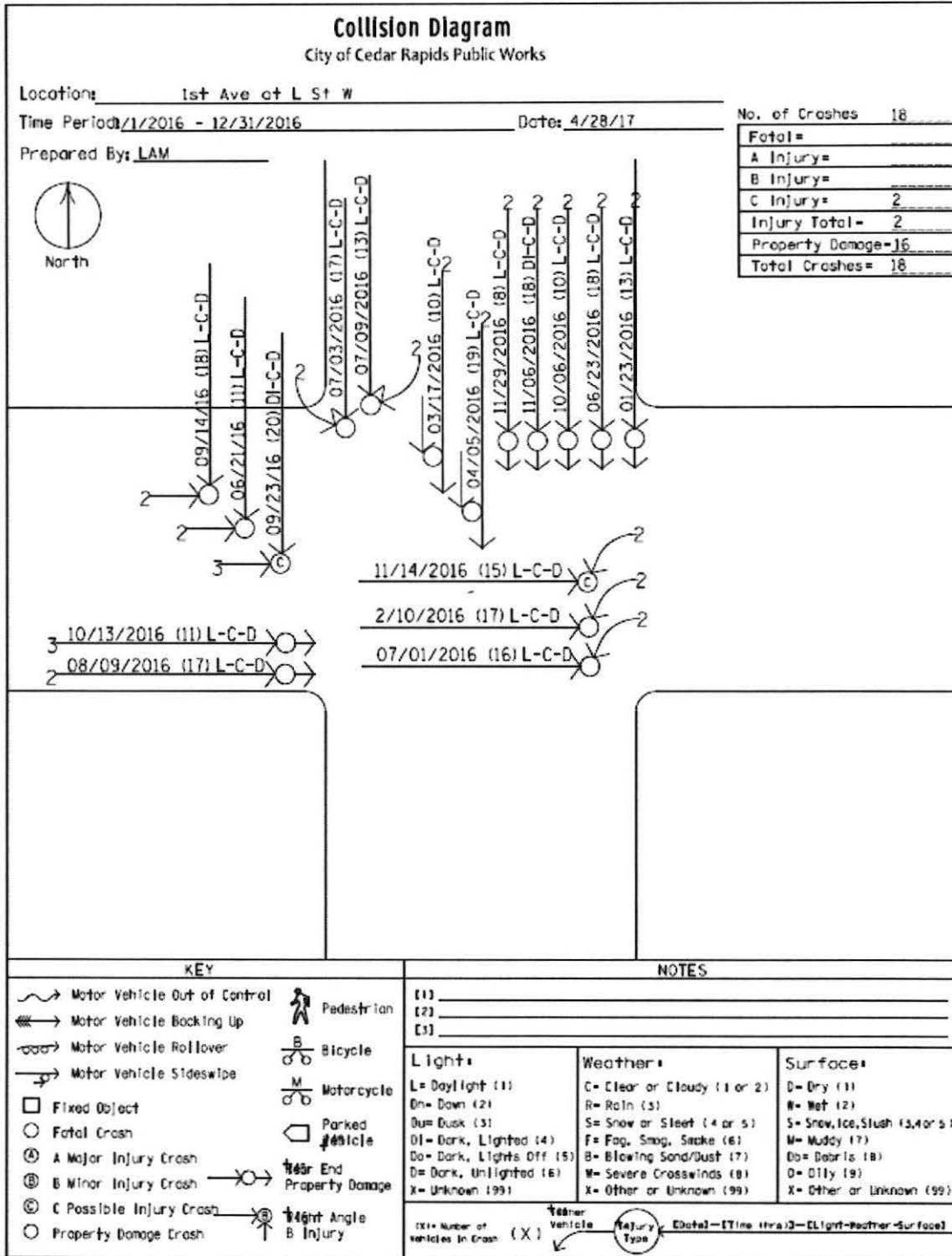
	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Diagonal Dr. SW NB	9190	10109	4218	8249	10775	12161
J Ave. NB	36775	35327	36069	39402	62016	73217
J Ave. SB	44775	38052	44529	56650	57265	56879
1st Ave West Ramp SB	1226	986	1234	770	1186	1591

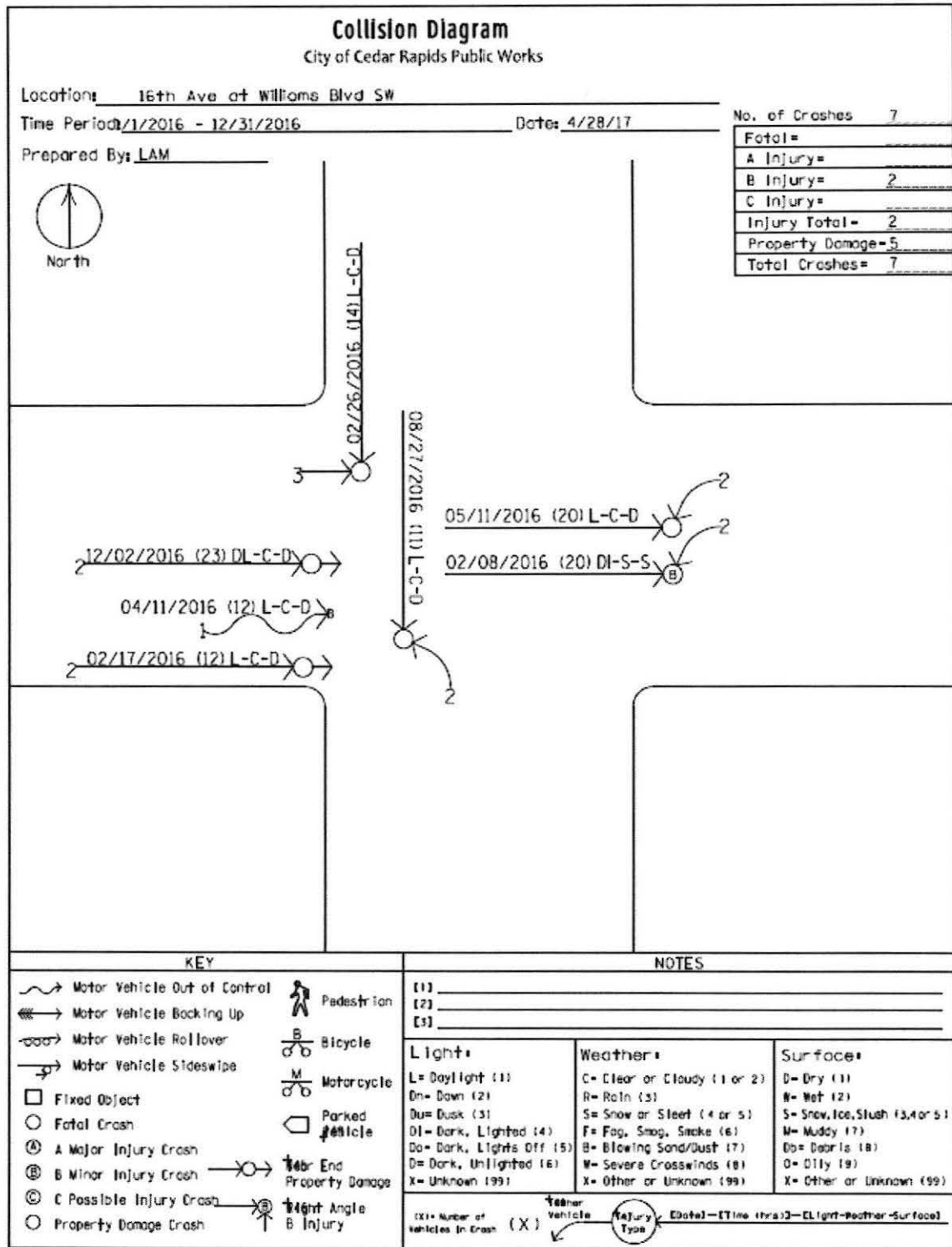
APPENDIX A

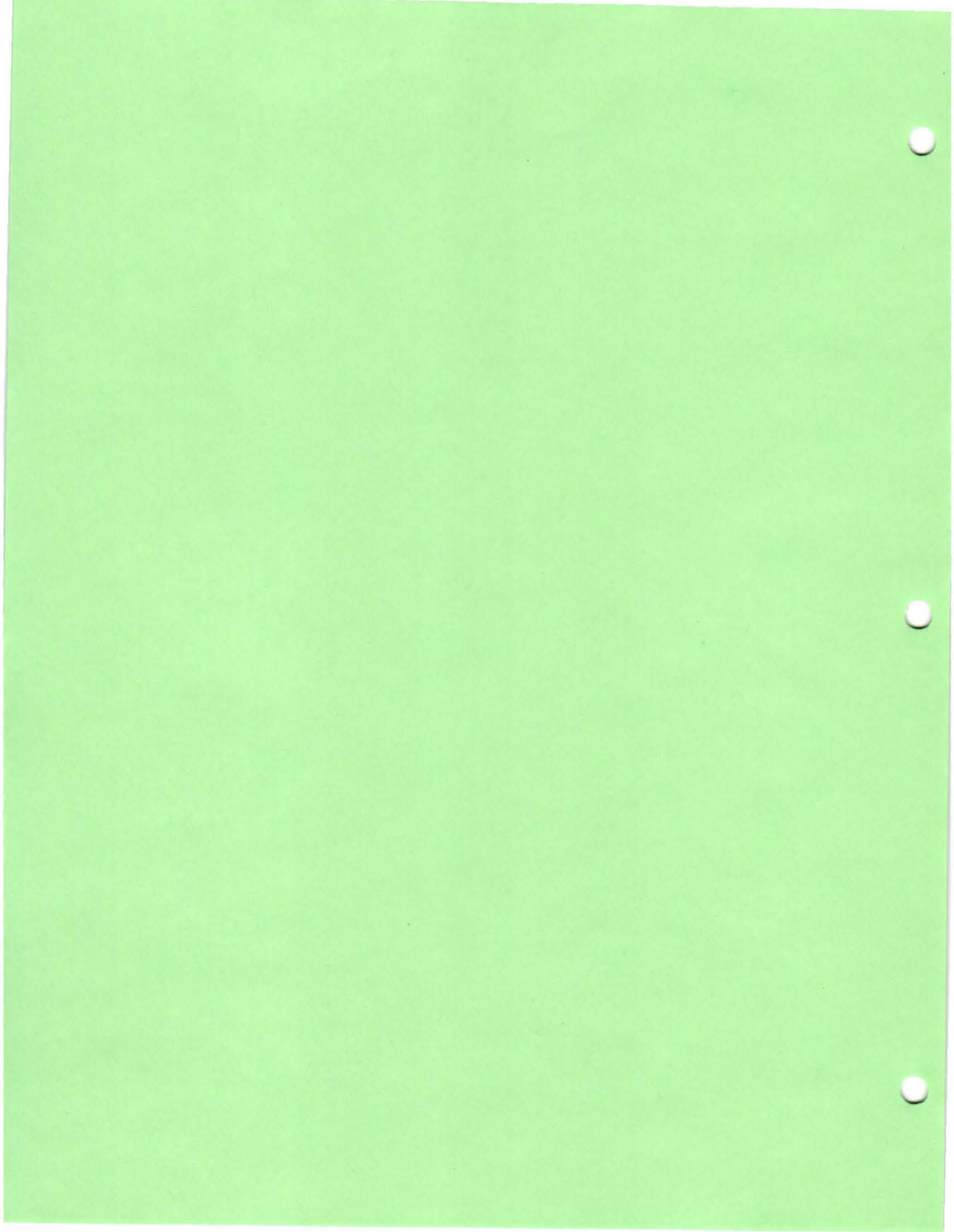


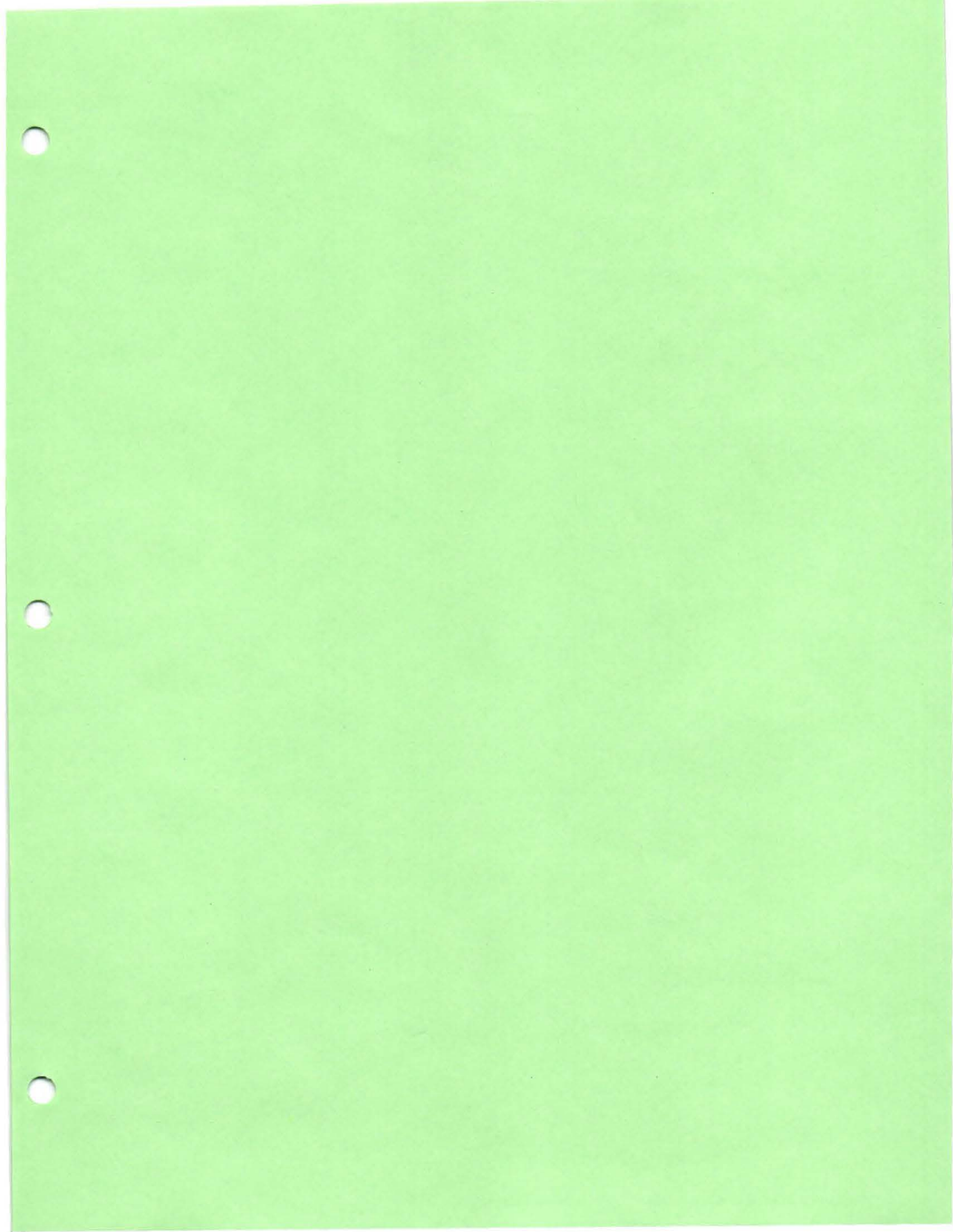
APPENDIX B











Evaluation of 2016 Automated Traffic Enforcement Report

City of Cedar Rapids

Introduction:

Automated traffic enforcement (ATE) is one of many safety countermeasures that can be used to enhance roadway safety. Automated enforcement may involve the enforcement of red-light running violations and speed limit violations. The city of Cedar Rapids uses ATE systems to enforce red-light running and speed violations at three signalized intersections on the primary highway system. In addition, they use ATE systems to enforce speed violations at four locations along I-380.

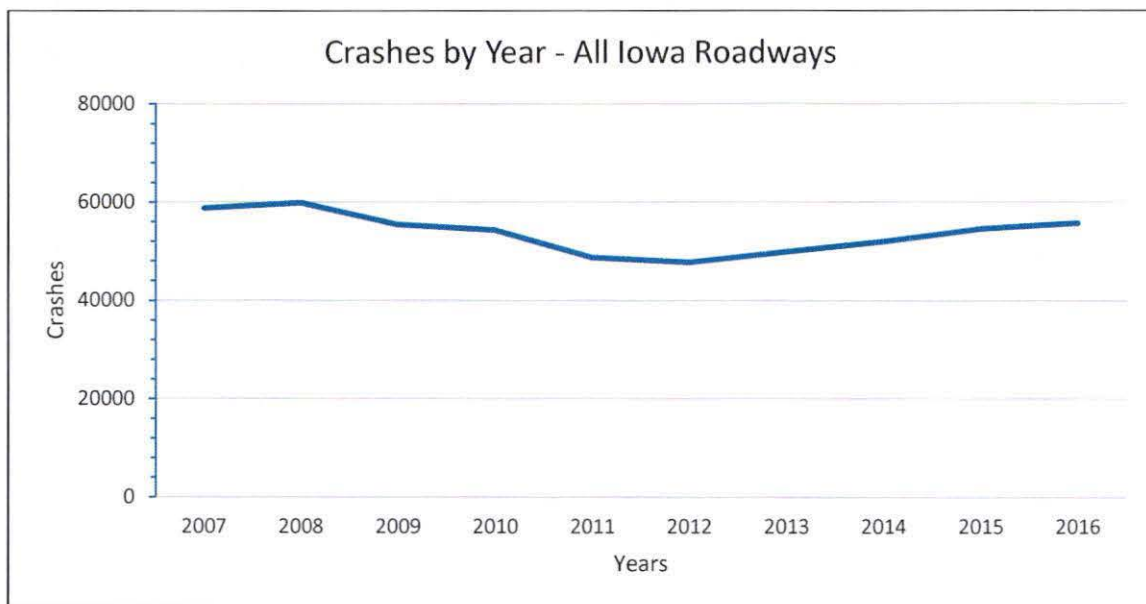
In 2012 Iowa State University developed a report titled, "Toolbox of Countermeasures to Reduce Red Light Running". The report documented that at signalized intersections, red-light running crashes make up 24.5% of all crashes and account for 31.7% of all fatal and major injury crashes. This toolbox is to aid practitioners in ways to identify and address red-light crashes at signalized intersections. The report focuses primarily on engineering and enforcement solutions. The report has two main parts; 1.) Guidelines to identify problem intersections and the causes of red-light running, and 2.) Roadway-based and enforcement countermeasures. This second part details 20 potential safety countermeasures that can be used at signalized intersections to address these types of crashes. Automated enforcement is one of those potential countermeasures.

The National Highway Traffic Safety Administration (NHTSA) conducted one of the most comprehensive reports to date on the causation of crashes in the United States. This report titled, "National Motor Vehicle Crash Causation Survey – Report to Congress" was published in 2008 and documents the investigation of 6,950 crashes nationwide. This study involved researchers being at the crash scene to assess relatively undisturbed information pertaining to the events and factors that led up to the crash and the opportunity to discuss the circumstances of the case with drivers, passengers, and witnesses while it was still fresh in their minds. The researchers on the scene were in an ideal position to gather first-hand information related to the vehicle, the roadway, the environmental conditions, and the human behavior factors. Some of the critical findings include:

- 95% of all crashes were caused by the drivers, 2.5% were caused by the vehicles, and 2.5% were caused by roadway/weather
- Of the 95% that were attributed to drivers:
 - o 40.6% was driver recognition error (inadequate surveillance, internal/external distraction, inattention, etc.)
 - o 34.1% was driver decision error (too fast for conditions, too fast for curve, false assumptions, illegal maneuver, misjudgment, etc.)
 - o 10.3% was driver performance error (overcompensation, poor control, etc.)
 - o 7.1% was driver non-performance error (sleep, heart attack/other physical impairment, etc.)
 - o 7.9% was other/unknown driver error

This report helps us better understand the primary causation of crashes. The speed at which a driver chose to drive was a primary cause in some of the crashes. Specifically, 8.4% were driving too fast for conditions and 4.9% were driving too fast for a curve. However, speed was not the primary causation in 86.7% of crashes caused by the driver, nor the crashes caused by vehicles or roadway/weather.

The chart below shows the gradual changes in total crashes for the entire state of Iowa over the past 10 years.



Review of Cedar Rapids Annual Report:

We have completed our review of your 2016 automated traffic enforcement (ATE) report as required in Iowa Administrative Code 761--144. The following documents were considered by the DOT in connection with this review:

- "Report to Iowa Department of Transportation, City of Cedar Rapids Automated Traffic Enforcement on Primary Roadway 2016" of May 10, 2017;
- I-380 Cedar Rapids Corridor Safety Initiatives – tracking document for 2009 Safety Audit.
- Crash data obtained by the Iowa DOT using the Iowa crash database (includes all statewide reported crash reports)

Intersection speed and red light cameras:

The city has speed and red-light violation cameras at three intersections on the primary highway system. DOT's findings and resulting action for these locations are set forth below.

1st Ave and 10th St East

Findings:

- Cameras activated 3/14/2010.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data: 12.5 crashes/year before activation (2008 and 2009); 8.7 crashes/year after activation (2011, 2012, 2013, 2014, 2015 and 2016) – from city provided crash data, collision diagrams included.
- The westbound cameras at 1st Ave and 10th Street are located approximately 300 feet after a lower speed limit sign (35 mph to 30 mph).
 - o Iowa Administrative Code 761-144.6(1)(b)(10) provides that automated enforcement should not be placed within the first 1,000 feet of a lower speed limit.
- The previous reviews conducted by the Iowa DOT resulted in the following determination:
Disable speed detection from the camera system at the 1st Ave. and 10th Street intersection for the following reason: the westbound speed camera is within the first 1,000 feet of a lower speed limit.

Resulting Action:

- Disable speed detection from the westbound camera system at the 1st Ave. and 10th Street intersection for the following reason: the westbound speed camera is within the first 1,000 feet of a lower speed limit.
- Continue operation of the eastbound camera enforcing speed and red-light violations and continue operation of the westbound camera enforcing red-light violations at this location.

Williams Blvd and 16th Ave SW

Findings:

- Cameras activated 12/18/10.
- Northbound and southbound approaches are subject to traffic camera enforcement.
- Crash data: 13.5 crashes/year before activation (2008 and 2009); 6.7 crashes/year after activation (2012, 2013, 2014, 2015 and 2016) – from city provided data, collision diagrams included.

Resulting Action:

- Continue operation of speed and red-light cameras at this location.

1st Ave and L St SW

Findings:

- Cameras activated 6/1/2010.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data: 15 crashes/year before activation (2008 and 2009); 11 crashes/year after activation (2011, 2012, 2013, 2014, 2015 and 2016) – from city provided data, collision diagrams included.

Resulting Action:

- Continue operation of this speed and red-light cameras at this location.

Fixed Speed Cameras on I-380:

Fixed speed cameras: The city has four sets of fixed speed cameras located on I-380; two northbound and two southbound. DOT's findings and resulting action as to each location are set forth below.

General Findings:

- Crash data – from city provided data:

	YEAR	Number of Crashes	Injury Crashes	Fatal Crashes	Property Damage Crashes
Pre-camera Data	2007	54	21	0	33
	2008	67	32	1	35
	2009	69	32	2	37
	2010	23	7	0	16
	Total	213	92	3	121
Post-Camera Data	2010	12	2	0	10
	2011	32	9	0	23
	2012	36	15	0	21
	2013	38	10	0	28
	2014	46	12	0	34
	2015	46	10	0	36
	2016	50	9	1	40
Total	260	67	1	192	

- To get a better understanding of the crash history for this section of I-380 through the downtown area, the Iowa DOT summarized all crashes over 13 years. Here is that information:

2004 - 2016* Reportable Crash History
I-380 malline from Diagonal Drive to J Ave NE
Cedar Rapids, Iowa
*** 2017 Data Last Updated On 08/14/2017**

Year	County	Crashes						Injuries					
		Fatal	Major	Minor	Poss/Unk	PDO	Injuries	Fatalities	Major	Minor	Possible	Unknown	
2004	Linn	30	0	1	4	9	16	20	0	1	6	11	2
2005	Linn	25	0	1	2	4	18	7	0	1	2	4	0
2006	Linn	25	2	1	4	3	15	14	2	1	4	7	0
2007	Linn	35	0	0	6	10	19	19	0	0	7	12	0
2008	Linn	45	1	1	11	8	24	24	2	1	13	8	0
2009	Linn	36	1	1	7	11	16	24	1	1	9	13	0
2010	Linn	32	0	0	4	7	21	13	0	0	4	9	0
2011	Linn	17	0	0	0	2	15	3	0	0	0	2	1
2012	Linn	31	0	2	4	4	21	12	0	2	4	6	0
2013	Linn	32	0	0	0	9	23	9	0	0	0	9	0
2014	Linn	33	0	0	5	6	22	20	0	0	7	13	0
2015	Linn	42	0	1	3	7	31	14	0	1	5	8	0
2016	Linn	38	1	0	4	4	29	19	2	2	7	8	0

Since the cameras were activated between June and December 2010, years 2010 and 2011 were not used in the evaluation. The above crash data is summarized in the table below.

Average Annual Number of Crashes

	Total Crashes	Severity of Crash				
		Fatal	Major	Minor	Poss/Unk	PDO
Before (2004 – 2009)	32.7	0.67	0.83	5.7	7.5	18
After (2012 – 2014)	35.2	0.20	0.60	3.2	6.0	25

Based on the above crash information:

- Fatal, Major, Minor, and Possible/Unknown Injury crashes went down
- Total and Property Damage Only crashes went up

- Four sets of interstate cameras is a high number compared to other cities in Iowa and in the country.
 - o Des Moines has one set of cameras on I-235 and Sioux City typically uses two portable speed cameras on I-29.
 - o Iowa is the only state in the nation, that we are aware of, that has permanent speed cameras on the interstate system.
- The primary safety concern on I-380 through Cedar Rapids is the “S” curve through downtown. Most of this “S” curve is located on an elevated structure which creates some additional safety concerns. Speeding motorists *entering* an “S” curve present an increased safety risk. This same risk is not present as motorists *leave* the “S” curve.
- Iowa Administrative Code 761-144.4(1)(c) provides that automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.
 - o Local drivers are typically aware of speed cameras and therefore monitor their speed accordingly. Non-familiar drivers often do not see/read the photo enforced signs and therefore may not monitor their speed accordingly.
- Many safety countermeasures have been added to this section of roadway as a result of the I-380 Safety Audit conducted in late 2008 (final report March 2009), and other safety projects. Some of these include installing cable median barrier, placing a high-friction surface treatment on the west curve, replace/upgrade and/or install new warning signs including curve warning signs, upgrade pavement markings, install delineation on barriers and bridge rails, and replace burned-out roadway lighting. Because of these many safety countermeasures it is not possible to determine the safety benefit of any one safety countermeasure.

I-380 Northbound near Diagonal Dr

Findings:

- Cameras activated 6/12/10.
- The number of speed citations at this location is moderate:
 - 9,190 in 2011
 - 10,109 in 2012
 - 4,218 in 2013
 - 8,249 in 2014
 - 10,775 in 2015
 - 12,161 in 2016
- This set of cameras is located 859 feet beyond a speed limit reduction from 60 mph to 55 mph.
 - o Iowa Administrative Code 761-144.6(1)(b)(10) provides that automated enforcement should not be placed within the first 1,000 feet of a lower speed limit.
- The reviews conducted by the Iowa DOT in previous years resulted in the following determination:
 - o *This allows this camera location to comply with the 1,000 foot requirement of Iowa Administrative Code 761-144.6(1)(b)(10) and will locate the camera closer to the beginning of the critical “S” curve.*

Resulting Action:

- Move the northbound interstate speed cameras located south of Diagonal Drive to the next truss north; located near 1st Ave.
 - o This allows this camera location to comply with the 1,000 foot requirement of Iowa Administrative Code 761-144.6(1)(b)(10) and will locate the camera closer to the beginning of the critical "S" curve.

I-380 Northbound near J Ave

Findings:

- Cameras activated 8/27/10.
- This camera is located well beyond (approximately 3,800 feet) where a driver has exited the "S" curve.
- The number of speed citations at this location is extremely high and included significant increases the past two years:
 - 36,775 in 2011
 - 35,327 in 2012
 - 36,069 in 2013
 - 39,402 in 2014
 - 62,016 in 2015
 - 73,217 in 2016
- The reviews conducted by the Iowa DOT in previous years resulted in the following determination:
 - Remove or disable the northbound I-380 cameras near J Ave.
 - o The location of the camera is well beyond the "S" curve and therefore beyond the area of concern.
 - o Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

Resulting Action:

- Remove or disable the northbound I-380 cameras near J Ave.
 - o The location of the camera is well beyond the "S" curve and therefore beyond the area of concern.
 - o Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

I-380 Southbound near J Ave

Findings:

- Cameras activated 10/16/10.
- This set of cameras is located 896 feet beyond a speed limit reduction from 60 mph to 55 mph.
- The number of speed citations at this location is extremely high:
 - 44,775 in 2011
 - 38,052 in 2012
 - 44,529 in 2013
 - 56,650 in 2014
 - 57,265 in 2015
 - 56,879 in 2016
- The reviews conducted by the Iowa DOT in previous years resulted in the following determination:
 - Move the southbound interstate speed cameras located near J Ave to the next truss south; located near G Ave.
 - o This allows this camera location to comply with the 1,000 foot requirement of Iowa Administrative Code 761-144.6(1)(b)(10) and will locate the camera closer to the beginning of the critical "S" curve.

Resulting Action:

- Move the southbound interstate speed cameras located near J Ave to the next truss south; located near G Ave.
 - o This allows this camera location to comply with the 1,000 foot requirement of Iowa Administrative Code 761-144.6(1)(b)(10) and will locate the camera closer to the beginning of the critical "S" curve.

I-380 Southbound near 1st Ave Ramp

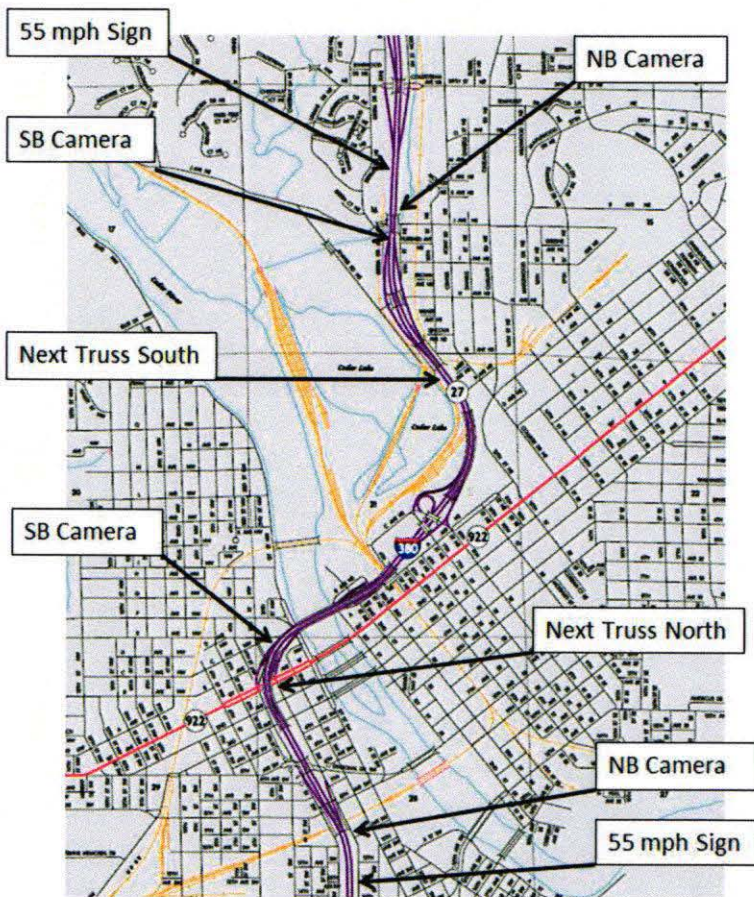
Findings:

- Cameras activated 12/18/10.
- This camera is located near where a driver exits the "S" curve.
- The number of speed citations at this location is low:
 - 1,226 in 2011
 - 986 in 2012
 - 1,234 in 2013
 - 770 in 2014
 - 1,186 in 2015
 - 1,591 in 2016
- This camera is located where a driver exits, or has exited, the "S" curve.
- The reviews conducted by the Iowa DOT in previous years resulted in the following determination:
 - Remove or disable the southbound I-380 cameras near 1st Ave. ramp.
 - o The location of the camera is beyond most of the "S" curve and therefore beyond most of the area of concern.
 - o Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

Resulting Action:

- Remove or disable the southbound I-380 cameras near 1st Ave. ramp.
 - o The location of the camera is beyond most of the "S" curve and therefore beyond most of the area of concern.
 - o Iowa Administrative Code 761-144.4(1)(c). Limited use on interstate roadways.

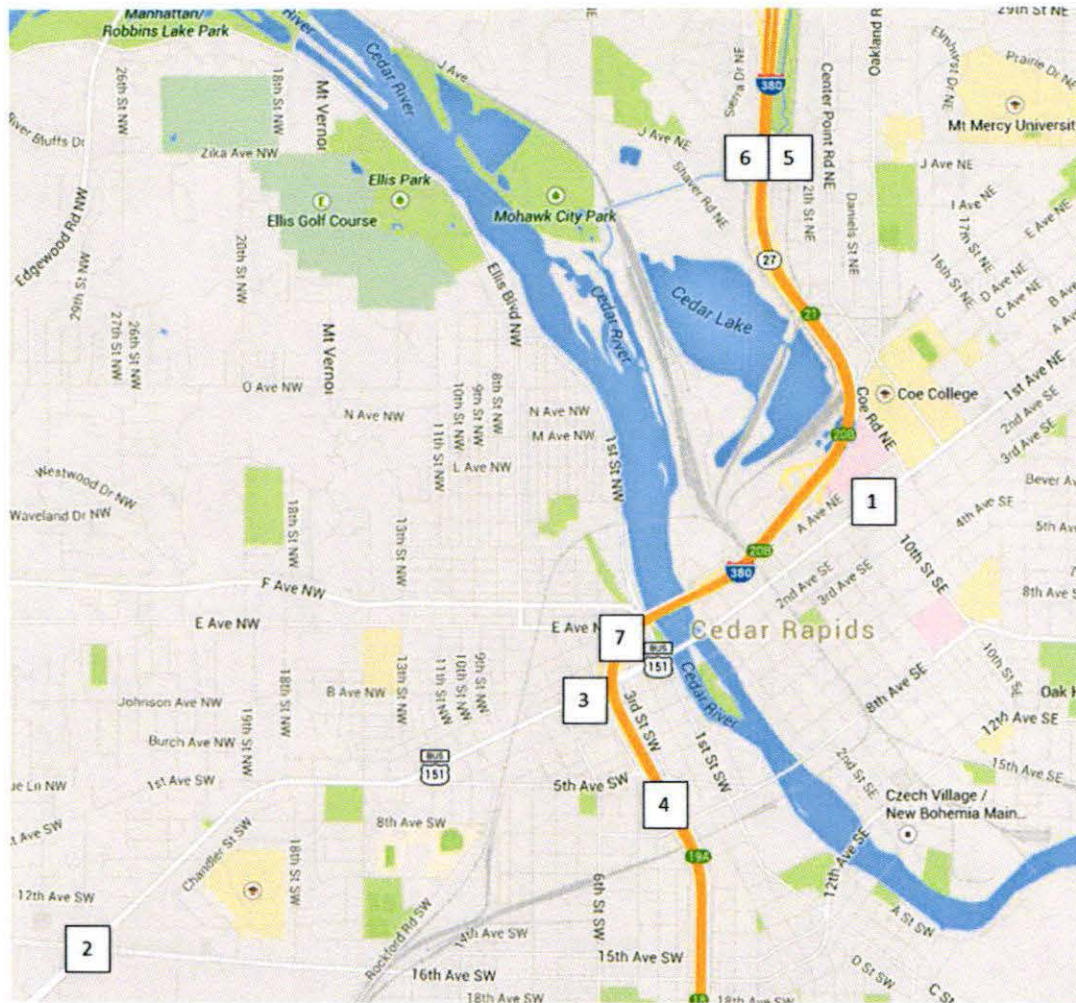
Map showing I-380 speed camera locations, existing and proposed



Summary:

Based on the results of this review, the speed and red-light running cameras located at Williams Blvd and 16th Ave SW, and 1st Ave and L St SW may continue to be operated in accordance with Iowa Administrative Code 761—144. Because of the pending lawsuit, the Iowa DOT will not take legal action against the City to modify, move or remove the cameras (as noted above) located at 1st Ave and 10th St East, or the four locations on I-380 until the court has rendered a final decision.

Map of Cedar Rapids ATE systems on the primary highway system:



1. 1st Ave and 10th St East
2. Williams Blvd and 16th Ave SW
3. 1st Ave and L St SW
4. I-380 NB near Diagonal Dr
5. I-380 NB near J Ave
6. I-380 SB near J Ave
7. I-380 SB near 1st Ave Ramp

CHAPTER 42

AUTOMATED TRAFFIC ENFORCEMENT

- 42.1 General
- 42.2 Definitions
- 42.3 Vehicle Owner's Civil Liability for Certain Traffic Offenses
- 42.4 Notice of Violation; Civil Penalty
- 42.5 Contesting an Automated Traffic Citation.
- 42.6 Exceptions to Owner Liability.
- 42.7 Failure to Timely Pay or Appeal.
- 42.8 Effective Date

42.1 General.

The Iowa County of Polk, in accordance with its police powers, may deploy an automated traffic enforcement system for making video images of Vehicles that fail to obey speed regulations at locations in the County. The system may be managed by the private contractor that owns and operates the requisite equipment with supervisory control vested in the Office of the Polk County Sheriff. Video images shall be provided to the Sheriff's Office by the contractor for review. The Sheriff's Office will determine which Vehicle Owners are in violation of the County's Automated Traffic Enforcement Ordinance and are to receive a notice of violation for the offense.

42.2 Definitions.

- a. **Automated Traffic Citation** shall mean a notice of violation generated in connection with the automated traffic enforcement system.
- b. **Automated Traffic Enforcement Contractor** shall mean the company or entity, if any, with which the Polk County contracts to provide equipment and/or services in connection with the Automated Traffic Enforcement System.

c. **Automated Traffic Enforcement System** shall mean an electronic system consisting of a photographic, video, or electronic camera and a vehicle sensor installed to work in conjunction with an official traffic controller or Sheriff's Office employee to automatically produce photographs, video or digital images of each vehicle violating speed restriction.

d. **Vehicle** shall mean a device in, upon, or by which any person or property is or can be transported or drawn upon a street, highway, or sidewalk, excepting devices moved by human power or used exclusively upon stationary rails or tracks.

e. **Vehicle Owner** shall mean the person or entity identified by the Iowa Department of Transportation, or registered with any other state vehicle registration office, as the registered owner of a Vehicle.

42.3 **Vehicle Owner's Civil Liability for Certain Traffic Offenses.**

a. The Vehicle Owner shall be liable for a civil penalty as imposed below if such Vehicle travels at a speed above the posted or established limit.

b. The violation may be exempted from liability as outlined below in section 6, and other defenses may be considered in connection with the appeal process.

c. In no event will an Automated Traffic Citation be sent or reported to the Iowa Department of Transportation or similar department of any other state for the purpose of being added to the Vehicle Owner's driving record.

42.4 **Notice of Violation; Civil Penalty.**

a. Notice of the violation will be mailed to the Vehicle Owner for each violation recorded by an Automated Traffic Enforcement System. The Automated Traffic Enforcement Contractor shall mail the notice within 30 days after receiving information about the Vehicle Owner. The notice shall include the name and address of the Vehicle Owner; the Vehicle make,

if available and readily discernable, and registration number; the violation charged; the time; the date; and the location of the alleged violation; the applicable civil penalty which shall be assessed for the violation and any late payment; information as to the availability of an administrative hearing in which the notice may be contested on its merits; and that the basis of the notice is a photographic record obtained by an Automated Traffic Enforcement System.

b. Any violation of subsection 3.a. above shall be subject to a civil penalty as listed in the table below, subject in any event to statutory limits for county infractions. All civil penalties shall be payable to Polk County, Iowa.

Speed Over the Limit	Civil Penalty
1 through 15 MPH	\$65.00
16 through 20 MPH	\$75.00
21 MPH and above	\$80.00 plus \$2.00 per MPH in excess of 21 MPH over

42.5 Contesting an Automated Traffic Citation.

A Vehicle Owner who has been issued an Automated Traffic Citation may contest the citation as follows:

a. By submitting in a form specified by the County a request for an administrative hearing to be held at the Polk County Sheriff's Office before an administrative appeals board (the "Board") consisting of one or more fact finders. Such a request must be filed within 30 days from the date on which notice of the violation is sent to the Vehicle Owner. After a hearing, the Board may either uphold or dismiss the Automated Traffic Citation, and shall mail its written decision within 10 days after the hearing to the address provided on the request for hearing. If the

citation is upheld, then the Board shall include in its written decision a date by which the civil penalty must be paid, and on or before that date, the Vehicle Owner shall either pay the civil penalty or submit a request pursuant to the next paragraph, 5.b.

b. By submitting in a form specified by Polk County a request that in lieu of the Automated Traffic Citation, a county infraction citation be issued and filed with the Small Claims Division of the Iowa District Court in Polk County. Such a request must be filed within 30 days from the date on which Notice of the violation is sent to the Vehicle Owner. Such a request will result in a court order requiring the Vehicle Owner to file an answer and appearance with the Clerk of Court, as well as setting the matter for trial before a judge or magistrate. If the Court finds the Vehicle Owner committed the county infraction, state mandated court costs will be added to the amount of the civil penalty imposed by section 4 above.

42.6 Exceptions to Owner Liability.

There shall be no liability pursuant to this section if:

- a. The operator of the Vehicle in question was issued a uniform traffic citation for the violation in question pursuant to Iowa Code Chapter 321; or
- b. The violation occurred at any time after the Vehicle in question or its state registration plates were reported to a law enforcement agency as having been stolen, provided, however, the Vehicle or its plates had not been recovered by the Vehicle Owner at the time of the alleged violation; or
- c. The Vehicle in question was an authorized emergency vehicle.

42.7 Failure to Timely Pay or Appeal.

If the recipient of an Automated Traffic Citation does not either pay the civil penalty by the due date stated in the citation or appeal the citation as provided herein, a general county

infraction citation may be filed by the Polk County Sheriff's Office and a civil penalty may be sought in accordance with Chapter 2 of the Polk County Code of Ordinances rather than section 4 above. If the Court finds the Vehicle Owner guilty of the county infraction, state mandated court costs will be added to the amount of the civil penalty imposed by this section.

42.8 Effective date.

This Ordinance shall be in full force and effect from and after its passage and publication as provided by law.

(Ord. 293, 12/2012)

EFFECTIVE UPON PUBLICATION:

DES MOINES REGISTER	DECEMBER 24, 2012
ALTOONA HERALD	DECEMBER 26, 2012
BUSINESS RECORD	DECEMBER 28, 2012

STATEMENT OF TECHNOLOGY

Automated Speed Enforcement Cameras in Polk County, IA

Under contract with the County, Gatso USA, Inc has installed Automated Speed Enforcement Cameras in Polk County. Two systems were installed in Jeep Patriot vehicles allowing mobile operation. Following is a statement of technology to this type of enforcement system.

Mobile Vehicle Camera – Speed Violation

The County operates 2 mobile automated speed enforcement camera systems. These systems are installed in vehicles which are parked along roadways anywhere in the County. This camera system captures vehicles speeding. A radar, camera, flash, and control unit are installed in each vehicle. Three plus lanes of traffic can be monitored. A narrow radar beam is emitted across the lanes of traffic being monitored. The radar has a 5 degree horizontal beamwidth and measures in a 20 degrees angle from the road side. The system has a radar antenna to measure the speed of traffic. It emits radar signals and receives the reflected signals for vehicle detection and speed measurement. The radar can simultaneously measure its own speed and the speed of passing vehicles. The radar can measure receding traffic, approaching traffic or both directions simultaneously.

A GPS antenna is integrated with the system to determine the location where a speed offence takes place. The system also uses GPS to receive an accurate time stamp and the system is continuously updated with the exact time. The GPS calculates location, speed, movement and time, 5 times per second.

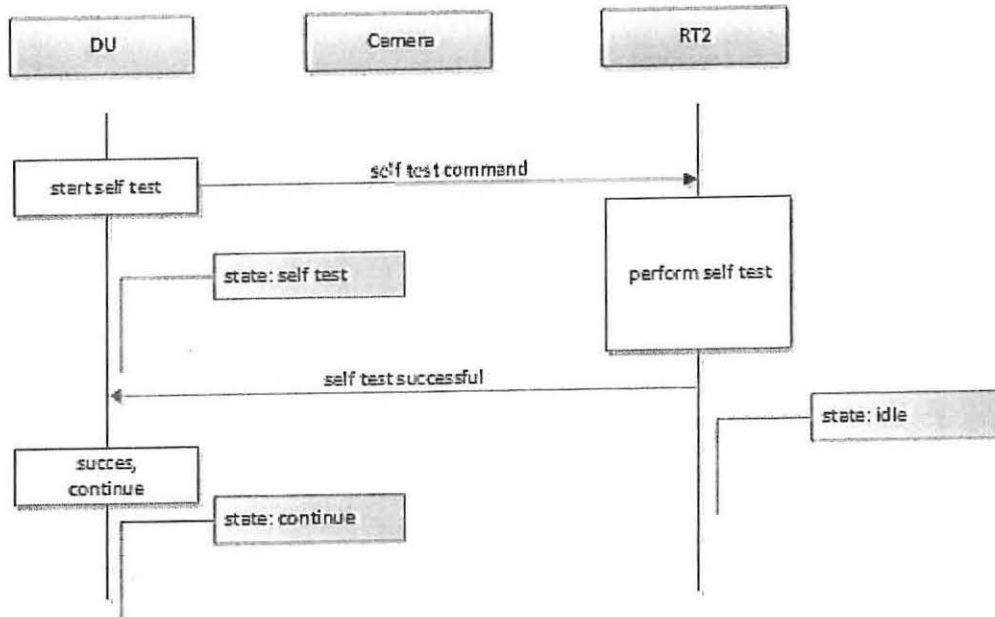
For a speed violation to occur, a vehicle must exceed the speed limit configured inside the camera system. This speed limit is determined by the Sheriff's Dept. and is always several miles above the speed limit posted on signs along the roadway. A color digital still image is taken. The image displays the violating vehicle a set distance from the camera. Automatically created and attached to the still image at the time of violation is a databar. The databar contains all relevant data of the event including date, time, speed, and location.

The combined image and databar are encrypted using Advanced Encryption Standard and stored in the system for a brief time before it is offloaded via a Virtual Private Network (VPN) for processing.

Processing consists of a human viewing the image to determine if a speed violation occurred based on the Business Rules approved by the County. If an event meets the criteria for a violation, the license plate data is electronically sent to the National Law Enforcement Telecommunications Service (Nlets) for name, address, and vehicle information. Upon receipt of the registered owner information another review is made comparing the information to the vehicle in the images. Upon confirmation of a match, the violation event is electronically sent to the Sheriff's Dept. for a Deputy to review. The Deputy will review the event and make the final determination if a speed violation occurred. If yes, the violation is printed and mailed. If no, the event is held for a short period of time and then deleted.

System self-test

The system integrity is tested by an internal self-test. This self-test initiates when the radar system is powered up or when a manual self-test is triggered. Unlike older style radar system which use a tuning fork to initiate a self-test during a dedicated procedure, the current RT2 radar system does not trigger a self-test by a tuning fork. Instead, the system control unit (DU) initiates the self-test of the system and triggers the built in signal generator in the RT2 antenna. This signal generator generates a signal with a precise frequency and phase representing a simulated target (vehicle). The generated signal is processed as a normal measurement therefore the target speed, range and signal strength are determined. When the signal is processed the detected values are verified so as to comply with the specifications of the generated signal. When compliant, the RT2 antenna acknowledges a successful self-test to the system control unit (DU), records the outcome in the log file and sets the system to enforcement state.



RT2 verification

Annually the RT2 radar antenna microwave (high frequency) parameters and speed measurement capability are verified by GATSO for compliance to the factory specification according the internal procedures which are controlled by the GATSO ISO 9001 handbook.



Issued Citations

GATSO

Selection Criteria:

Citation Issue Date From: 01/01/2016

Citation Issue Date To: 12/31/2016

Approach (Sensor): ALL

Include Warning Notices: NO

Citation Type	Count
Speed Citation	6359
Total	6359



Each year, too many families are affected by speed-related crashes. Sadly, the victims are often occupants of other vehicles and even pedestrians who happen to be in the intersection.

For the County of Polk, improving traffic safety is a major objective of the Sheriff's Department. That's why two mobile automated speed enforcement cameras are being employed. This state-of-the-art system is designed to help encourage safer driving habits and improve traffic flow.

Best of all, it can help save lives.

Police officers can't enforce traffic laws everywhere - all the time. But the new cameras will help us extend our efforts, keeping intersections safer 24 hours a day, 7 days a week. And the entire system will be funded by violators.

We encourage you to respect the rules of the road — and help keep yourself and your neighbors safe and sound.



County of Polk

You can find more
information by visiting:

www.polkcountyiowa.gov

What is the purpose of the automated enforcement system?

The Sheriff's Department is committed to the safety of our residents and visitors, including the motoring public, as traffic related complaints are among the most frequently heard from our citizens. The intent of the automated speed enforcement system is to reduce accidents and seek voluntary compliance to traffic laws from motorists.

How many enforcement systems are being utilized?

The Sheriff's Department is utilizing two mobile systems that can be used to respond to areas with a high rate of traffic accidents, locations that citizens have expressed concern about, school or construction zones and other high volume enforcement roadways as identified by the Sheriff's Department.

Are the systems legal?

Yes, under Polk County Ordinance, Chapter 42, allowing speed enforcement systems. As well, the Iowa Supreme Court has stated that the systems are constitutional.

How does the program work?

SPEED ENFORCEMENT SYSTEM

The automated speed enforcement system works as follows:

- The automatic speed enforcement system operates when a vehicle travels in excess of the posted speed limit in locations monitored by automated speed cameras.
- The camera captures two photographic images of the alleged violation.
- After the camera captures an alleged speed violation, the violation will be reviewed by a Police Officer. If that Police Officer agrees that a violation has in fact occurred a citation will be mailed out.
- If you receive a citation, you may view the violation online.
- In order to log in to the Citations Processing Center site, you will need the paper citation you received in the mail. You will be required to enter your citation number and PIN number.

How is it determined whether or not a violation actually occurred?

Police Officers will review all images captured by the automatic speed enforcement cameras to determine the validity of the violation. If the officer determines that a violation has in fact occurred, a notice of violation, otherwise known as a citation, will be issued to the registered owner of the vehicle in violation.

Note: Such notices will be mailed within 30 days of the violation date. The notice will include information on how a citizen can pay the citation as well as view images of his/her violation by utilizing the online [viewcitation.com](http://www.viewcitation.com) portal. Upon receipt of the citation, citizens will have 30 days to pay the civil penalty or request a hearing date.

How do I pay or contest the citation?

The instructions for payment and contesting can be found directly on the notice. However, if you have lost the notice or need other payment information or assistance, please contact the Citations Processing Center at 866-483-4999 (8AM-8PM EST).

Are payment plans available?

Unfortunately, no payment plans are available. Payments are due in full.

Can you explain the fines, payment and availability to hearings?

- Fines are as follows: The fine structures are attached to the ordinance on the website
- Payments are as follows: The penalty for violating an automated traffic enforcement system can be paid by mail, by phone via the Citations Processing Center or online at www.viewcitation.com
- Hearings are as follows: persons receiving a notice of violation may contest the citation by requesting an Administrative Hearing. If you are a resident of Iowa, you may contest online or by calling the Citations Processing Center. ONLY Non-Residents of Iowa can contest by mail.

CERTIFICATE OF CALIBRATION



RT2 radar : 20120700025

Serial number: 201207000025

Date of calibration: 15 February 2017

I, the undersigned, hereby certify that the above Gatsometer equipment complies with the terms of the specification for type approval and that the equipment has been tested to the approved standards.

Date From: 15 February 2017

Date to: 14 February 2017

Signed for and on behalf of
Gatsometer B.V:

Date: 15 February 2017

A handwritten signature in black ink, appearing to read "E. Hoffman", written over a horizontal line.

E. Hoffman
Quality Assurance Officer



CERTIFICATE OF CALIBRATION



RT2 radar :

Serial number: 201207000004

Date of calibration: 24 February 2017

I, the undersigned, hereby certify that the above Gatsometer equipment complies with the terms of the specification for type approval and that the equipment has been tested to the approved standards.

Date From: 24 February 2017

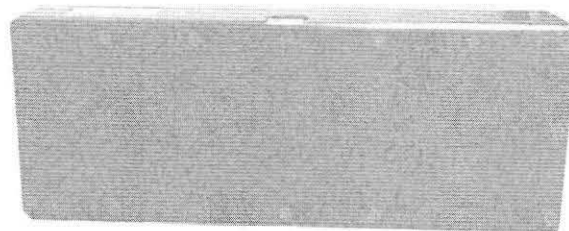
Date to: 23 February 2018

Signed for and on behalf of
Gatsometer B.V:

Date: 24 February 2017

A handwritten signature in black ink, appearing to read "E. Hoffman".

E. Hoffman
Quality Assurance Officer



Hoye, Patrick [DPS]

From: Becker, Dennis [DPS]
Sent: Monday, September 18, 2017 10:40 AM
To: 'Chad Norris'
Cc: Becker, Dennis [DPS]; Hoye, Patrick [DPS]
Subject: Windsor Hgts mobile citations

Thanks !

From: Chad Norris [mailto:cnorris@windsorheights.org]
Sent: Friday, September 15, 2017 5:57 PM
To: Becker, Dennis [DPS] <becker@dps.state.ia.us>
Subject: ATE citations

Denny,

Here is a breakdown of the ATE program. You will see that there are no locations for the mobile units in either year. The mobile units are just that, they are mobile and can be moved from location to location, so tracking the specific location of where those units were at is not practical. The fixed Units did not come on line until 2017, so the numbers you will see for the fixed units are this year only, as the fixed units were not part of the program back in 2016. The fixed units can be broken down by location and are as follows:

7100 block of University Avenue (The camera captures both east and westbound traffic.)

At the time of this email this location has 10,139 citations. This number is from 01/01/2017 through 09/15/2017.

6400 block of University Avenue (Again, this camera captures both east and westbound traffic)

At the time of this email this location has 21,038 citations. This number is from 01/01/2017 through 09/15/2017.

The mobile units from 2016 cannot be broken down by location but here are the 2016 numbers while we were with Gatso. (We had two mobile units with Gatso, one was a speed trailer and the other was a vehicle.)

1186 citations issued. (January to June of 2016)

Mobile unit numbers in 2016 with American Traffic Solutions are as follows: (We have only one Mobile unit with American Traffic Solutions.)

999 citations issued. When looking at the numbers from Gatso versus American Traffic Solutions, note that the mobile units with Gatso only captured violators one direction, reseeding, while the single ATS mobile unit we have captures violators in both directions. (July to December 2016)

Mobile unit numbers for 2017:

975 citations at various locations capturing violators in both directions.

I hope this helps Denny, have a great weekend.

Chad

Officer Chad Norris
Windsor Heights Police Department

Becker, Dennis [DPS]

From: Chad Norris <cnorris@windsorheights.org>
Sent: Friday, September 15, 2017 5:57 PM
To: Becker, Dennis [DPS]
Subject: ATE citations

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Mobile unit numbers for 2017:

975 citations at various locations capturing violators in both directions.

I hope this helps Denny, have a great weekend.

Chad

Officer Chad Norris
Windsor Heights Police Department
1133 66th Street, Windsor Heights, Ia. 50324
515-645-6822
cnorris@windsorheights.org

60.02.06 STANDARDS. Traffic control devices shall comply with standards established by *The Manual of Uniform Traffic Control Devices for Streets and Highways*.
(Code of Iowa, Sec. 321.255)

60.02.07 (RESERVED)

60.02.08 AUTOMATED TRAFFIC ENFORCEMENT. The City of Windsor Heights, in accordance with its police powers, may deploy, erect or cause to have erected an automated traffic enforcement system for making video and/or photographic images of vehicles that fail to obey red light traffic signals at intersections designated by the City Administrator, or designee, or fail to obey speed regulations at other locations in the City. The systems may be managed by a private contractor where the City or private contractor owns and operates the requisite equipment, with supervisory control vested in the City's Police Department. Video and/or photographic images shall be provided to the Police Department by the contractor for review.
(Ord. 16-03 – Aug. 16 Supp.)

1. Definitions. The following terms are defined as used in this section:
 - A. "Automated traffic citation" means a notice of fine generated in connection with the automated traffic enforcement system.
 - B. "Automated traffic enforcement contractor" means the company or entity, if any, with which the City contracts to provide equipment and/or services in connection with the automated traffic enforcement system.
 - C. "Automated traffic enforcement system" (ATE system) shall mean an electronic system consisting of photographic, video, and/ or electronic camera(s) and a vehicle sensor(s) installed to work in conjunction with an official traffic controller or Police Department employee(s) to automatically produce photographs, video or digital images of each vehicle violating a standard traffic control device or speed restriction.
 - D. "Vehicle owner" means the person or entity identified by the Iowa Department of Transportation, or registered with any other State vehicle registration office, as the registered owner of a vehicle.
2. Vehicle Owner's Civil Liability for Certain Traffic Offenses.
 - A. The vehicle owner shall be liable for a fine as imposed below if such a vehicle crosses a marked stop line or the intersection plane at a system location when the traffic signal for that vehicle's direction is emitting a steady red light or arrow.
 - B. The Vehicle Owner shall be liable for a fine as imposed below if such vehicle travels at a speed above the established limit.
 - C. (Ord. 16-03 – Aug. 16 Supp.)
 - D. The violation may be exempted from liability as outlined in this section, and other defenses may be considered in connection with the appeals process.
 - E. An automated traffic citation will not be sent or reported to the Iowa Department of Transportation or similar department of any other state for the purpose of being added to the vehicle owner's driving record.
 - F.

3. Notice of Violation; Fine.

A. A notice of any automated traffic citation will be mailed to the vehicle owner. The automated traffic enforcement contractor shall mail the notice within 30 days after the Police Department determines a violation of the City's Traffic Code has occurred. The notice shall include the name and address of the vehicle owner; the vehicle make, if available and readily discernible, and registration number; the violation charged; the time; the date; the location of the alleged violation; the applicable fine and monetary penalty that shall be assessed for late payment; information on how to contest the notice on its merits; and that the basis of the notice is a photographic record obtained by an automated traffic enforcement system.

B. Any violation of paragraph 2(A) of this section shall be subject to a civil fine of \$100.00, made payable to the City of Windsor Heights.

C. Any violation of Subsection 2(B) shall be subject to one of the civil fines identified in the table below. The fine for any violation committed in a designated Road Work Zone, as defined by the City's Code of Ordinances Subsection 60.01.01(12), shall be doubled – as identified in the table below. All civil fines shall be made payable to the City of Windsor Heights.

Speed Over the Limit in Miles Per Hour (MPH)	Civil Fine	If in a Road Work Zone
1 through 15 MPH	\$65.00	\$130.00
16 through 20 MPH	\$75.00	\$150.00
21 MPH and over	\$80.00, plus \$5.00 for each additional mile over 21 MPH	\$160.00, plus \$5.00 for each additional mile over 21 MPH

1. *(Ord. 16-03 – Aug. 16 Supp.)*

4. Contesting an Automated Traffic Citation. A vehicle owner who has been issued an automated traffic citation may contest the citation as follows:

A. By submitting, in a form specified by the City, a request for an administrative review to be held at the Police Department before an impartial administrative appeals board (the "Board"). Such a request must be filed within thirty (30) days from the date of the first notice of the Automated Traffic Citation sent to the vehicle owner. The Board may either uphold or dismiss the Automated Traffic citation and shall mail its written decision within ten (10) days after the review to the address provided on the request for the review. If the citation is upheld, then the Board shall include in its written decision a date by which the fine must be paid and, on or before that date, the vehicle owner shall either pay the fine or submit a request pursuant to the paragraph B of this subsection. *(Ord. 16-03 – Aug. 16 Supp.)*

B. By submitting, in a form specified by the City, a request that—in lieu of the automated traffic citation—a municipal infraction citation be filed with the Small Claims Division of the Iowa District Court in Polk County. Such a request must be filed within thirty (30) days of whichever is later, either: the date of the notice of the automated traffic citation sent to the vehicle owner, or the date of the Board's decision pursuant to paragraph A of this subsection. Such a request will require the vehicle owner to file an answer and appearance

with the Clerk of Court for the matter to be set for trial. If at trial the Court finds the vehicle owner guilty of the municipal infraction, State-mandated court costs and municipal infraction penalties may be added to the amount of the fine imposed by this section.

5. Exceptions to Owner Liability. There shall be no liability pursuant to this section if:

A. The operator of the vehicle in question was issued a uniform traffic citation for the violation pursuant to the Section 60.11.01 of this Code of Ordinances or Chapter 321 of the *Code of Iowa*; or

B. The violation occurred at any time after the vehicle in question or its State registration plates were reported to a law enforcement agency as having been stolen; provided, however, the vehicle or its plates had not been recovered by the vehicle owner at the time of the alleged violation; or

C. The vehicle in question was an authorized emergency vehicle engaged in an official act; or

D. The officer inspecting the recorded image determines that the vehicle in question was lawfully participating in a funeral procession; or

E. The officer inspecting the recorded image determines that the vehicle in question entered the intersection in order to yield the right-of-way to an emergency vehicle when cited for a red light violation.

F. *(Ord. 16-03 – Aug. 16 Supp.)*

6. Failure to Pay or Appeal in a Timely Manner. If the recipient of an automated traffic citation either does not pay the civil penalty when due or does not contest the automated traffic citation as provided herein, the City may:

A. Attempt to collect the payment via a second and final notification with a service fee added to the civil fine. If the end of an additional thirty (30) day period given for the second notification is reached and the vehicle owner does not pay the fine or request a trial pursuant to paragraph 4(B) of this section, the vehicle owner shall be deemed guilty of the violation and be held liable for the fine amount plus any additional service fees.

B. *(Ord. 16-03 – Aug. 16 Supp.)*

C. The City may then refer the vehicle owner to a private service agent for collection of the civil penalties imposed under the provisions of this section, together with any interest and service fees thereon, by either the private agency on behalf of the City or by civil suit; and/or

D. Refer the vehicle owner to the State's income offset billing program for payment; or

E. File a municipal infraction, and a corresponding fine sought, pursuant to Chapter 4 of this Code of Ordinances. If the Court finds the vehicle owner guilty of the municipal infraction, State-mandated court costs will be added to the amount of the fine imposed.

(Subchapter 60.02 - Ord. 16-02 – Feb. 16 Supp.)

[The next page is 445]

Windsor Heights Police Department
1133 66th Street
Windsor Heights, IA 50324

2017



Speed Violations

Violation Date:	Begin Date: 1/1/2017	End Date: 8/31/2017
-----------------	----------------------	---------------------

Loc. Code	Location	# of Violations				
		Issued	6-10	11-15	16-20	> 21
WHT001	EB 7100 BLOCK @ UNIVERSITY AVE	9,722	0	8,991	687	44
WHT002	WB 6400 BLOCK @ UNIVERSITY AVE	20,255	0	18,588	1,591	76
WIHV006	1800 BLOCK OF 70TH STREET SB	4	0	4	0	0
WIHV009	1600 BLOCK OF 73RD STREET SB	16	0	15	1	0
WIHV102	6600 BLOCK OF NORTHWEST DRIVE	1	0	1	0	0
WIHV106	1800 BLOCK OF 70TH STREET	57	0	54	2	1
WIHV107	1300 BLOCK OF 73RD STREET	250	0	237	13	0
WIHV109	1600 BLOCK OF 73RD STREET	557	0	507	46	4
WIHV112	900 BLOCK OF 73RD STREET	17	0	15	2	0
		30,879	0	28,412	2,342	125

speed



Speed Violations

Violation Date:	Begin Date: 1/1/2017	End Date: 6/30/2017
-----------------	----------------------	---------------------

Loc. Code	Location	# of Violations				
		Issued	6-10	11 -15	16 -20	> 21
WHT001	EB 7100 BLOCK @ UNIVERSITY AVE	5,943	0	5,486	424	33
WHT002	WB 6400 BLOCK @ UNIVERSITY AVE	15,026	0	13,782	1,193	51
WIHV006	1800 BLOCK OF 70TH STREET SB	4	0	4	0	0
WIHV009	1600 BLOCK OF 73RD STREET SB	16	0	15	1	0
WIHV102	6600 BLOCK OF NORTHWEST DRIVE	1	0	1	0	0
WIHV106	1800 BLOCK OF 70TH STREET	27	0	26	0	1
WIHV107	1300 BLOCK OF 73RD STREET	250	0	237	13	0
WIHV109	1600 BLOCK OF 73RD STREET	392	0	355	34	3
WIHV112	900 BLOCK OF 73RD STREET	15	0	13	2	0
		21,674	0	19,919	1,667	88