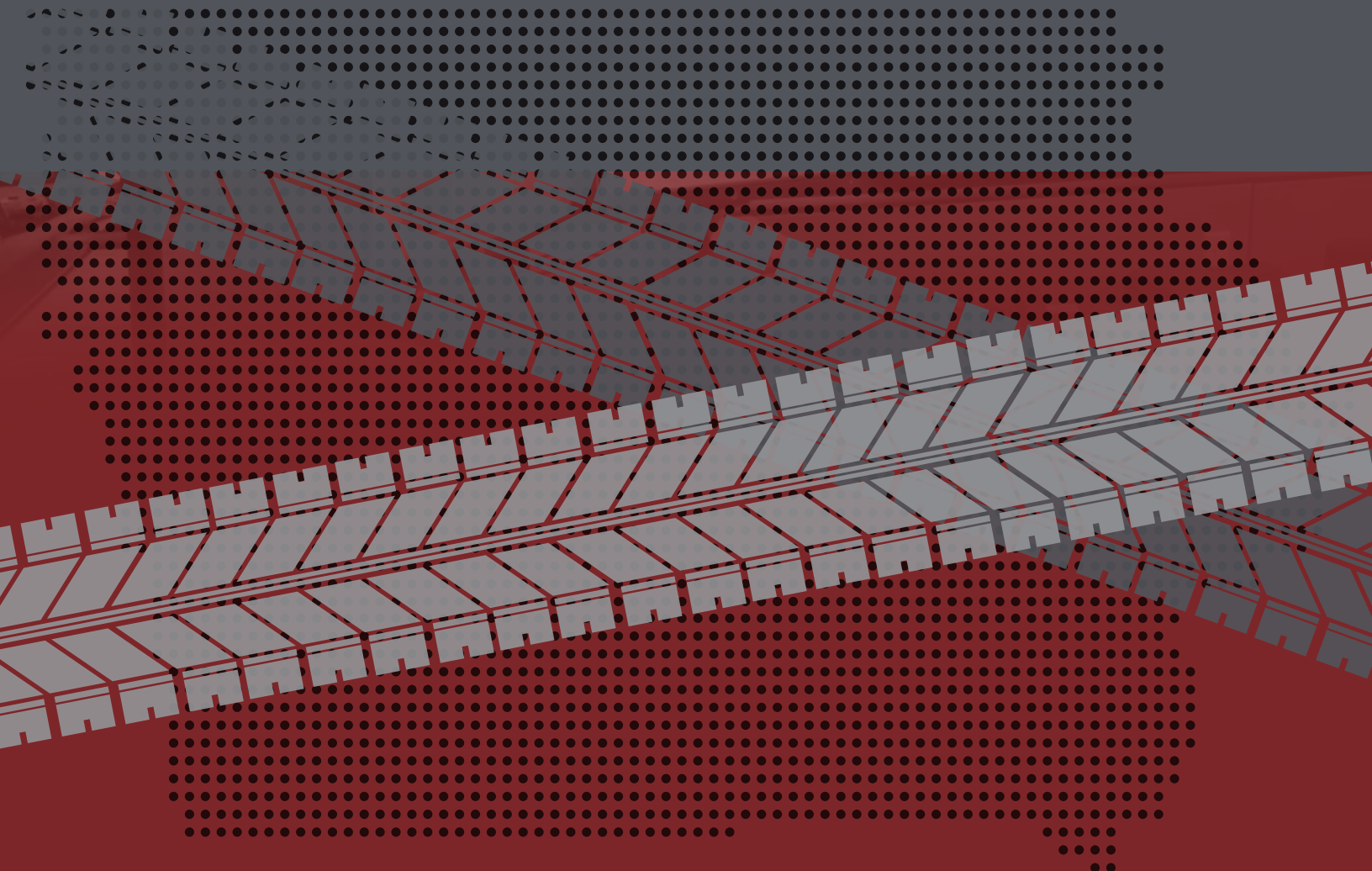


TRAFFIC MANAGEMENT CENTER annual report



2017

Developed for the:

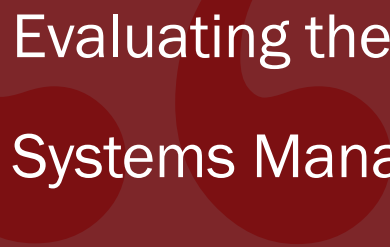


By:



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Evaluating the effectiveness of Transportation Systems Management and Operations is paramount to efficiently moving people, goods and services across the state of Iowa. The Traffic Management Center is the “hub” of communication to coordinate getting motorists to their destination safely, efficiently and conveniently. With this annual performance measure report and other metrics, the department has real time data to assist in planning, budgeting, and implementing TSMO strategies across the state.

– Donna Matulac, Assistant Director
Office of Traffic Operations



INTRODUCTION

Iowa's Statewide Traffic Management Center (TMC) is a 24/7 center located in the Motor Vehicle Division building in Ankeny, Iowa. The TMC is one of Iowa DOT's key strategies to proactively manage the transportation system by addressing recurring and nonrecurring congestion in real-time. Using advanced technology, the TMC proactively monitors the transportation system for disruptions in traffic flow, such as from crashes, work zone delays, congestion, stalled vehicles, special events, or bad weather. When disruptions occur, the TMC coordinates with internal and external partners to provide safe/quick clearance, detour routing, traffic control, and accurate and timely information to the public. Trained professional staff in the TMC actively monitor traffic conditions and coordinate responses with other DOT staff, state and local law enforcement, 911 communication centers, state and county emergency managers, neighboring states, and the towing and rail industries. The TMC uses tools such as 511, social media, media releases, and Dynamic Message Signs to help protect on-scene responders and to prevent secondary crashes when disruptions occur.

EXECUTIVE SUMMARY

Iowa DOT TMC Operations "At a Glance"

Number of incidents managed by Iowa Statewide Traffic Management Center	39,434
Number of incidents managed by Iowa Statewide Traffic Management Center with lane blockage	3,162
Number of minutes on average that it takes to clear all lanes of traffic following incidents	53
Number of services provided by Highway Helpers	19,959
Number of work zones managed by Iowa Statewide Traffic Management Center	29,106

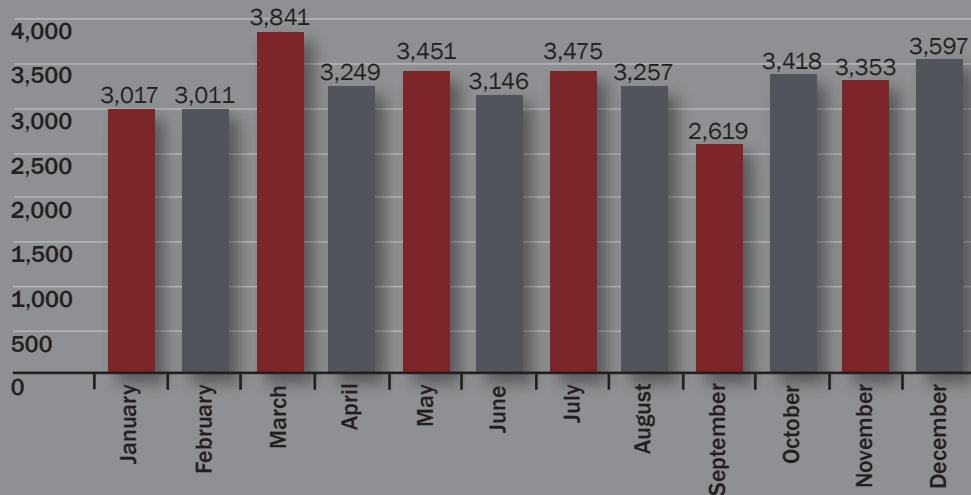
The Traffic Management Center focuses on the following activities:

- ▶ Respond to and clear traffic crashes as safely and quickly as possible
- ▶ Provide timely, accurate and comprehensive traveler information to customers
- ▶ Provide critical data for statewide and regional Traffic Incident Management program activities and performance metrics
- ▶ Reduce the number of secondary crashes through pre-warning and quick clearance
- ▶ Improve travel time reliability
- ▶ Increase the situational awareness for winter weather and special events
- ▶ Maximize the use of the existing roadway capacity.

INCIDENT SUMMARY

Total Incidents Managed by the TMC

The total number of incidents (**39,434**) during a given period. An incident is defined as any event on the roadway which affects or can affect normal traffic flow.

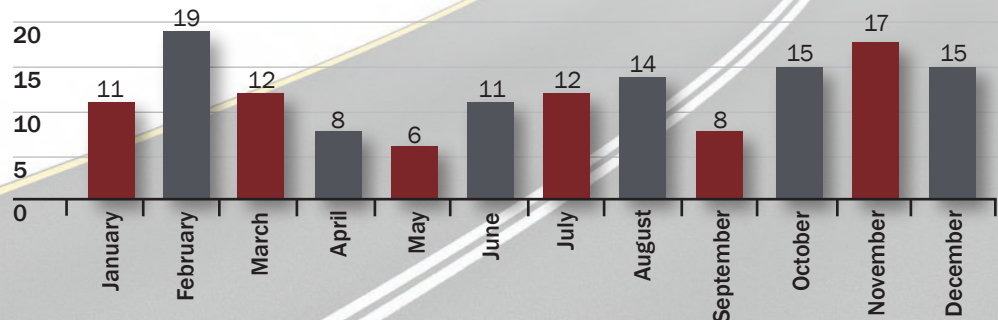


3,286
incidents
per month
on average
in 2017

One hundred and forty-eight (148) incidents were classified as secondary

Secondary Incidents

Secondary incidents can be more severe than the original incident, due to slow moving traffic or stopped queues on the roadway.



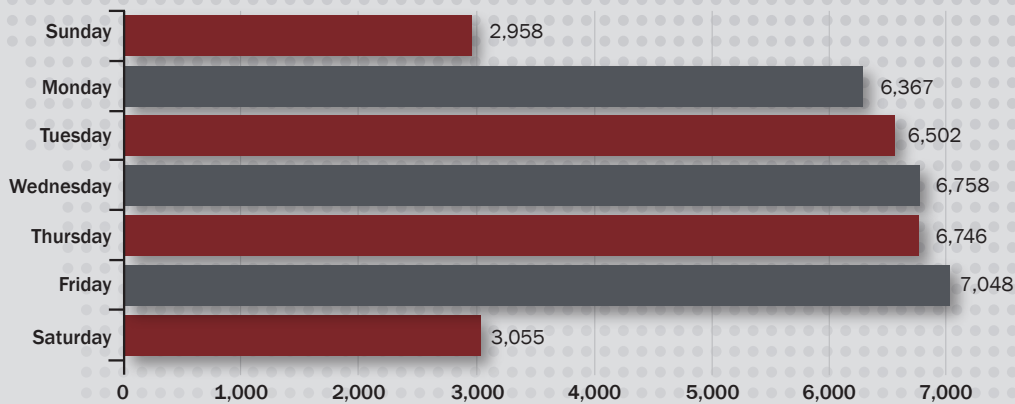
Incidents Managed during Peak Hours

Peak hours are defined as:
 AM: 6:00-9:00
 PM: 3:00-6:00

7,087
 PM Peak

9,528
 AM Peak

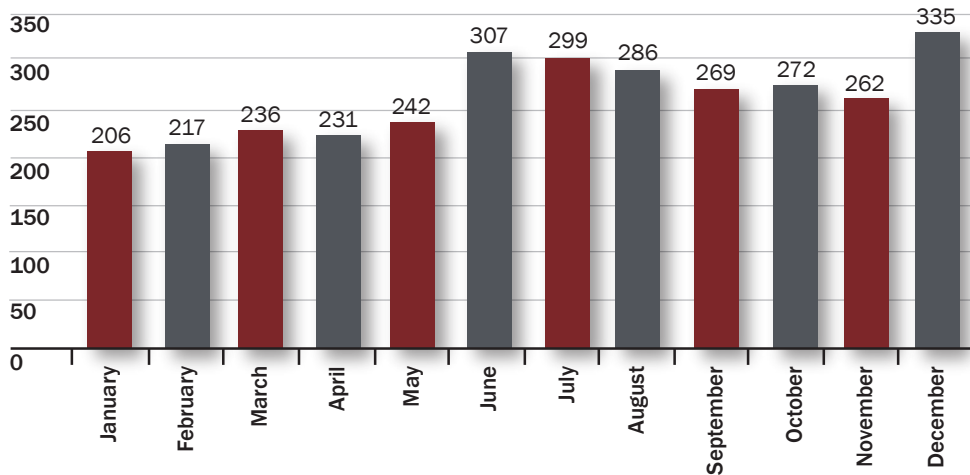
Incidents by Day of the Week



Top 3:
 1. Friday
 2. Wednesday
 3. Thursday

Lane Blocking Incidents

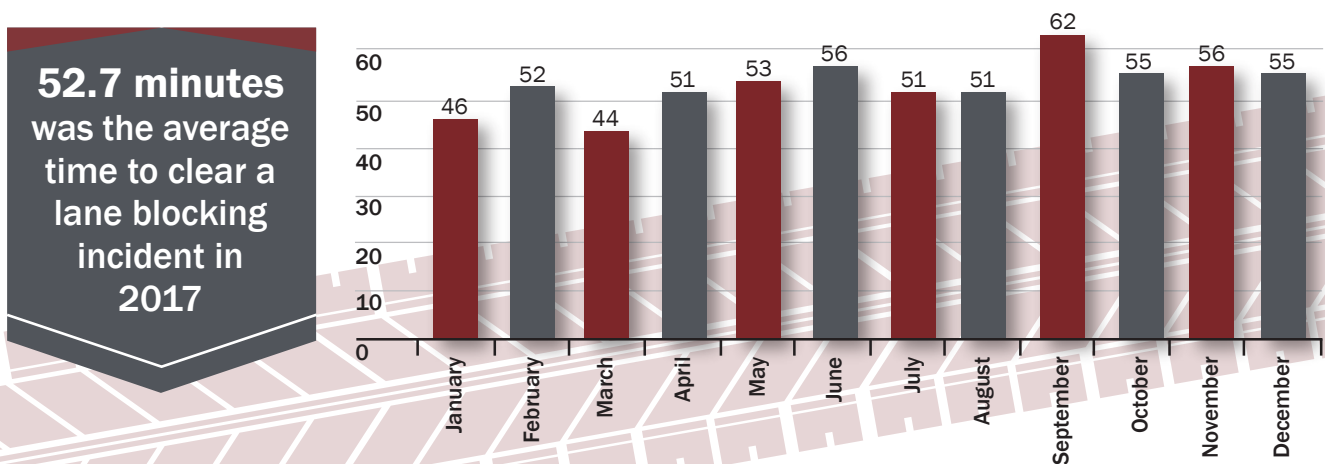
The total number of incidents that resulted in at least one blocked lane of travel are described in the charts below.



3,162 total lane blocking incidents

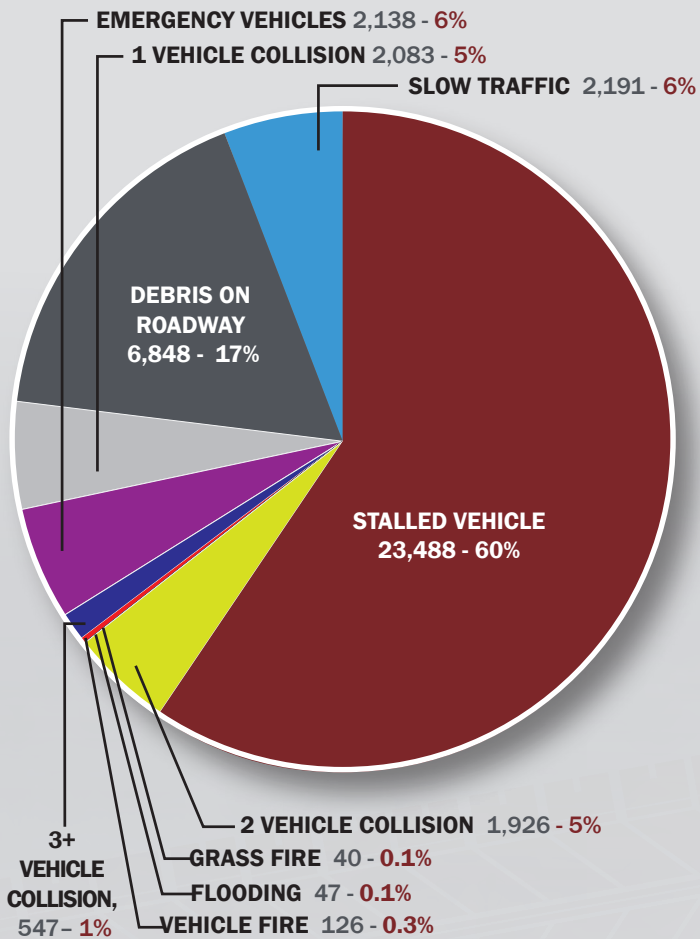
Average Time to Clear a Lane-Blocking Incident

The average time for all lanes to be cleared for an incident is calculated from the incident start time until all lanes are reopened. The average time to clear lanes in minutes is shown below.



Incident Types

A breakdown by type of incidents logged by the Traffic Management Center (TMC) for 2017 and percentage of total incidents logged is shown with the chart.



Represents the total amount of incidents (39,434) categorized by incident type

Top 3:
1. Stalled Vehicle
2. Debris in Roadway
3. Emergency Vehicles



HIGHWAY HELPER 2017

This contains statistical and operational data of activities of the Highway Helper program for the period January 1st 2017 to December 31st 2017

TOTAL HIGHWAY HELPER INCIDENT RESPONSES

The total number of incidents Highway Helper responded to during a given period

19,209

INCIDENTS WITH LANE BLOCKAGE

The total number of incidents which resulted in at least one blocked lane of travel

799

CRASHES RESPONDED TO BY HIGHWAY HELPER

The total number of crashes during this period Highway Helper responded to

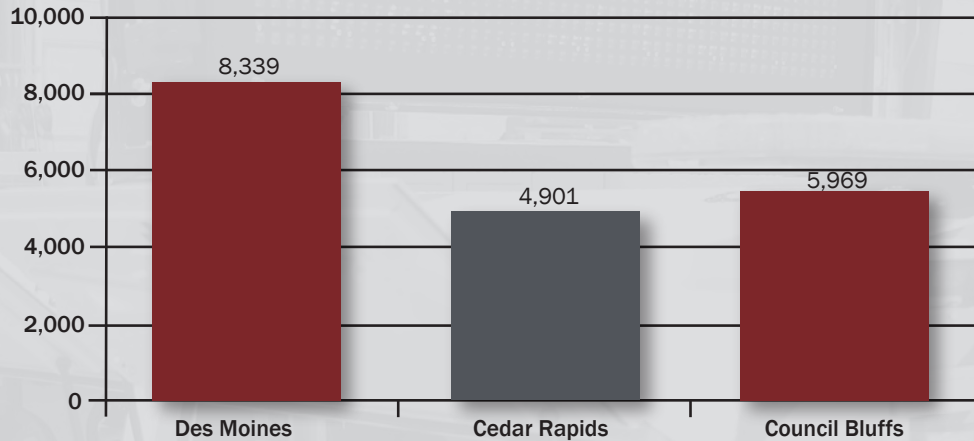
1,363

AVERAGE INCIDENTS HIGHWAY HELPER RESPONDED TO PER DAY

The average of daily responses for Highway Helper in 2017 (calculated using a 5 day work week)

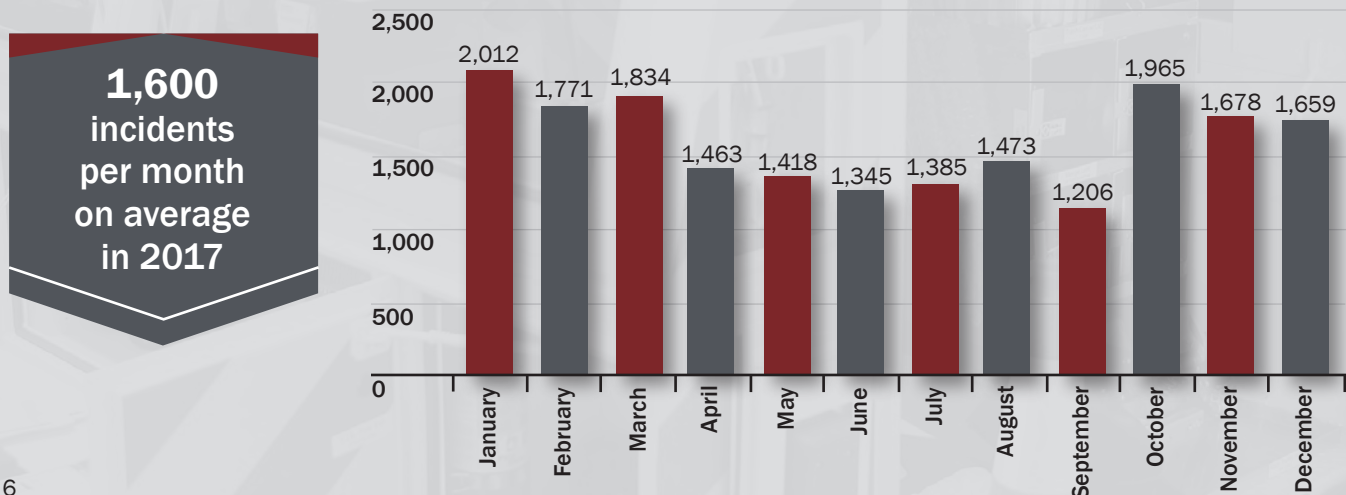
74

Total Incidents Responded to by Area

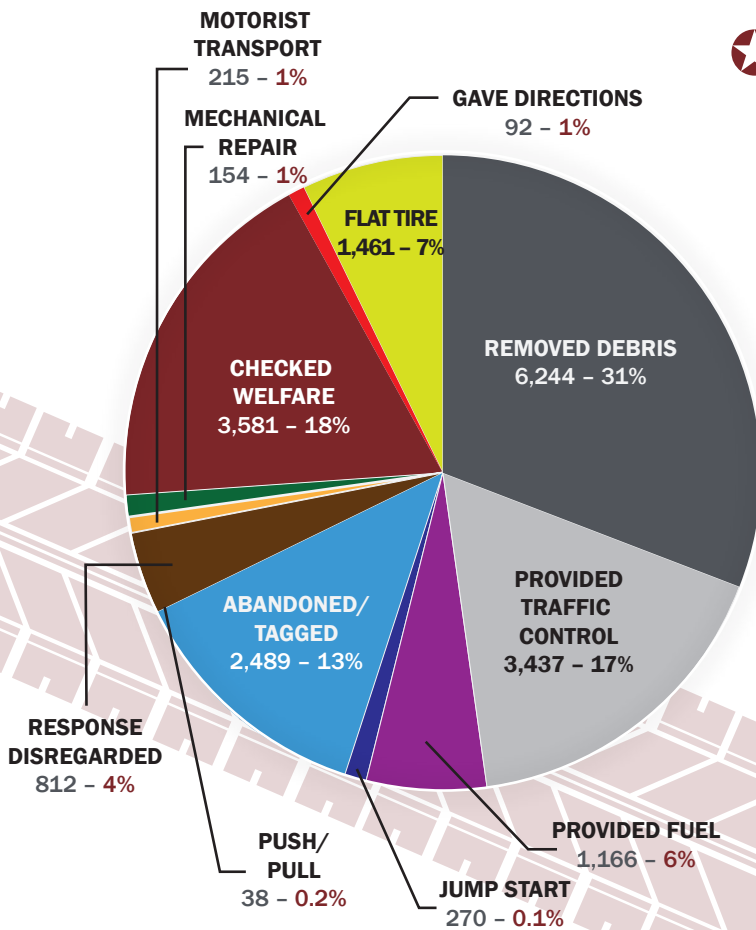



19,209 total incidents

Total Incidents Responded to by Highway Helper



Highway Helper Services Provided



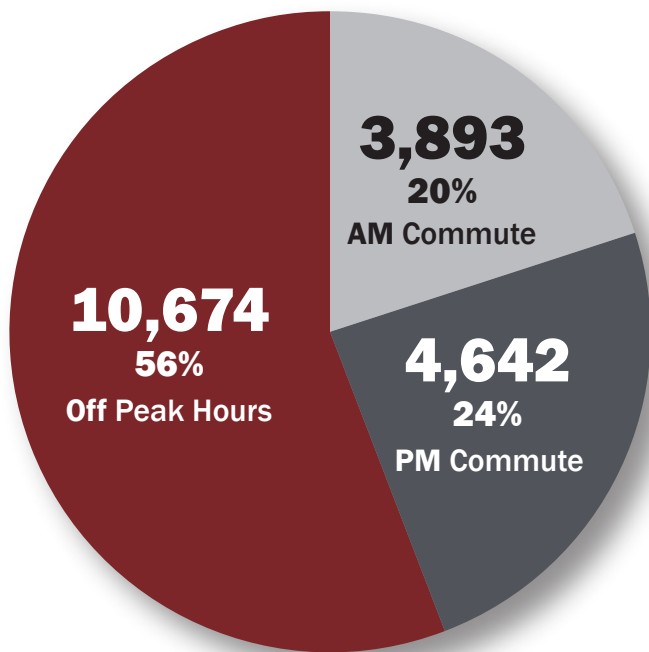
 The Highway Helper Services Provided graphic provides an overview of what happened on Highway Helper incidents; multiple services may be provided on a single incident.

19,959
total amount
of services
provided by
response type.

Top 3:

1. Removed Debris
2. Checked Welfare
3. Provided Traffic Control

Incident Response by Time of Day

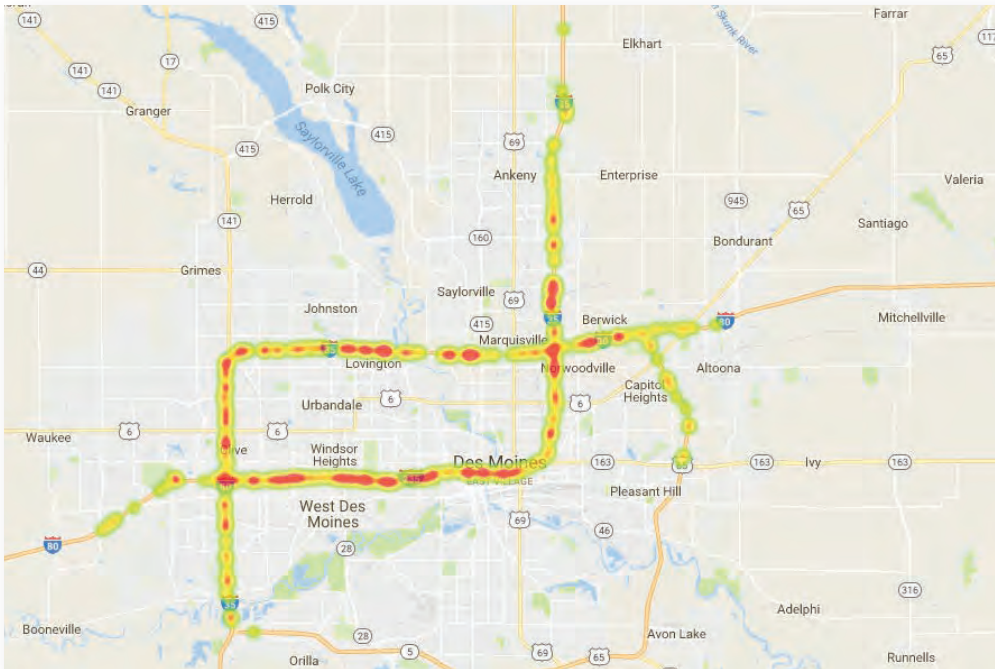


19,209
total incidents

DES MOINES

HIGHWAY HELPER INCIDENT RESPONSE DASHBOARD

Heat Map of Highway Helper Crash Response Location Density



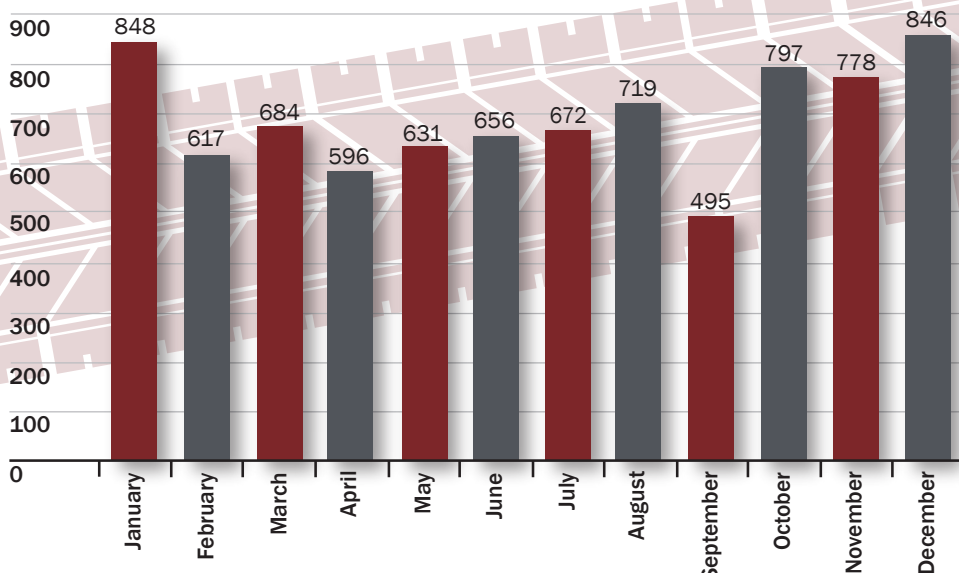
“

*What a great service!
Priceless! The young
man who helped me was
fantastic! I don't know
what I would have done
without him. Thank you!*

- Customer comment

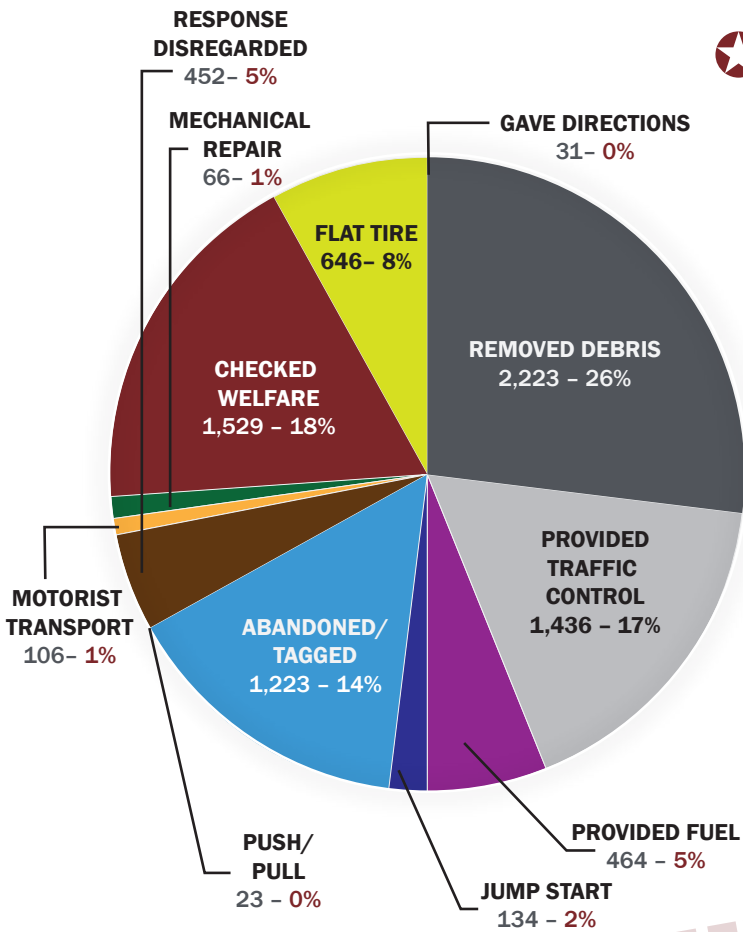
”


Total Incidents Responded to by Highway Helper



695
incidents
per month
on average
in 2017

Highway Helper Services Provided



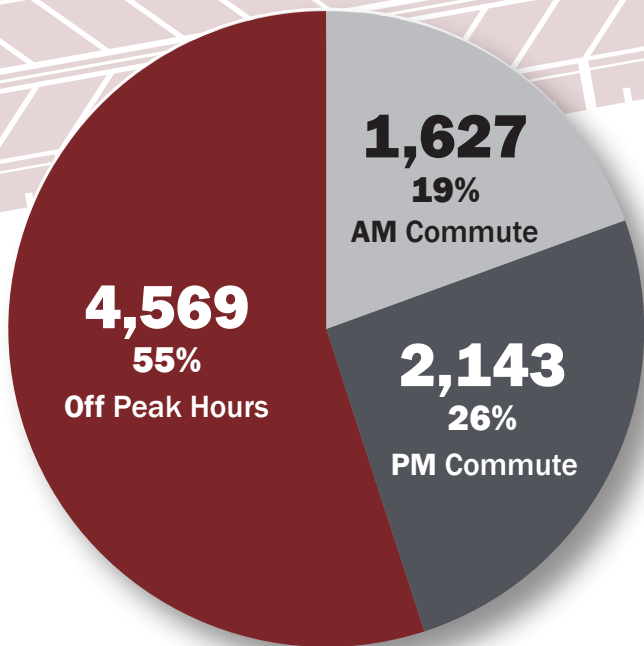
 The Highway Helper Services Provided graphic provides an overview of what happened on Highway Helper incidents; multiple services may be provided on a single incident.

8,339
total amount of
services
provided by
response type

Top 3:

1. Removed Debris
2. Checked Welfare
3. Provided Traffic Control

Incident Response by Time of Day

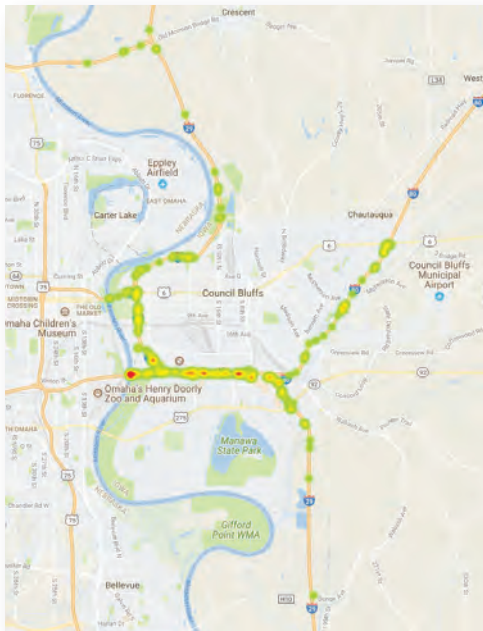


8,339
total incidents

COUNCIL BLUFFS

HIGHWAY HELPER INCIDENT RESPONSE DASHBOARD

Heat Map of Highway Helper Crash Response Location Density



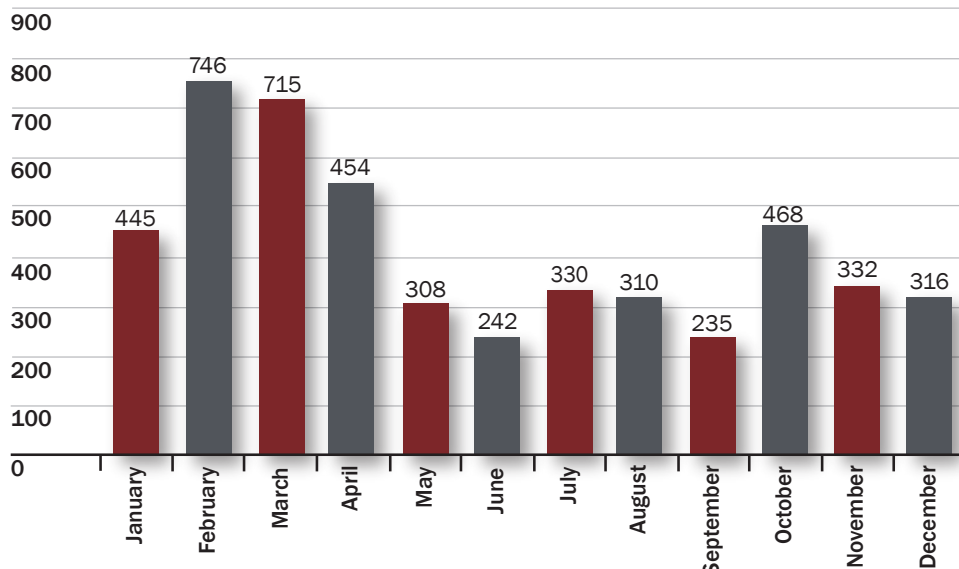
“

I was completely and pleasantly surprised by the Highway Helper. The gentlemen that assisted me were so nice and seemed genuinely concerned about helping me. Thank you!.

- Customer comment

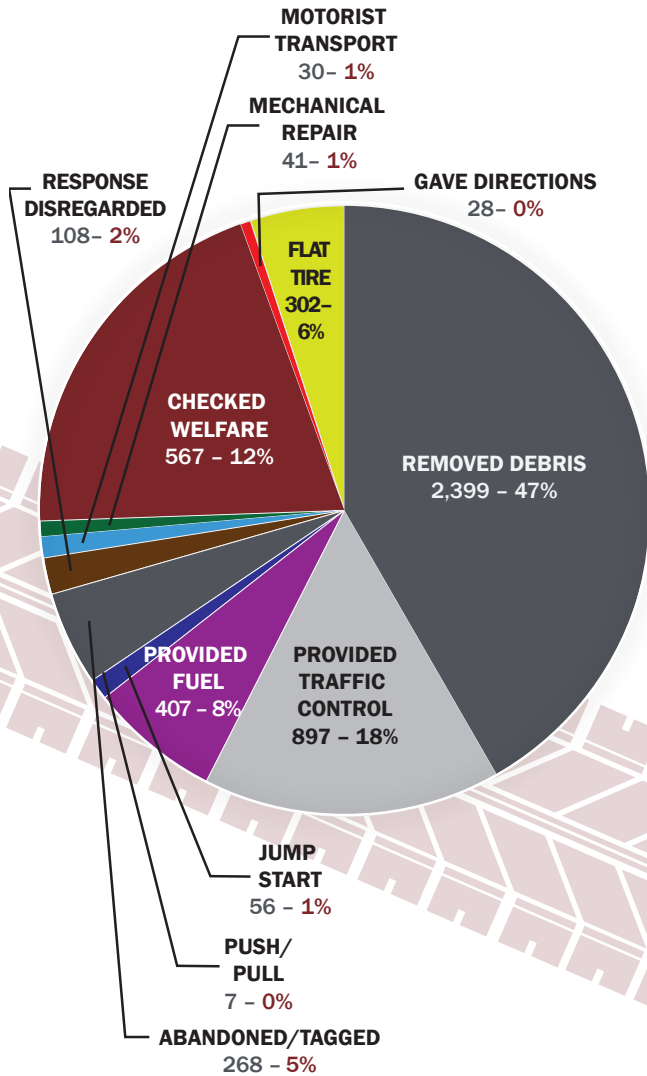
”

Total Incidents Responded to by Highway Helper



408
incidents
per month
on average
in 2017

Highway Helper Services Provided



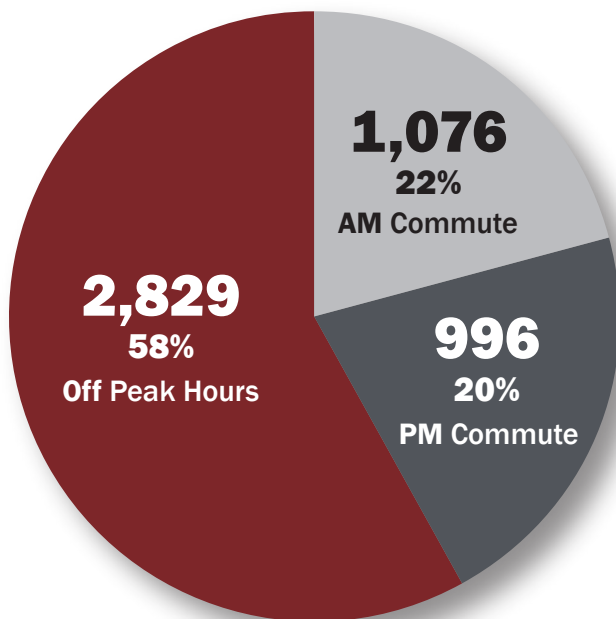
The Highway Helper Services Provided graphic provides an overview of what happened on Highway Helper incidents; multiple services may be provided on a single incident

5,110
total amount of services provided by response type

Top 3:

1. Removed Debris
2. Provided Traffic Control
3. Checked Welfare

Incident Response by Time of Day

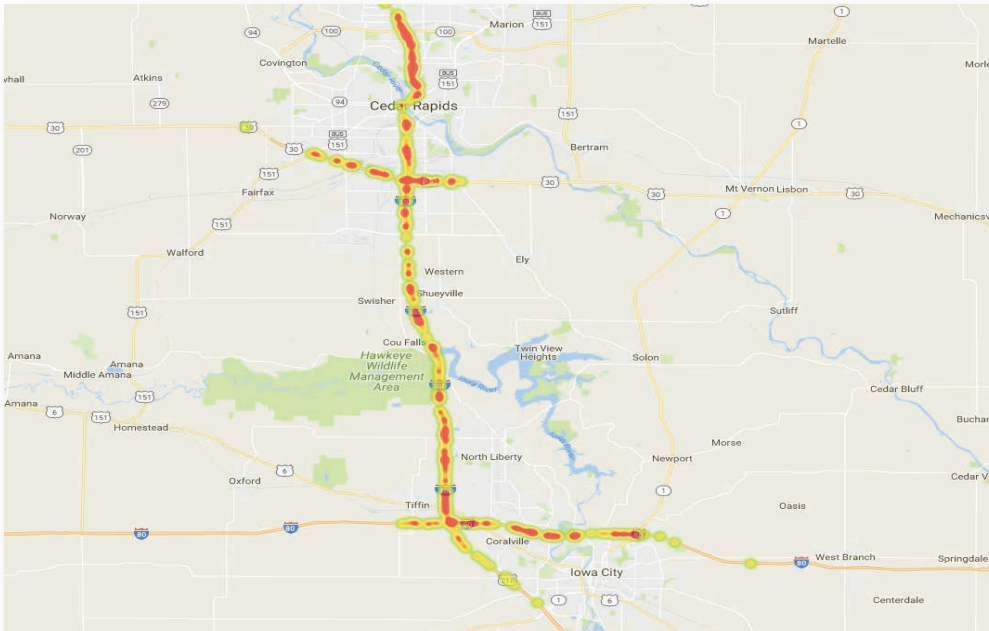


4,901
total incidents

IOWA CITY/ CEDAR RAPIDS

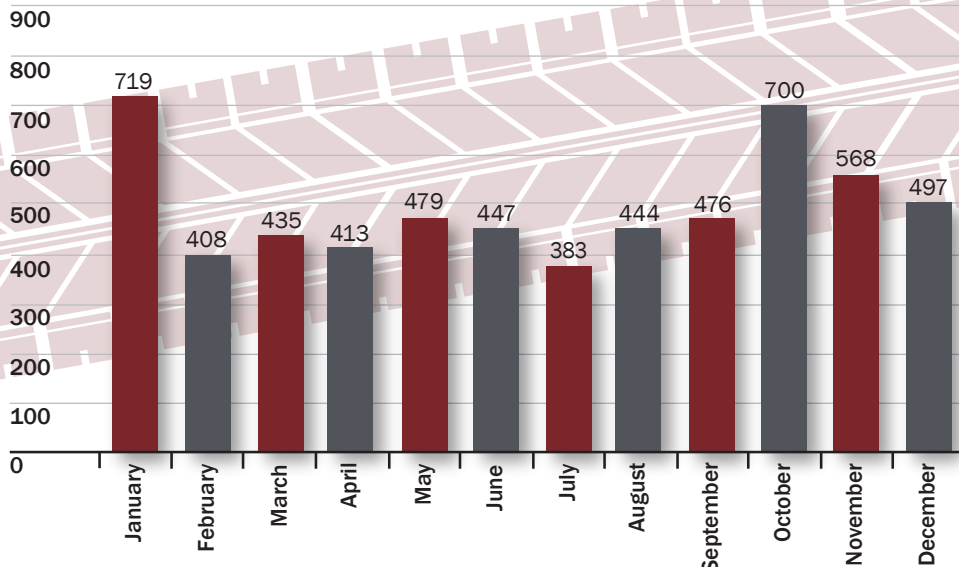
HIGHWAY HELPER INCIDENT RESPONSE DASHBOARD

Heat Map of Highway Helper Crash Response Location Density



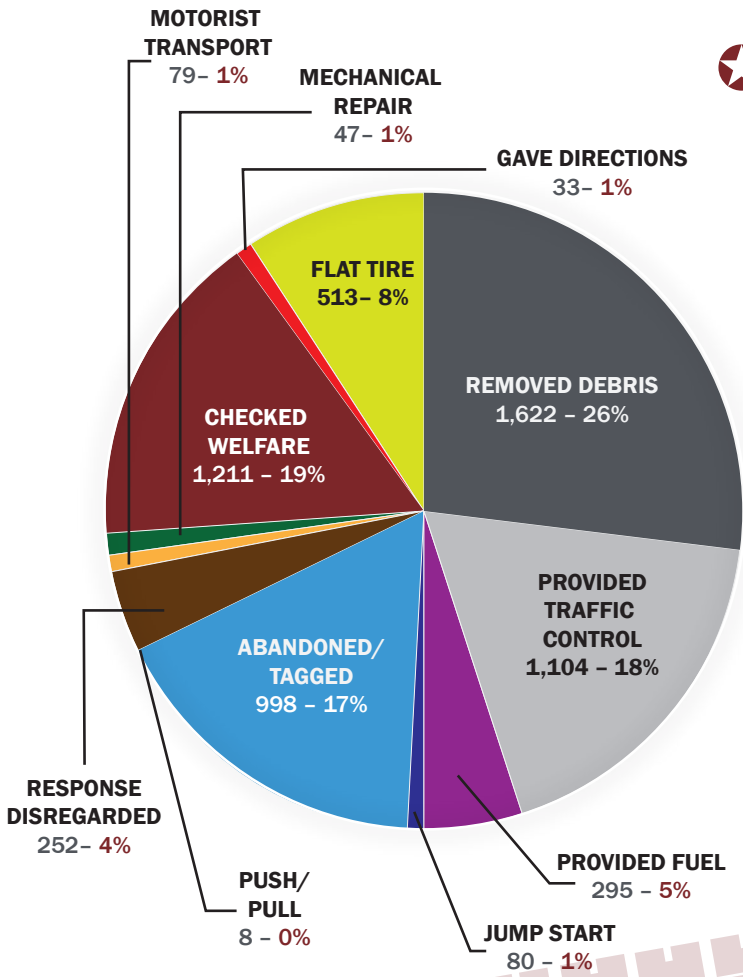
“
I appreciate this service as a person needing help, but I also appreciate the Highway Helpers as a frequent driver - the flashing lights are a good warning of what is ahead
- Customer comment


Total Incidents Responded to by Highway Helper



497
incidents
per month
on average
in 2017

Highway Helper Services Provided

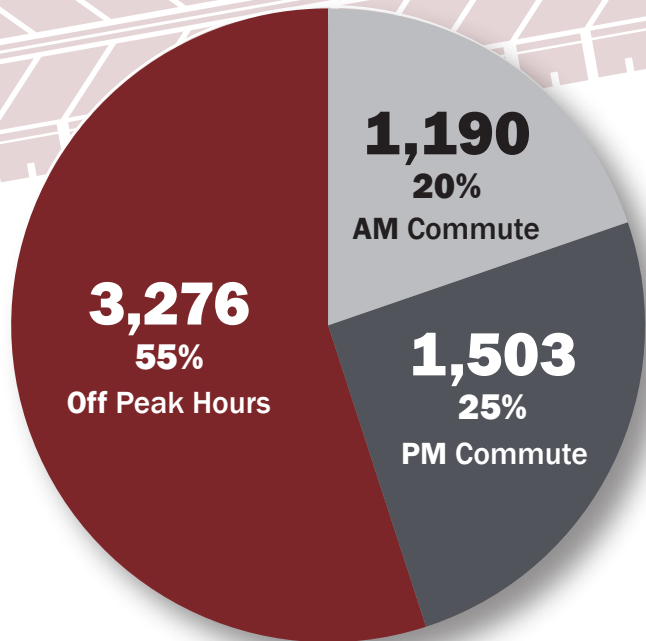


 The Highway Helper Services Provided graphic provides an overview of what happened on Highway Helper incidents; multiple services may be provided on a single incident.

6,242
total amount of
services
provided by
response type

- Top 3:**
1. Removed Debris
 2. Checked Welfare
 3. Provided Traffic Control

Incident Response by Time of Day



5,969
total incidents

FREIGHT INCIDENTS

1 hrs 34[★] mins

average time to clear a lane blocking incident involving a tractor trailer

32

hazmat spills from vehicles hauling hazmat

27

tractor trailer roll-overs

89

rail incidents

140,911
total permits issued

117,711
oversize/
overweight permits

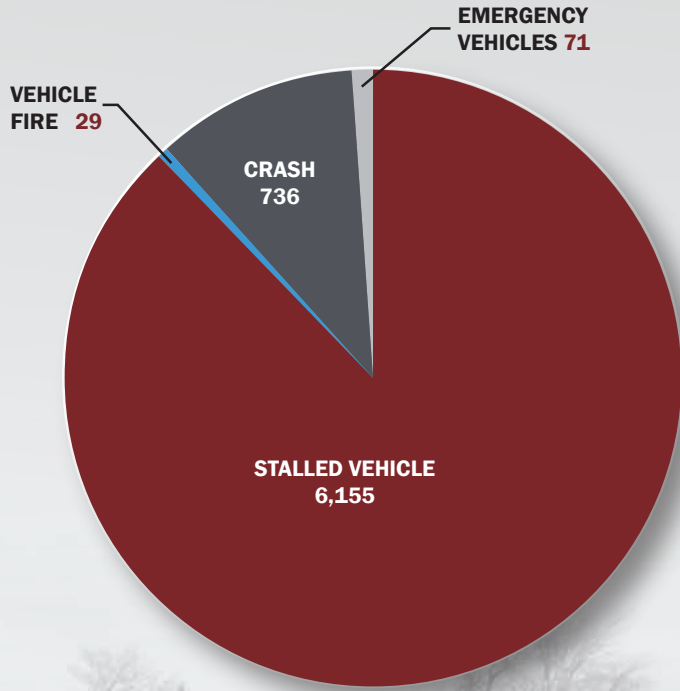
99,121
single trip
(routed) permits

16,684
annual
(non-routed) permits

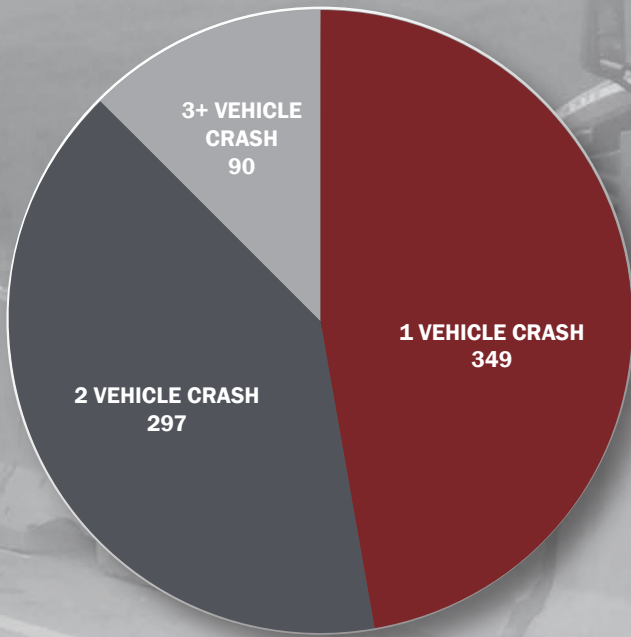


Average time to clear a lane blocking incident involving a tractor trailer may not include recovery and/or off-loading time.

Truck Incidents by Type



Truck Crashes by Type





Traveler Information
www.511ia.org or dial 511

2,878,319

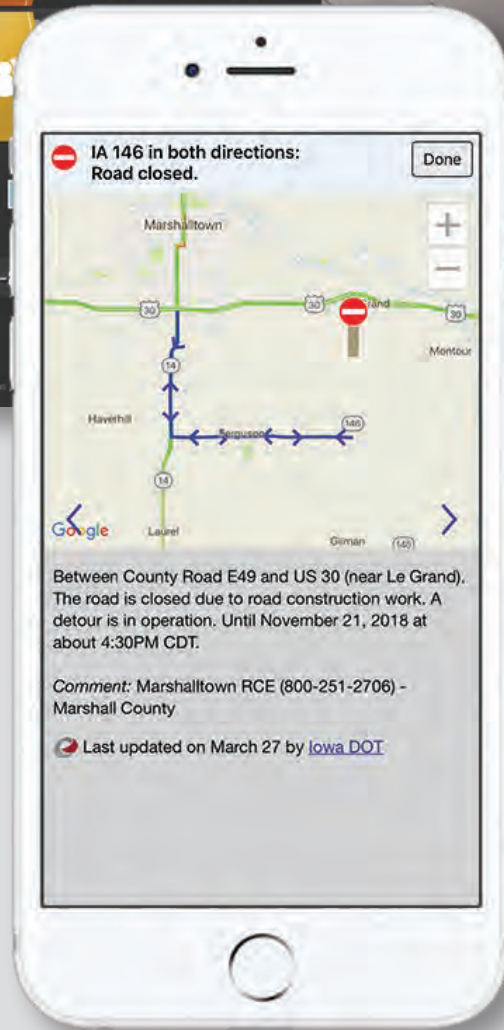
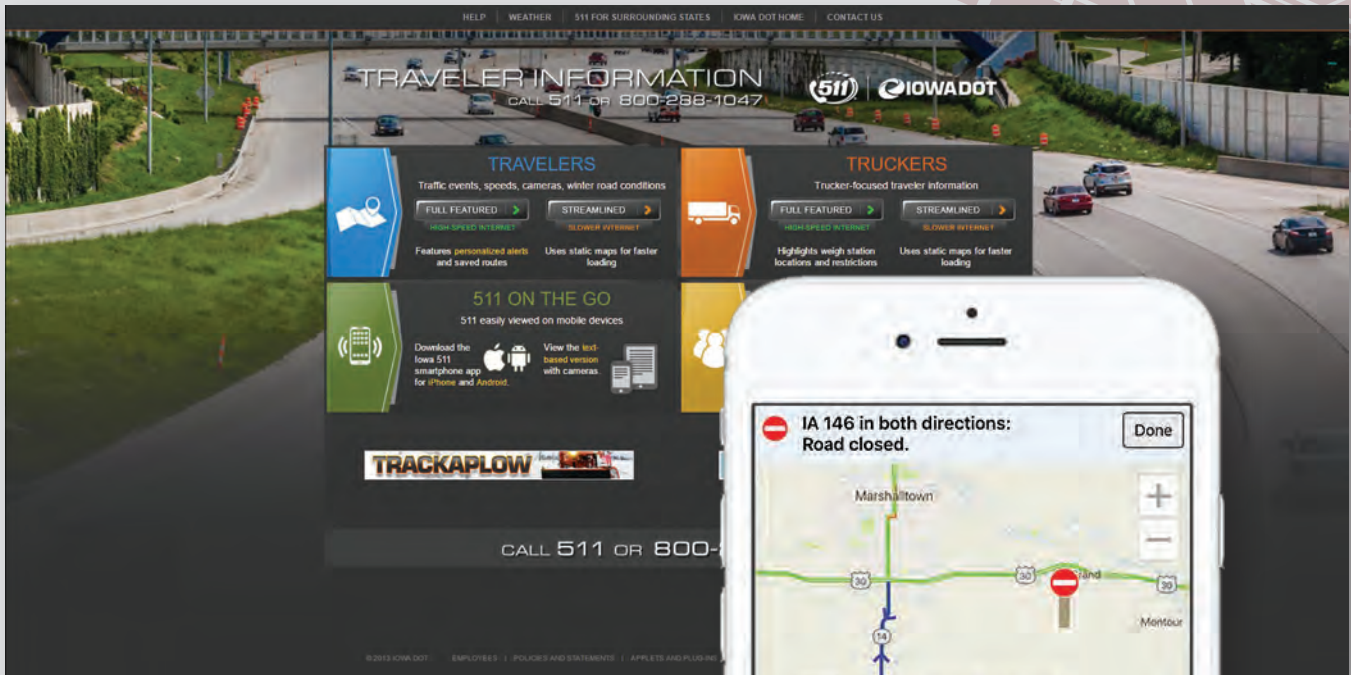
total visits to
511 traveler
information
website
(includes all
versions of
website)

68,242

total 511 App
downloads

104,957

total number
of calls to 511

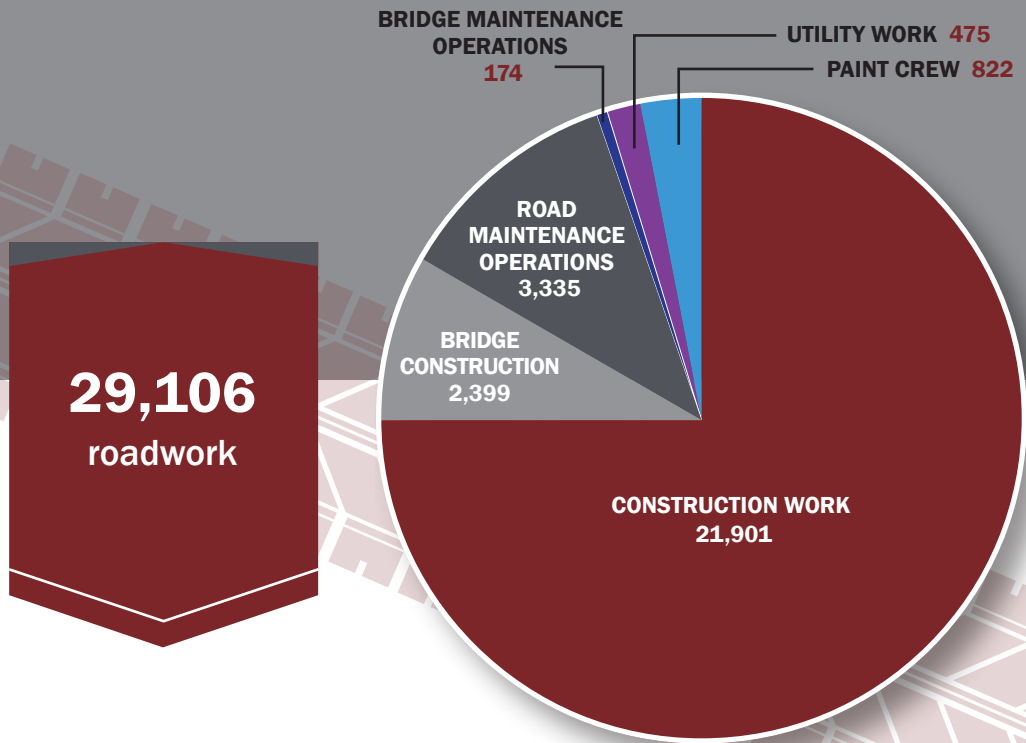


ROADWORK

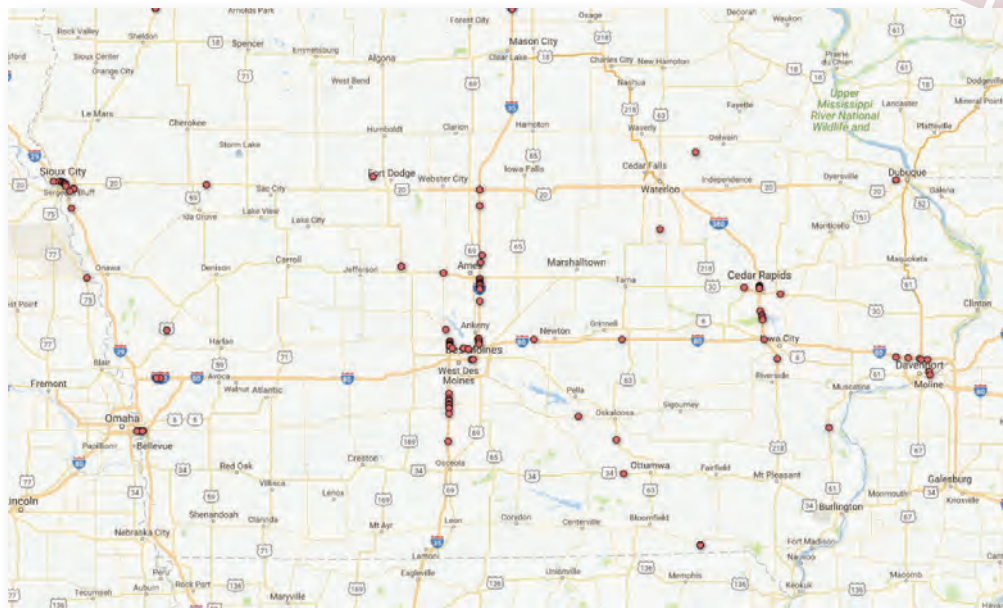
Roadwork is tracked by each change in a work zone, not the project as a whole. If the project is not continuous, e.g. night work only, each night is logged in our system.

67 projects utilized extra law enforcement provided by Motor Vehicle Enforcement, Iowa State Patrol or local Police departments.

There were **78 Traffic Critical Projects** during the 2017 construction season; of those, **42 had intelligent work zone systems**.



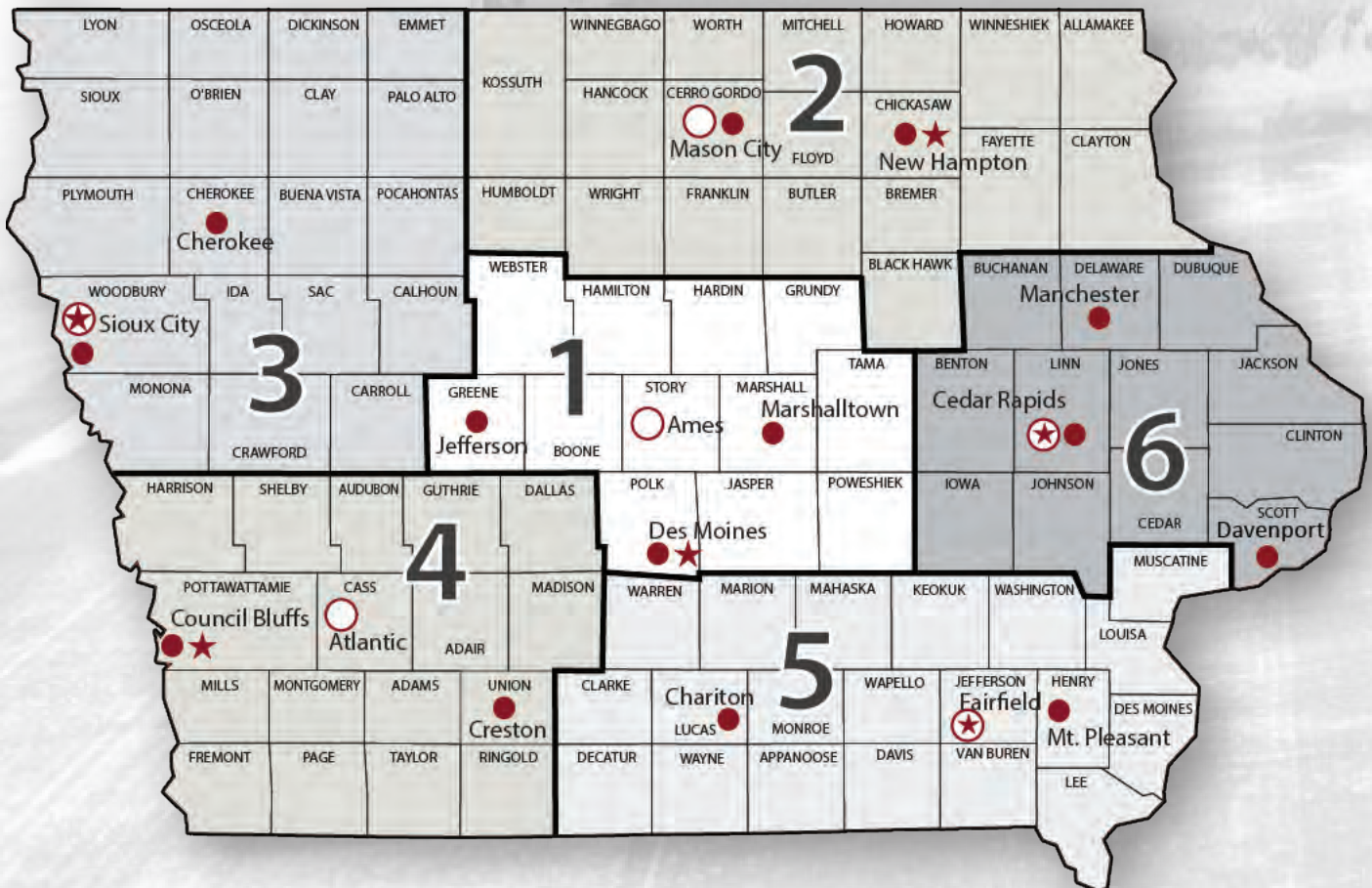
Map of Work Zone Crashes



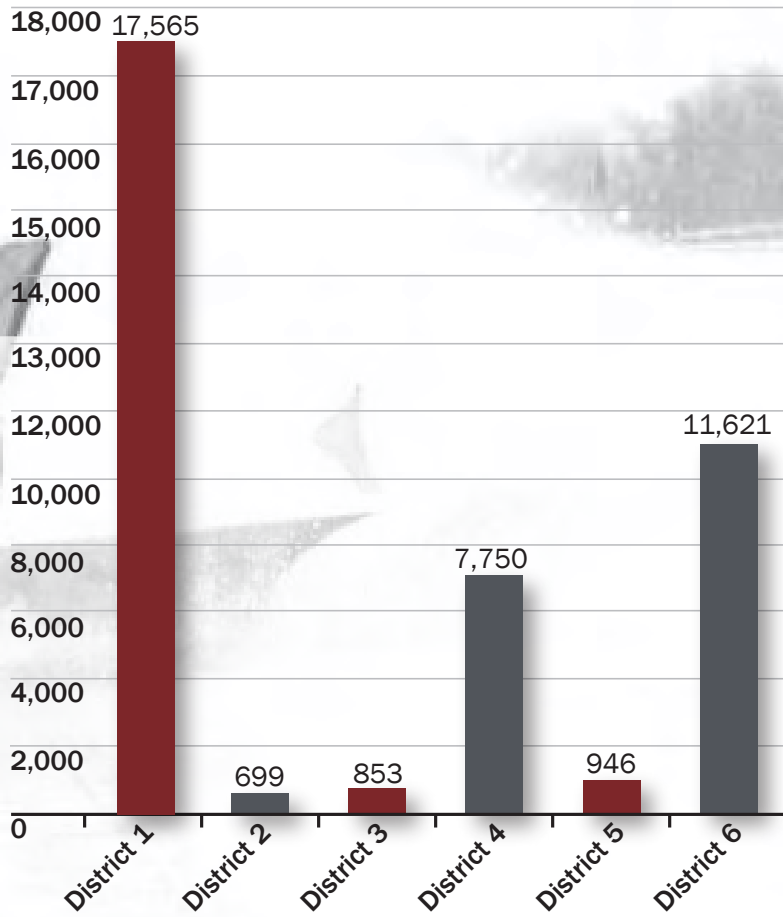
INCIDENTS AND ROADWORK BY DISTRICT

The Iowa DOT splits the state into **6 different districts**. This section is a breakdown of incidents and work zones in each district.

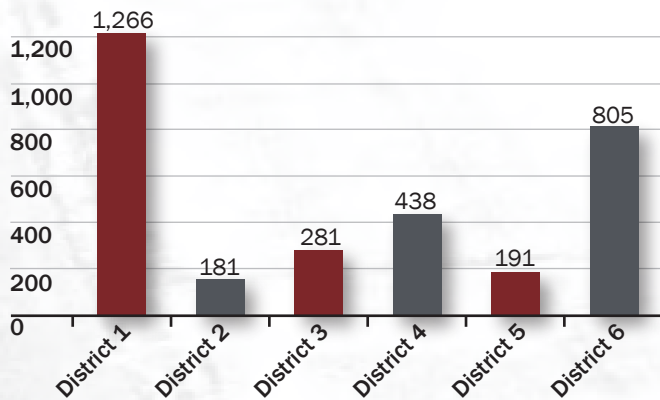
○ Iowa DOT District Office ● Resident Construction Office ★ District Operations Manager Office



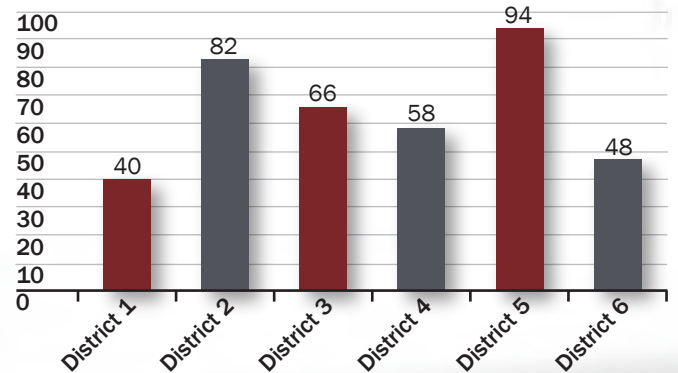
Total Incidents by District



Lane Blocking Incidents by District

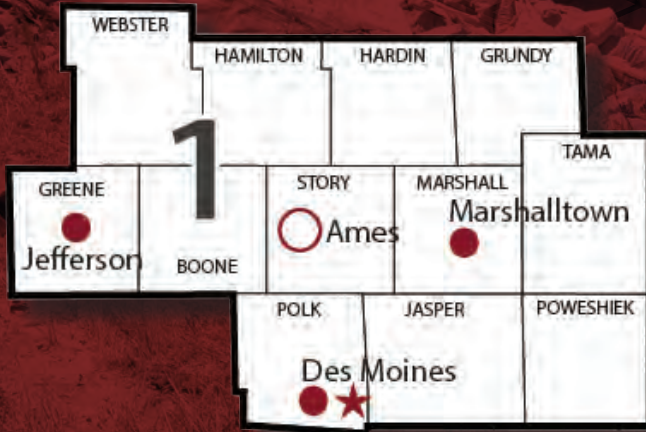


Average Time to Clear Lanes by District

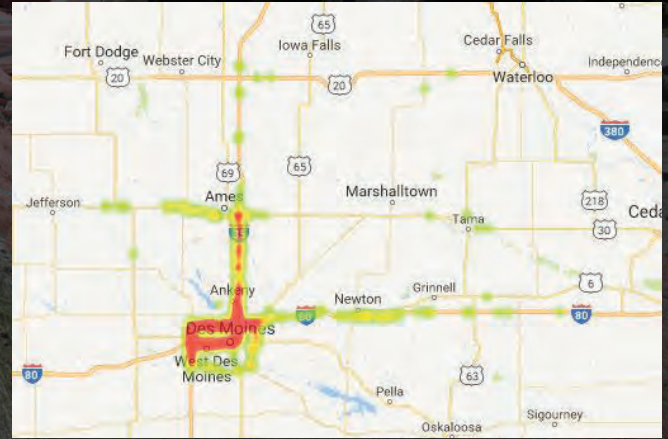


Highway Helpers provide traffic management services within specific areas of Districts 1, 4, and 6. This added layer of service directly impacts the above statistics

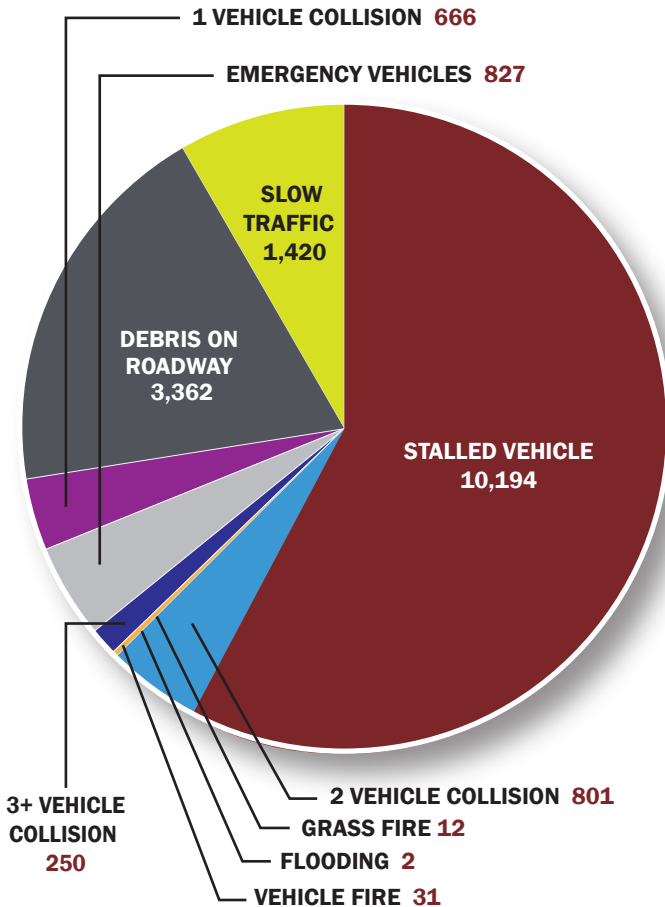
DISTRICT 1



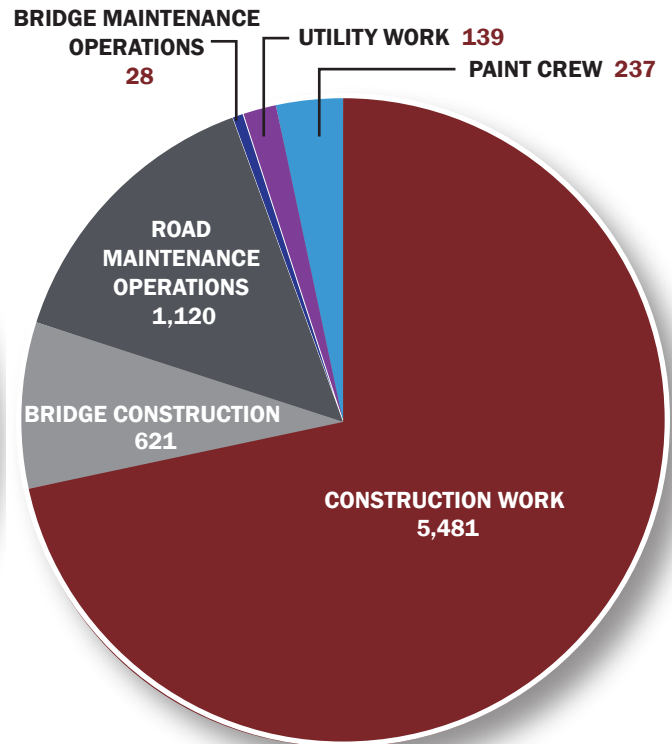
Heat Map of Incidents



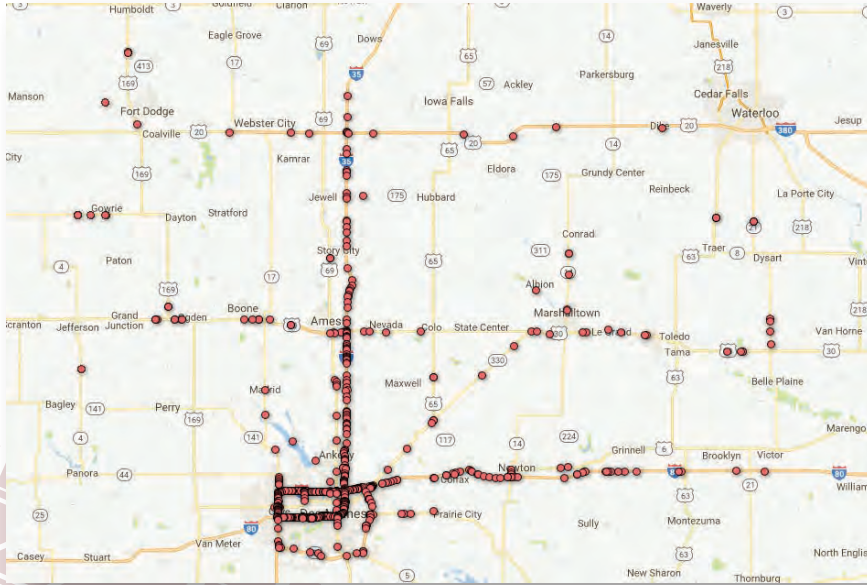
Incidents – 17,565 Total



Roadwork – 7,626 Total



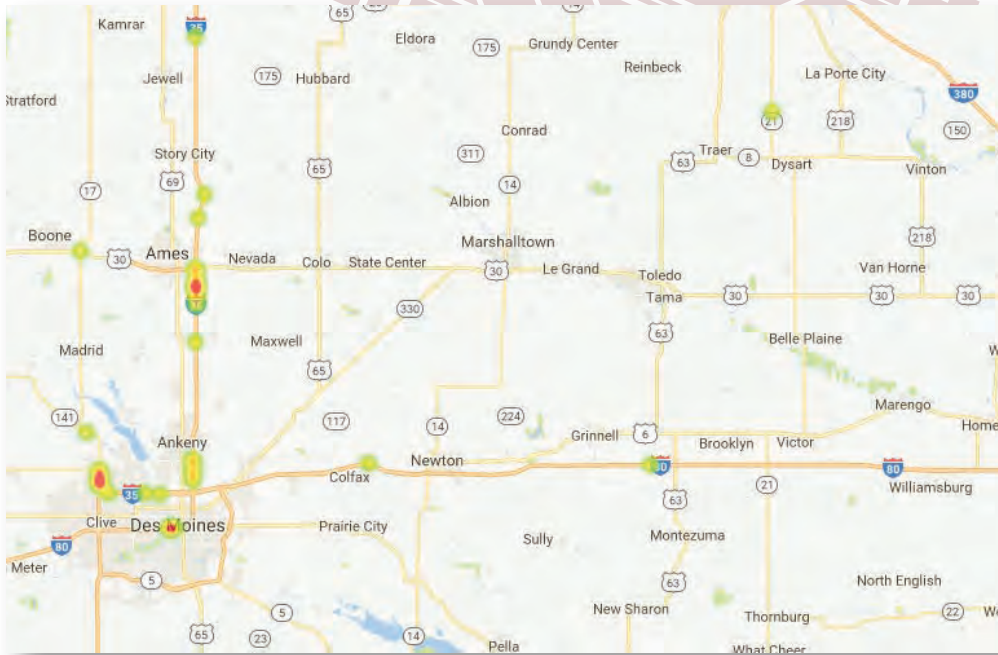
Map of Lane Blocking Incidents



40 min
average time
to clear lanes

1,266
lane blocking
incidents

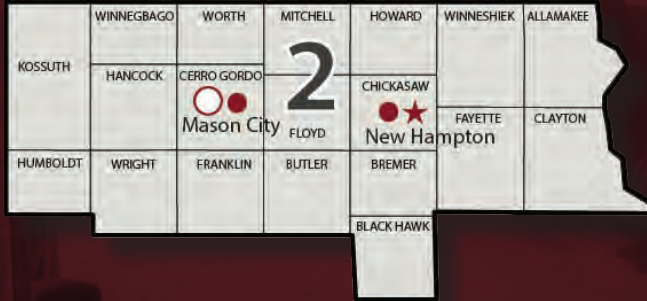
Map of Workzone Crashes



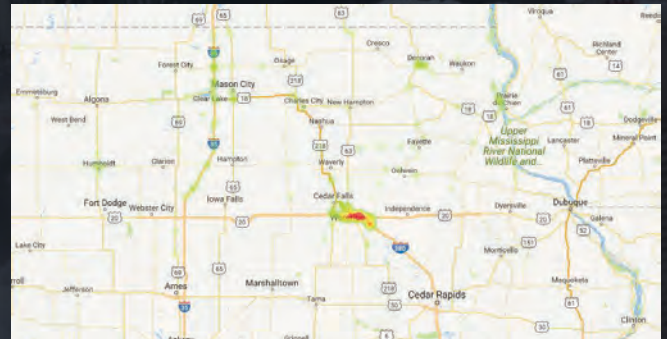
76
secondary
crashes

42
workzone
crashes

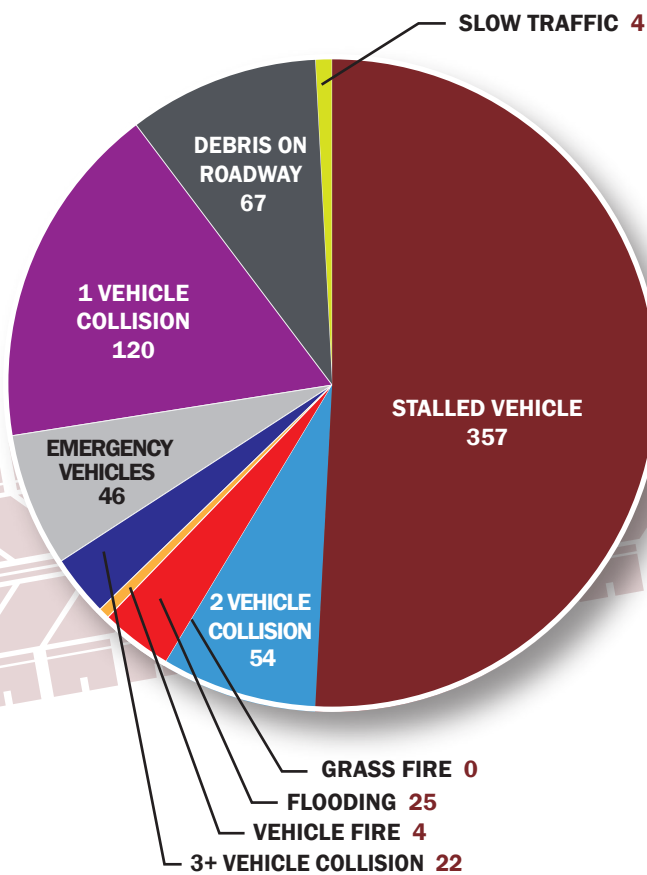
DISTRICT 2



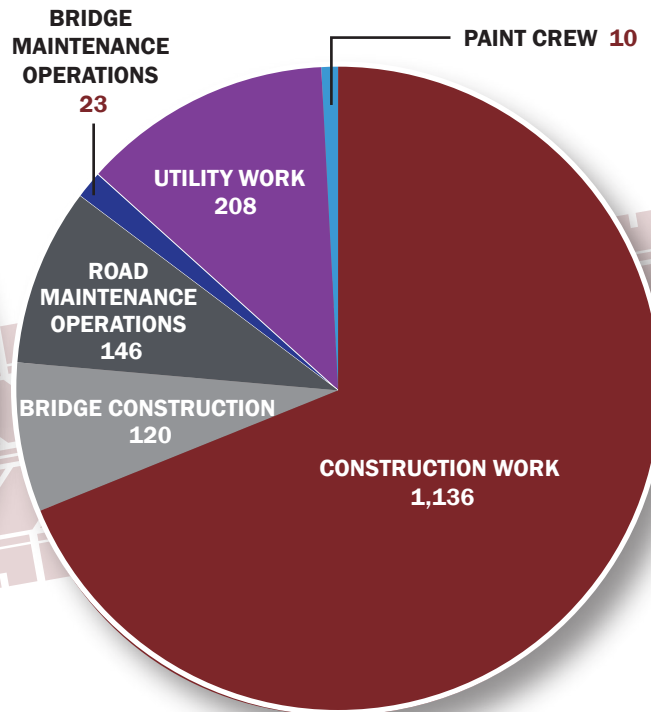
Heat Map of Incidents



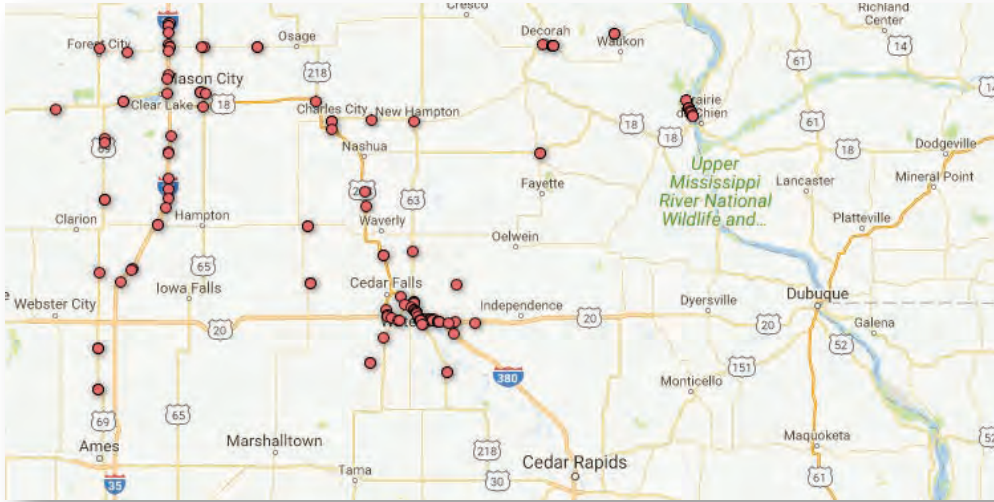
Incidents – 699 Total



Roadwork – 1,643 Total



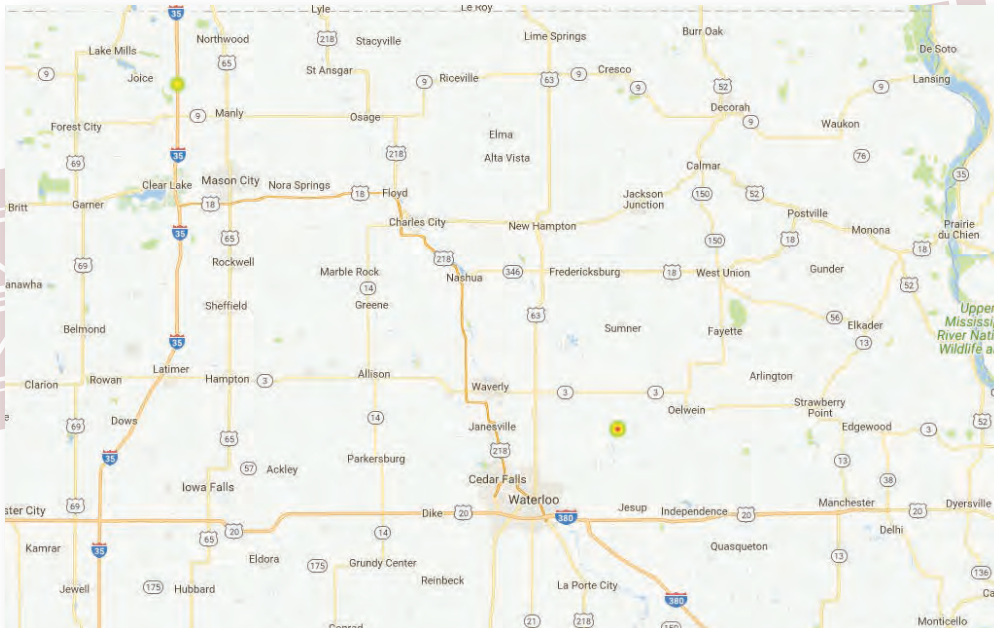
Map of Lane Blocking Incidents



82 min
average time
to clear lanes

181
lane blocking
incidents

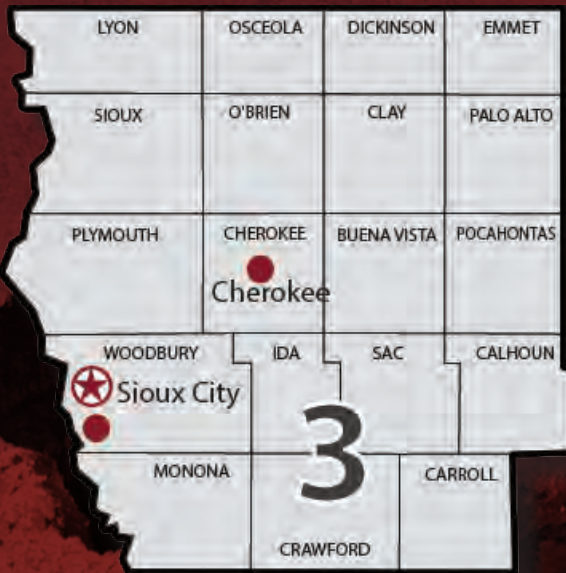
Map of Workzone Crashes



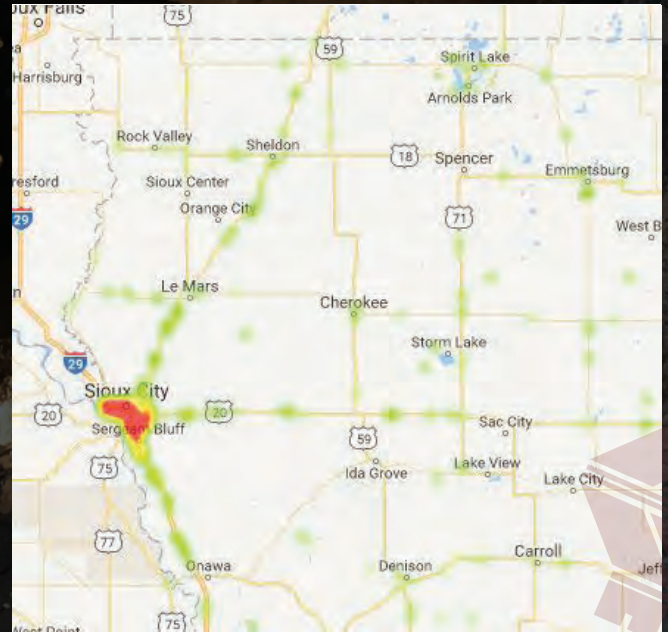
3
secondary
crashes

3
workzone
crashes

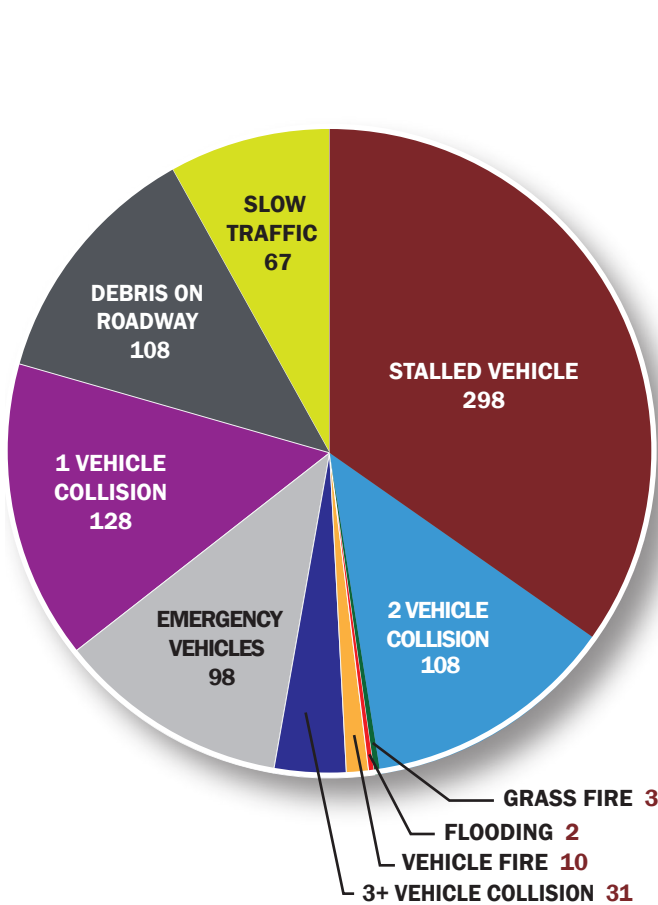
DISTRICT 3



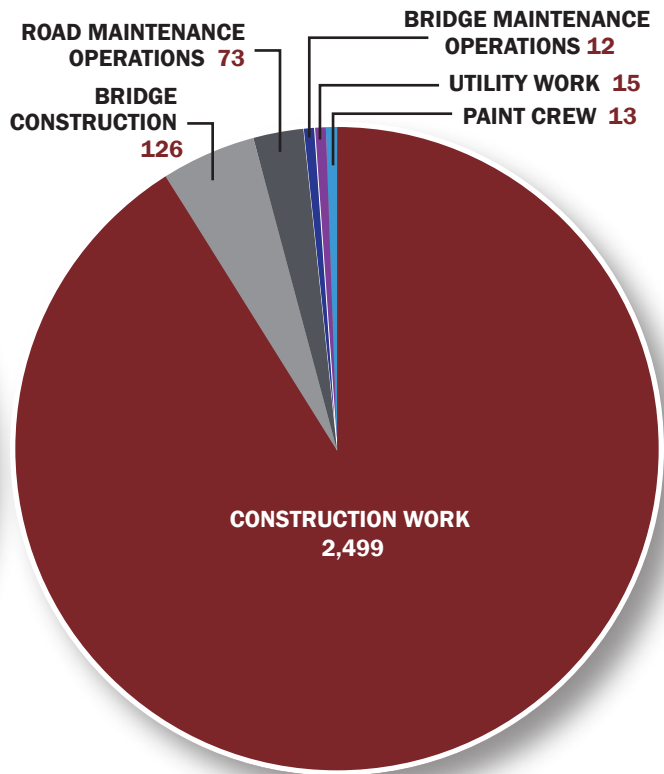
Heat Map of Incidents



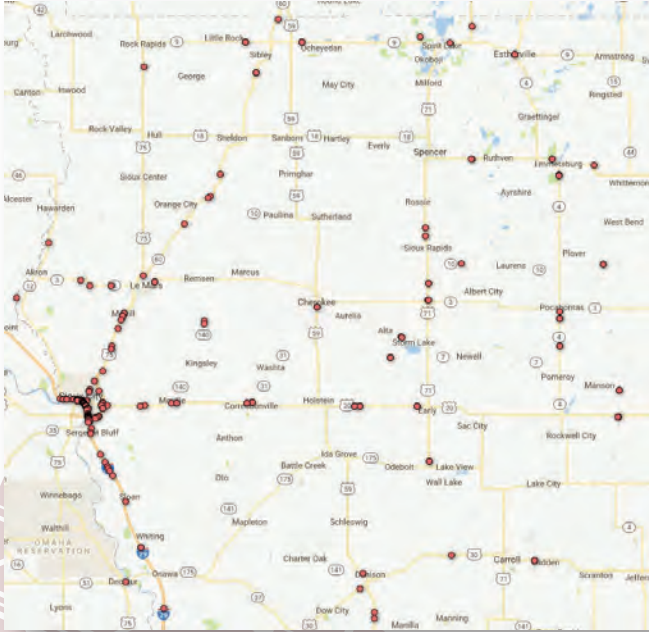
Incidents - 853 Total



Roadwork - 2,738 Total



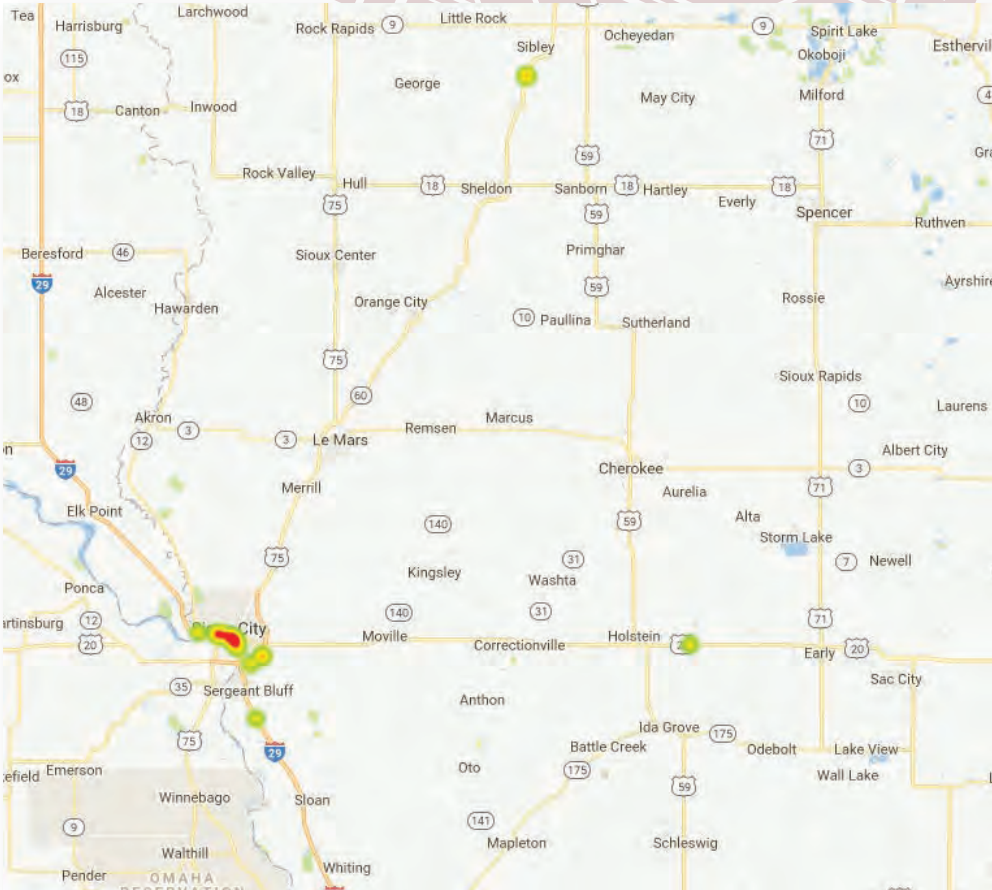
Map of Lane Blocking Incidents



66 min
average time
to clear lanes

281
lane blocking
incidents

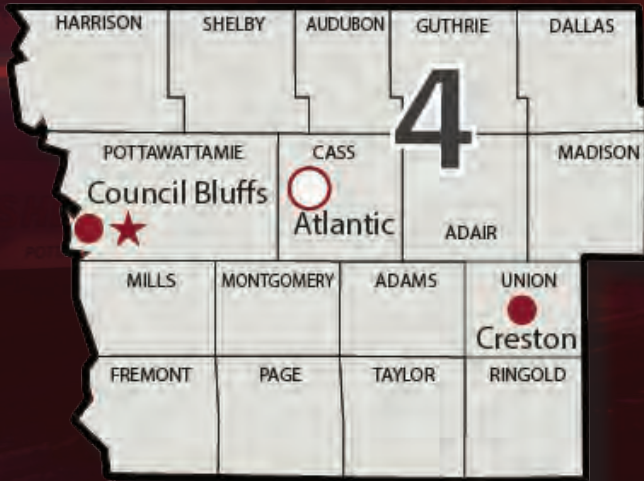
Map of Workzone Crashes



6
secondary
crashes

21
workzone
crashes

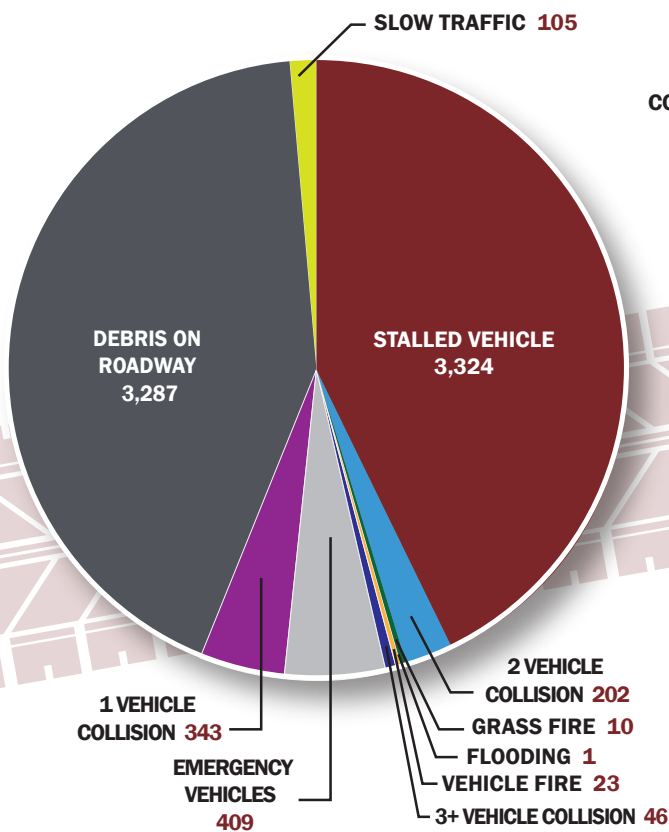
DISTRICT 4



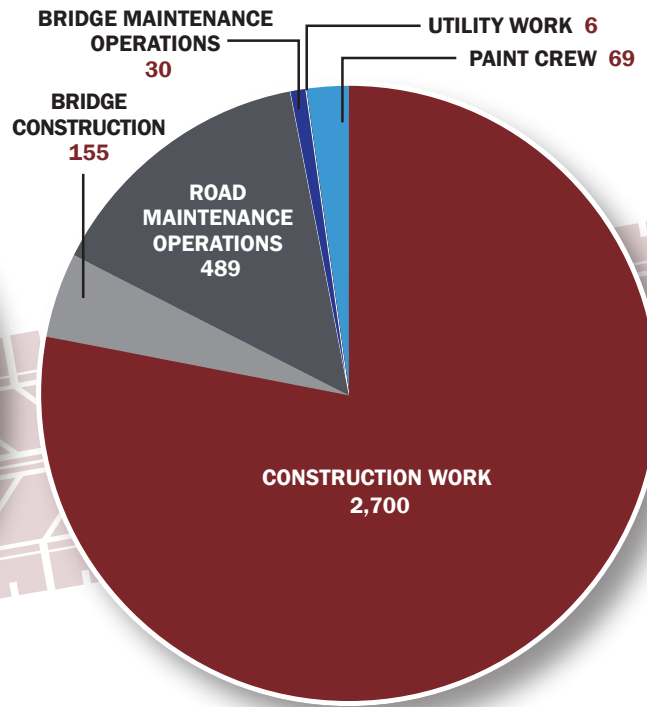
Heat Map of Incidents



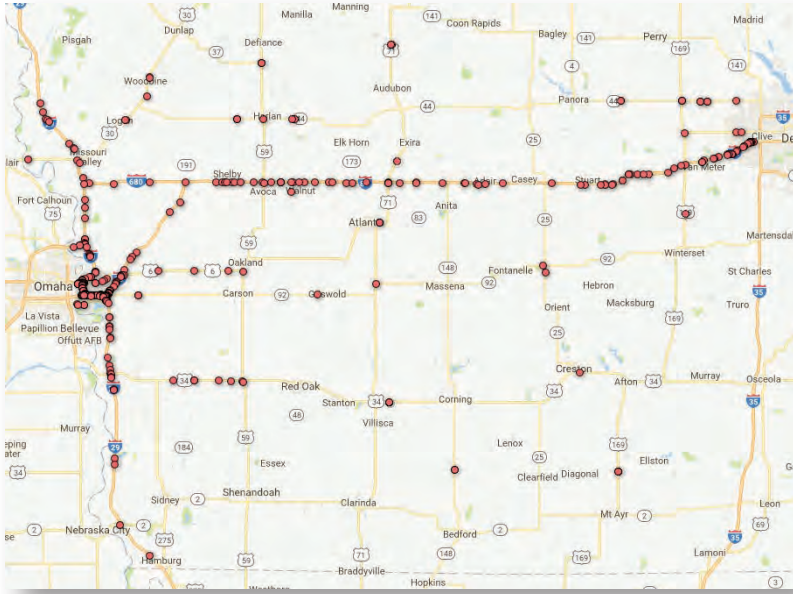
Incidents - 7,750 Total



Roadwork - 3,449 Total



Map of Lane Blocking Incidents



58 min
average time
to clear lanes

438
lane blocking
incidents

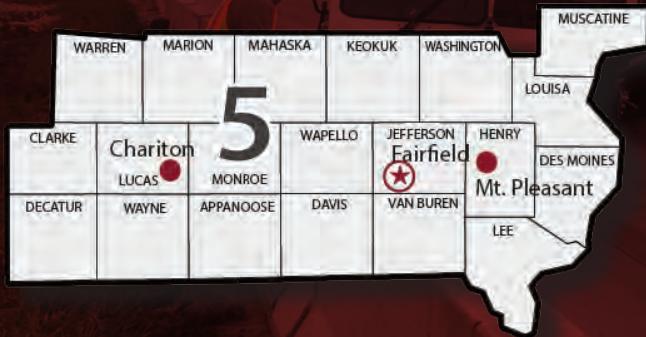
Map of Workzone Crashes



9
secondary
crashes

8
workzone
crashes

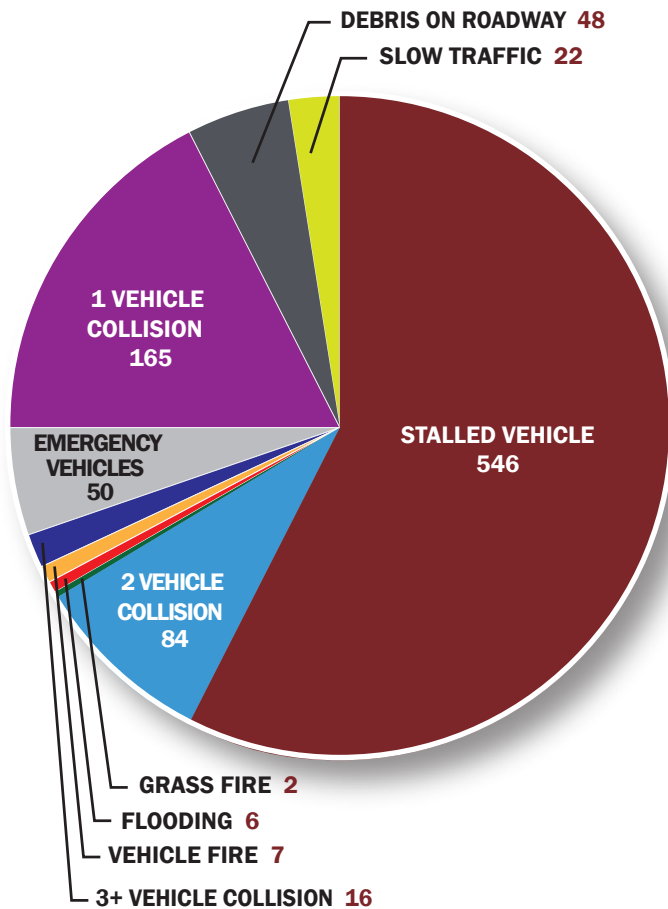
DISTRICT 5



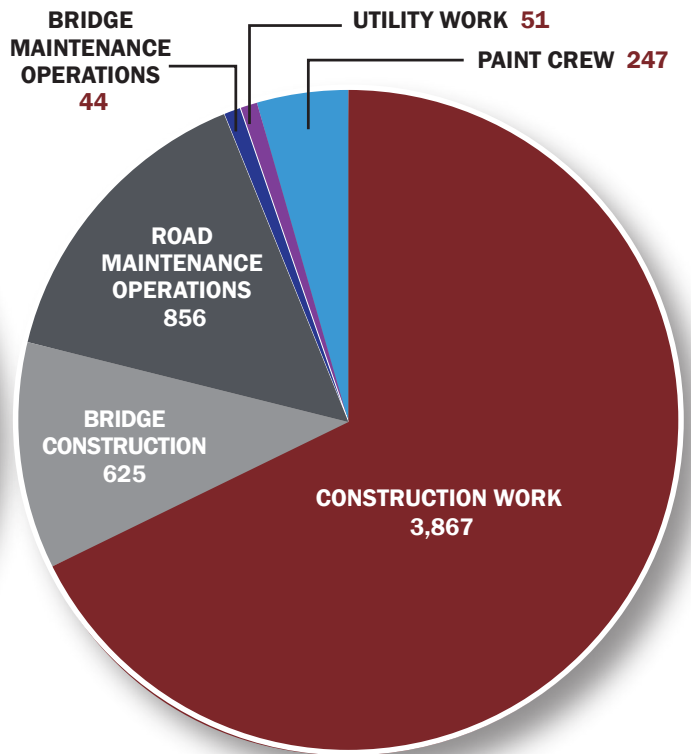
Heat Map of Incidents



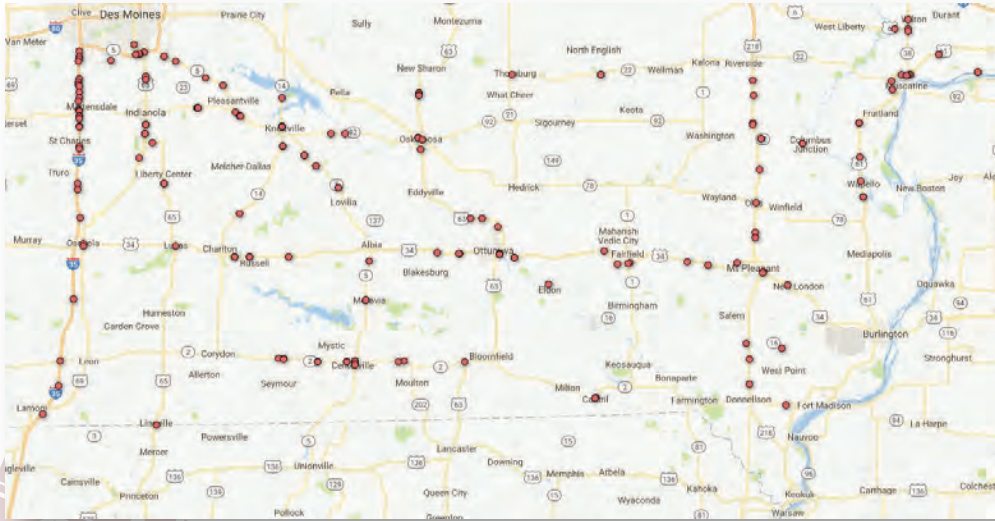
Incidents – 946 Total



Roadwork – 5,690 Total



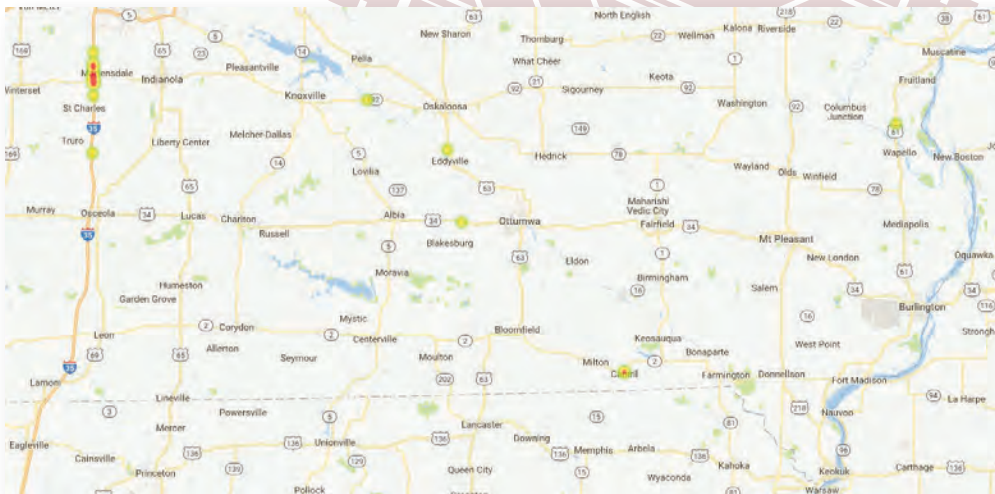
Map of Lane Blocking Incidents



94 min
average time
to clear lanes

191
lane blocking
incidents

Map of Workzone Crashes



1
secondary
crashes

18
workzone
crashes

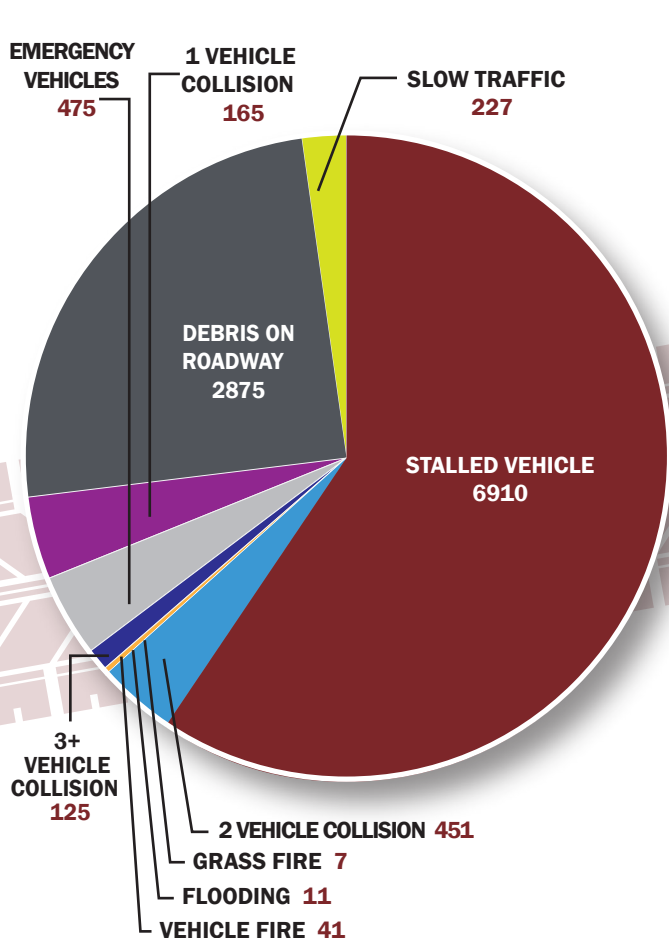
DISTRICT 6



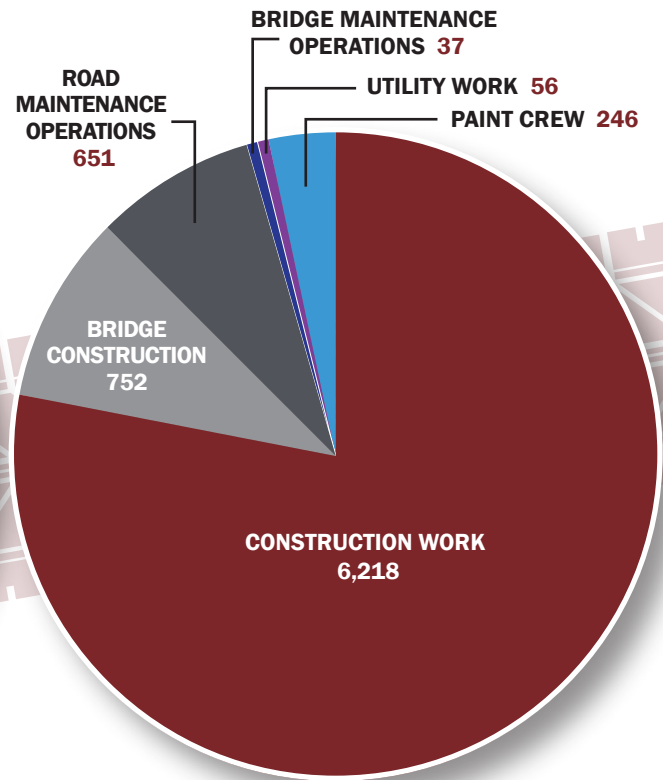
Heat Map of Incidents



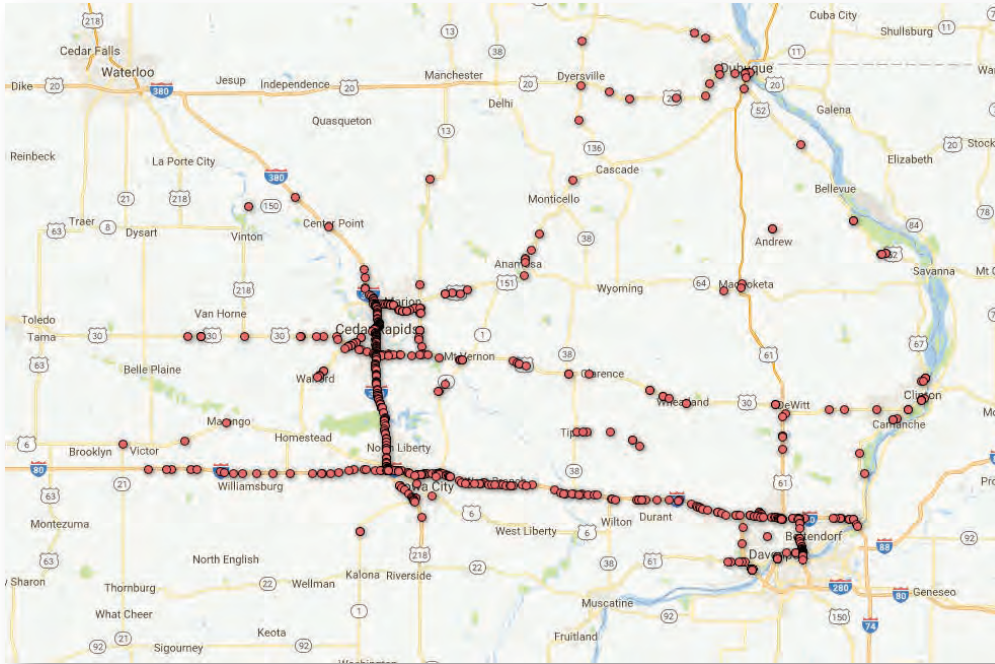
Incidents - 11,621 Total



Roadwork - 7,960 Total



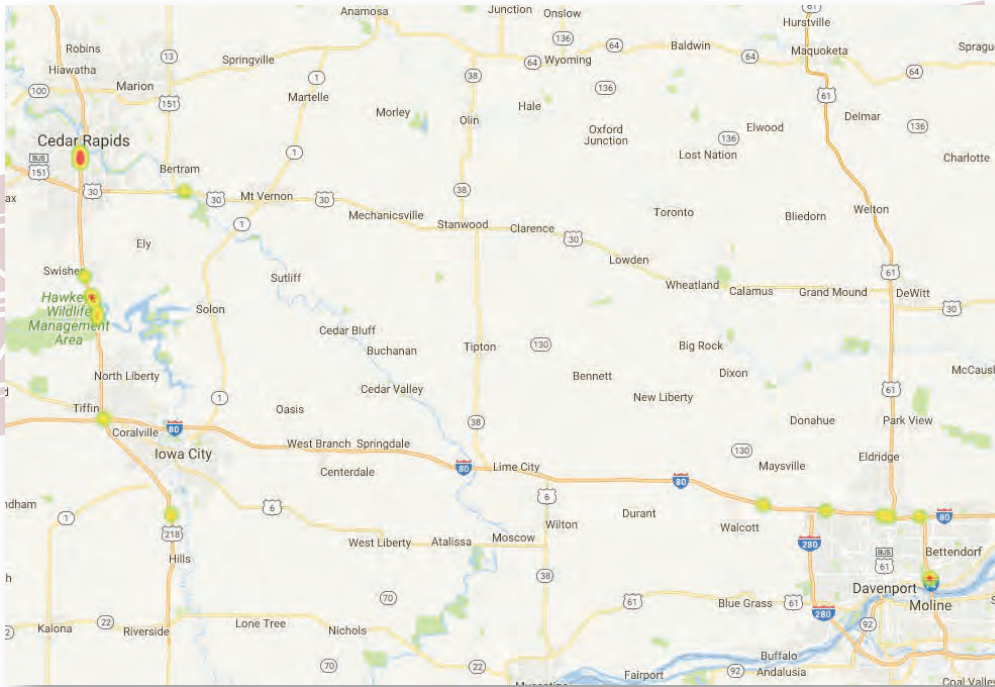
Map of Lane Blocking Incidents



48 min
average time
to clear lanes

805
lane blocking
incidents

Map of Workzone Crashes



53
secondary
crashes

24
workzone
crashes



800 Lincoln Way, Ames, IA 50010
t: 515.239.1101

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