

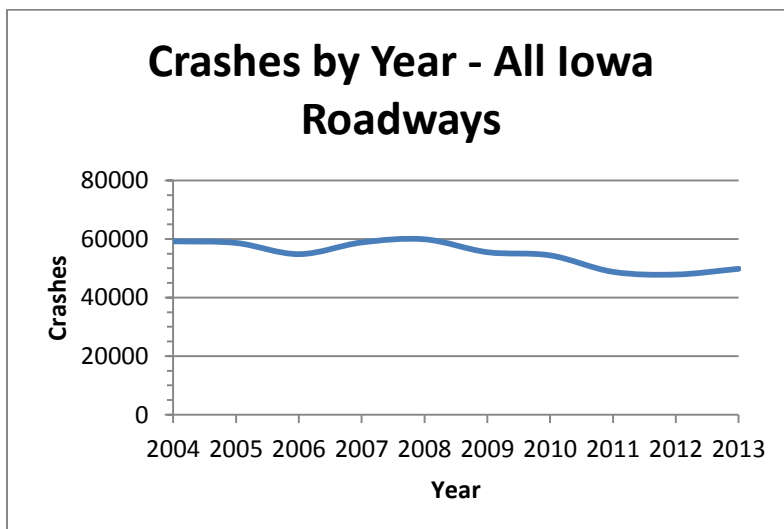
## Evaluation of Council Bluffs Automated Traffic Enforcement Report - Primary Highway System

### 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 eight 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.

On a statewide basis, crashes in Iowa have been decreasing. Specifically, over a 10 year period, crashes have decreased 15.6% from 59,192 in 2004 to 49,968 in 2013. Below is a chart showing the total number of crashes in Iowa.



**Review of Council Bluffs Annual Report:**

We have completed our review of your 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:

- "2013 Annual Report, Automated Traffic Enforcement for the City of Council Bluffs", April 2014;
- "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;
- September 19, 2014 e-mail from Greg Reeder to Steve Gent;
- November 21, 2014 e-mail from Greg Reeder to Tim Crouch.

**Intersection red light cameras:**

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

8<sup>th</sup> Street and West Kaneshville Blvd/West Broadway

Findings:

- Cameras activated 2005.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data:
  - 11 in 2004
  - 21 in 2005– red light camera activated
  - 6 in 2006
  - 14 in 2007
  - 7 in 2008
  - 8 in 2009
  - 0 in 2010
  - 0 in 2011
  - 5 in 2012
  - 2 in 2013
  - o From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Total intersection crash data: 19.32 average crashes per year before activation (3 years of data); 10 average crashes per year after activation (1 year of data) – from CTRE/ISU study.

Resulting Action:

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

## 16<sup>th</sup> Street and West Broadway

### Findings:

- Cameras activated 2005.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data:
  - 11 in 2004
  - 10 in 2005– red light camera activated
  - 7 in 2006
  - 4 in 2007
  - 9 in 2008
  - 7 in 2009
  - 2 in 2010
  - 0 in 2011
  - 5 in 2012
  - 10 in 2013
  - From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Total intersection crash data: 16 average crashes per year before activation (3 years of data); 8 average crashes per year after activation (1 year of data) – from CTRE/ISU study.

### Resulting Action:

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

## 21st Street and West Broadway

### Findings:

- Camera activated 2005.
- Westbound approach subject to traffic camera enforcement.
- Crash data:
  - 8 in 2004
  - 6 in 2005– red light camera activated
  - 1 in 2006
  - 2 in 2007
  - 1 in 2008
  - 2 in 2009
  - 0 in 2010
  - 0 in 2011
  - 0 in 2012
  - 2 in 2013
  - From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Total intersection crash data: 9 average crashes per year before activation (3 years of data); 3 average crashes per year after activation (1 year of data) – from CTRE/ISU study.

### Resulting Action:

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

### 35<sup>th</sup> Street and West Broadway

#### Findings:

- Camera activated 2005.
- Eastbound approach subject to traffic camera enforcement.
- Crash data:
  - 4 in 2004
  - 3 in 2005– red light camera activated
  - 5 in 2006
  - 6 in 2007
  - 7 in 2008
  - 0 in 2009
  - 2 in 2010
  - 2 in 2011
  - 0 in 2012
  - 1 in 2013
  - From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Total intersection crash data: 11.32 average crashes per year before activation (3 years of data); 10 average crashes per year after activation (1 year of data) – from CTRE/ISU study.

#### Resulting Action:

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

### 7<sup>th</sup> Street and Willow Ave

#### Findings:

- Camera activated 2005.
- Southbound approach subject to traffic camera enforcement.
- Crash data:
  - 1 in 2004
  - 1 in 2005– red light camera activated
  - 1 in 2006
  - 2 in 2007
  - 0 in 2008
  - 1 in 2009
  - 1 in 2010
  - 0 in 2011
  - 4 in 2012
  - 3 in 2013
  - From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Total intersection crash data: 3.32 average crashes per year before activation (3 years of data); 2 average crashes per year after activation (1 year of data) – from CTRE/ISU study.

#### Resulting Action:

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

### Harrison Street and East Kanesville Blvd

#### Findings:

- Cameras activated 2009.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data:
  - 6 in 2007
  - 5 in 2008
  - 3 in 2009 – red light camera activated
  - 1 in 2010
  - 5 in 2011
  - 2 in 2012
  - 7 in 2013
- o From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.

#### Resulting Action:

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

### 25<sup>th</sup> Street and West Broadway

#### Findings:

- Cameras activated 2009.
- Eastbound and westbound approaches are subject to traffic camera enforcement.
- Crash data:
  - 6 in 2007
  - 4 in 2008
  - 7 in 2009 – red light camera activated
  - 1 in 2010
  - 2 in 2011
  - 2 in 2012
  - 2 in 2013
- o From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.

#### Resulting Action:

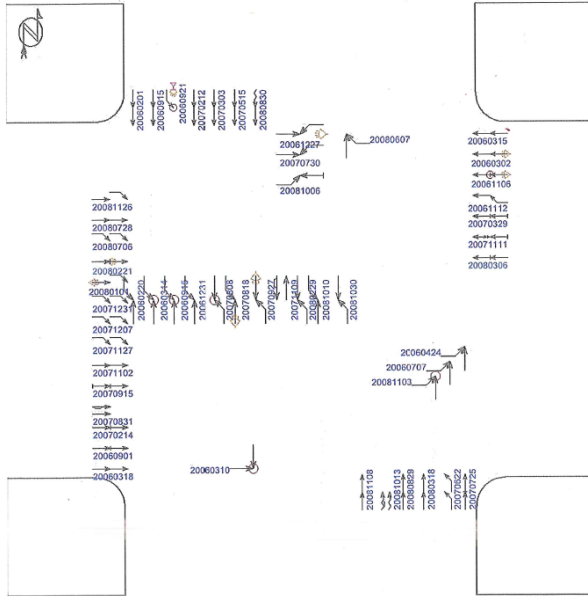
- Continue operation of red-light cameras at this location.

## South Expressway and 30<sup>th</sup> Ave

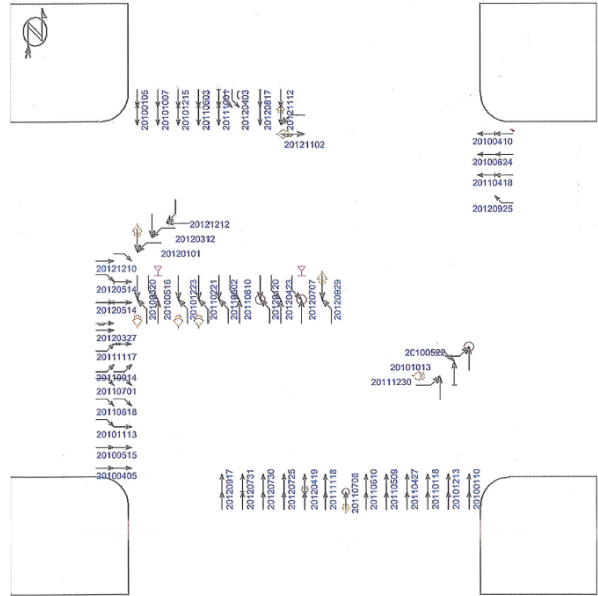
### Findings:

- Camera activated 2005.
- Eastbound approach subject to traffic camera enforcement (primary highway).
- Northbound approach also being enforced, however it is a local roadway
- Crash data:
  - 8 in 2007
  - 11 in 2008
  - 9 in 2009 – red light camera activated
  - 5 in 2010
  - 4 in 2011
  - 9 in 2012
  - 11 in 2013
  - From city provided crash data –crash data provided is only for the intersection approaches monitored with ATE cameras.
- Crash data:
  - 23 in 2004
  - 17 in 2005
  - 17 in 2006
  - 20 in 2007
  - 17 in 2008
  - 23 in 2009 – red light camera activated
  - 15 in 2010
  - 17 in 2011
  - 22 in 2012
  - 23 in 2013
  - From DOT crash records, all crashes within 75 feet of the intersection.
- The number of red-light running citations at this location is extremely high: 11,436 in 2010, 7,026 in partial year 2011, 3,054 in partial year 2012 and 9,203 in 2013. These citation numbers are combined from both the eastbound and northbound camera with the eastbound camera accounting for 53% of the citations. Most of these are right-turn-on-red violations which are clearly not a safety concern, see crash diagrams below.
- Crash diagrams from 2006 – 2008 (before camera activation) is little changed from the 2010 – 2012 crash diagram. See crash diagrams on next page.

2006 - 2008 Reportable Crashes



2010 - 2012 Reportable Crashes



(1) crashes could not be placed in this schematic

← Straight	⊞ Parked	⊗ Pedestrian	□ Fixed objects:
← Stopped	⊞ Erratic	⊗ Bicycle	□ General
← Unknown	⊞ Out of control	⊗ Injury	□ Pole
← Backing	⊞ Right turn	⊗ Fatality	□ Signal
← Overtaking	⊞ Left turn	⊗ Nighttime	□ Tree
← Sideswipe	⊞ U-turn	⊗ DUI	□ Curb
			⊗ Animal
			◁ 3rd vehicle
			⋯ Extra data

33

(1) crashes could not be placed in this schematic

← Straight	⊞ Parked	⊗ Pedestrian	□ Fixed objects:
← Stopped	⊞ Erratic	⊗ Bicycle	□ General
← Unknown	⊞ Out of control	⊗ Injury	□ Pole
← Backing	⊞ Right turn	⊗ Fatality	□ Signal
← Overtaking	⊞ Left turn	⊗ Nighttime	□ Tree
← Sideswipe	⊞ U-turn	⊗ DUI	□ Curb
			⊗ Animal
			◁ 3rd vehicle
			⋯ Extra data

34

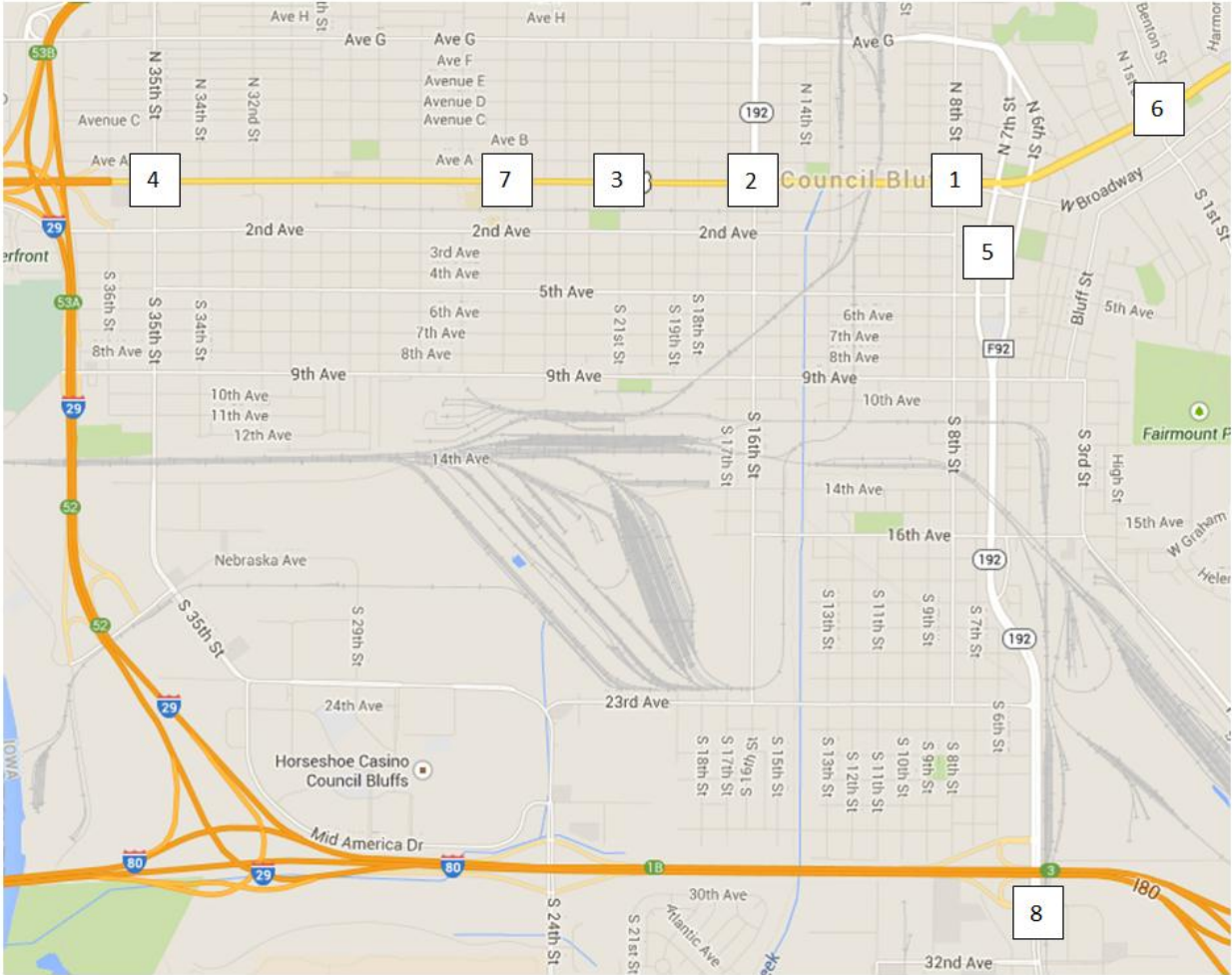
Resulting Action:

- Permanently remove the eastbound camera at this location.
  - o Crashes essentially stayed the same.

Timeframe:

The city shall implement the resulting actions by April 17, 2015. The city may appeal this decision pursuant to Iowa Administrative Code 761—144.9(307). Such an appeal should be submitted to the Iowa Department of Transportation Director within 30 days of the date of this decision.

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



1. 8<sup>th</sup> St and West Kanesville Blvd/West Broadway
2. 16<sup>th</sup> St and West Broadway
3. 21<sup>st</sup> St and West Broadway
4. 35<sup>th</sup> St and West Broadway
5. 7<sup>th</sup> St and Willow Ave
6. Harrison St and East Kanesville Blvd
7. 25<sup>th</sup> St and West Broadway
8. South Expressway and 30<sup>th</sup> Ave