TRAFFIC ENGINEERING ASSISTANCE PROGRAM

IA 25
Corridor Study

Prepared for:

City of Creston

In Cooperation With:
Iowa Department of Transportation &
Iowa Department of Public Safety
Governor's Traffic Safety Bureau

November 8, 2019

IOWA DOT

Iowa Department of Public Safety
GOVERNOR'S TRAFFIC SAFETY BUREAU

SNYDER & ASSOCIATES

IOWA | MISSOURI | NEBRASKA | SOUTH DAKOTA | WISCONSIN

November 8, 2019

Mike Taylor
City Administrator
City of Creston
116 W Adams Street / PO Box 449
Creston, Iowa 50801

RE: IA 25 CORRIDOR STUDY
CITY OF CRESTON
IOWA TRAFFIC ENGINEERING ASSISTANCE PROGRAM
S&A PROJECT NO.: 115.1000P

Dear Mr. Taylor:

Snyder & Associates has completed the IA 25 Corridor Study. Enclosed, for your use, are three copies of the final report.

The study was requested by the City of Creston and completed as part of Iowa's Traffic Engineering Assistance Program (TEAP). TEAP is managed by the Iowa Department of Transportation and is partially funded through the Iowa Governor's Traffic Safety Bureau, as provided by the U.S. Department of Transportation, in accordance with the provisions of Section 402, Title 23, United States Code. The opinions, findings and conclusions expressed in this report are those of Snyder & Associates, Inc.

We are pleased to provide assistance to the City of Creston through the completion of this study. Should you have any questions regarding this study, please contact us.

Sincerely,

SNYDER & ASSOCIATES, INC.

Brian Willham, P.E., PTOE
Project Manager

Enclosures

CC: Tim Crouch, P.E., Iowa DOT, Office of Traffic & Safety (electronic)
Vince Ehlert, P.E., Iowa DOT Local Systems (w/ 1 copy)
Wes Mayberry, P.E., Iowa DOT District 4 (w/ 1 copy)

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INFORMATION SHEET
IOWA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING ASSISTANCE PROGRAM

IA 25 CORRIDOR STUDY

November 8, 2019

1. Local Jurisdiction: City of Creston
2. Reason TEAP Study Originated: The City is concerned with operations and safety along the IA Highway 25 corridor and is interested in the potential for a 4-lane to 3-lane conversion from the intersection of Cottonwood Road to New York Ave. The City was also interested in understanding any potential lane reconfiguration needs for the Townline Street corridor from Sumner Avenue to N Cherry Street.
3. Scope of Services Provided: Performed field review of existing conditions, reviewed relevant crash history, identified and evaluated potential improvement options, prepared construction cost opinion, and developed recommendations per current standards.
4. The Engineer, Snyder & Associates, submitted a final report dated November 8, 2019 with the following recommendations:

IA 25 Corridor/ Intersections

- Consider converting the IA 25 corridor to a 3-lane configuration between Cottonwood Road and New York Avenue to improve safety and provide opportunities for additional multi-modal accommodations along the corridor.

- Remove the existing traffic signals at the intersection of IA 25 & Townline Rd and replace with Stop signs with solar powered overhead flashing beacons.

- Further investigate the potential removal of the traffic signals at IA 25 & Lincoln Street due to the recent crash patterns and relatively low volume of traffic on Lincoln Street. Further review the appropriate treatment for the crosswalk on the west side of the intersection in conjunction with Southwestern Community College and the adjacent neighborhood.

- Consider single-lane roundabouts as an alternative to the all-way stop or traffic signalization control along the corridor. Because construction costs would be higher and some right-of-way acquisition may be necessary, this could be a longer term solution for the corridor.

Townline Street Corridor

- The Townline Street corridor is recommended to remain in its current configuration with the exception of the existing 4-lane undivided roadway section near the

intersection with IA 25. The 4-lane section is recommended to be converted to a 2-lane section with a westbound left turn lane at the IA 25 intersection if IA 25 is converted as discussed above.

5. The order of magnitude project cost opinion for proposed improvements to the IA 25 corridor is $348,000. Further study would be required to determine costs for potential roundabout intersections at Lincoln Street, Townline Street, and Adams Street.
6. Potential funding sources include the Iowa DOT Traffic Safety Improvement Program (TSIP) and the Urban-State Traffic Engineering Program (U-STEP).

TRAFFIC ENGINEERING ASSISTANCE PROGRAM
IA 25 CORRIDOR STUDY
CRESTON, IOWA

Prepared by:

Snyder & Associates, Inc.

Prepared for:

City of Creston

In Cooperation with:

Iowa Department of Transportation &
Iowa Department of Public Safety
Governor's Traffic Safety Bureau

November 8, 2019

LICENSED PROFESSIONAL ENGINEER
BRIAN J. WILLHAM
17122
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa

B J Willham 11/8/19

Brian J. Willham, P.E. Date
License Number 17122
My License Renewal Date is December 31, 2019
Pages or sheets covered by this seal
ALL

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- Exhibit 1: Existing & Proposed Typical Mid-block and Intersection
- HCM/Synchro Capacity Analysis Reports
- Intersection Turning Movement Count Data
- Intersection Crash Reports (2014-2018)
- Corridor Crash Reports (2014-2018)

1. BACKGROUND

At the request of the City of Creston and the Iowa DOT, this study reviewed the current intersection operations and evaluated possible safety improvements along the IA Highway 25 study corridor. This study also includes a review of a potential 4-lane to 3-lane conversion of IA 25 from the intersection of Cottonwood Road to New York Ave. The Townline St corridor from Sumner Ave to N Cherry St was also reviewed for potential lane reconfigurations to improve traffic operations along the corridor. Refer to Figure 1 for the study location and corridor.

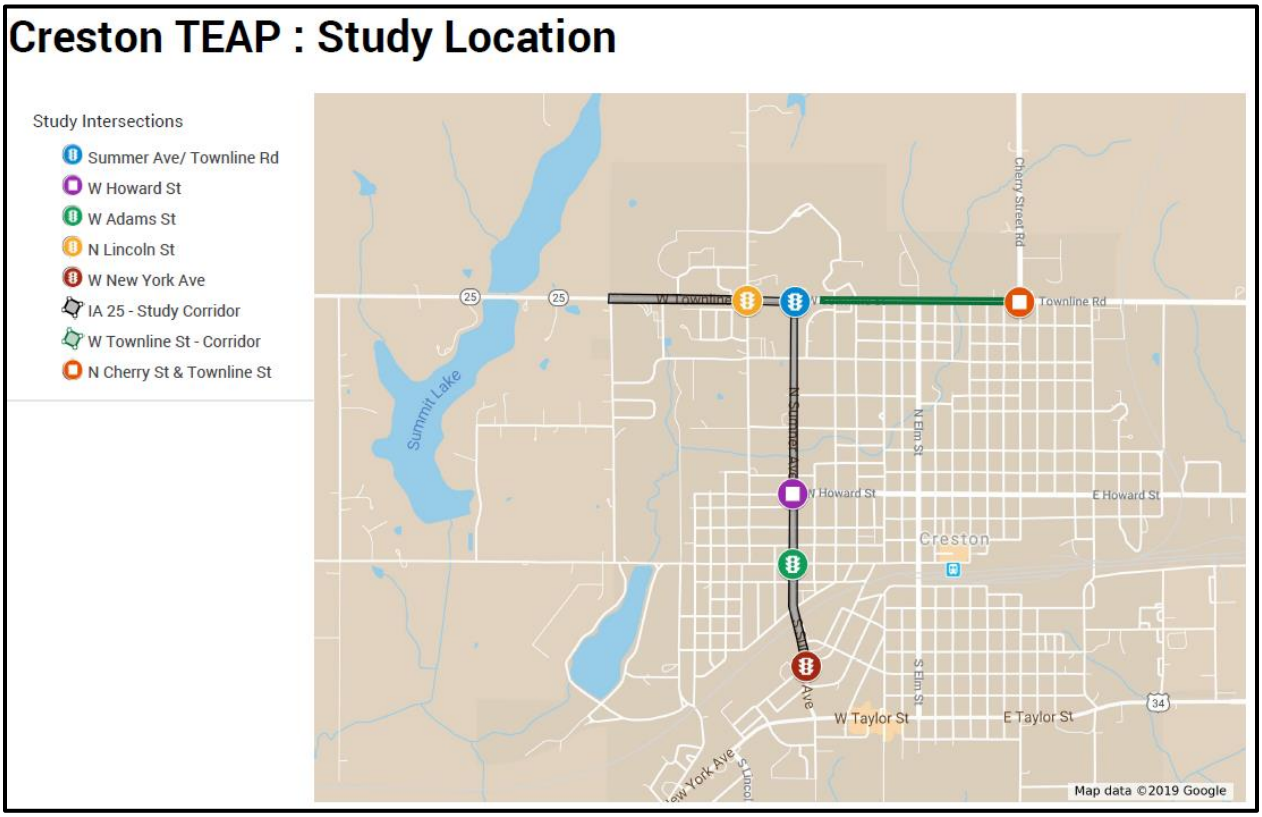


Figure 1: Study Location & Corridors

2. EXISTING CONDITIONS

IA 25 is mainly a north/south principal arterial that runs through the city of Creston. IA 25 is a 48 ft wide four lane roadway and urban cross section (curb/gutter) with no parking. Pedestrians are currently accommodated with sidewalks along certain parts of the study corridor depending on surrounding land usage. The posted speed limits on IA 25 through the city is 35 MPH, 45 MPH near the city limits and 55 MPH outside the city limits.

Townline St is an east/west minor arterial on the north side of Creston. Townline St is a four lane roadway that transitions to a two lane roadway west of N Spruce St to N Cherry St. The posted speed limit on Townline St is 25 MPH through the school zone and 35 MPH east of the intersection with N Elm St.

The 2016 traffic volume map for the city of Creston provided by the Iowa DOT shows an annual average daily traffic (AADT) of 4,930 vehicles per day (vpd) on IA 25 west of Sumner Ave, 4,750 vpd on IA 25 south of Townline St and 4,990 vpd on Townline St east of Sumner Ave. Figure 2 shows the AADT over time on IA 25 & Townline St within the city limits. There was a trend of growth in traffic on all three corridors until 2008 and a steep decline from 2008 to 2012.

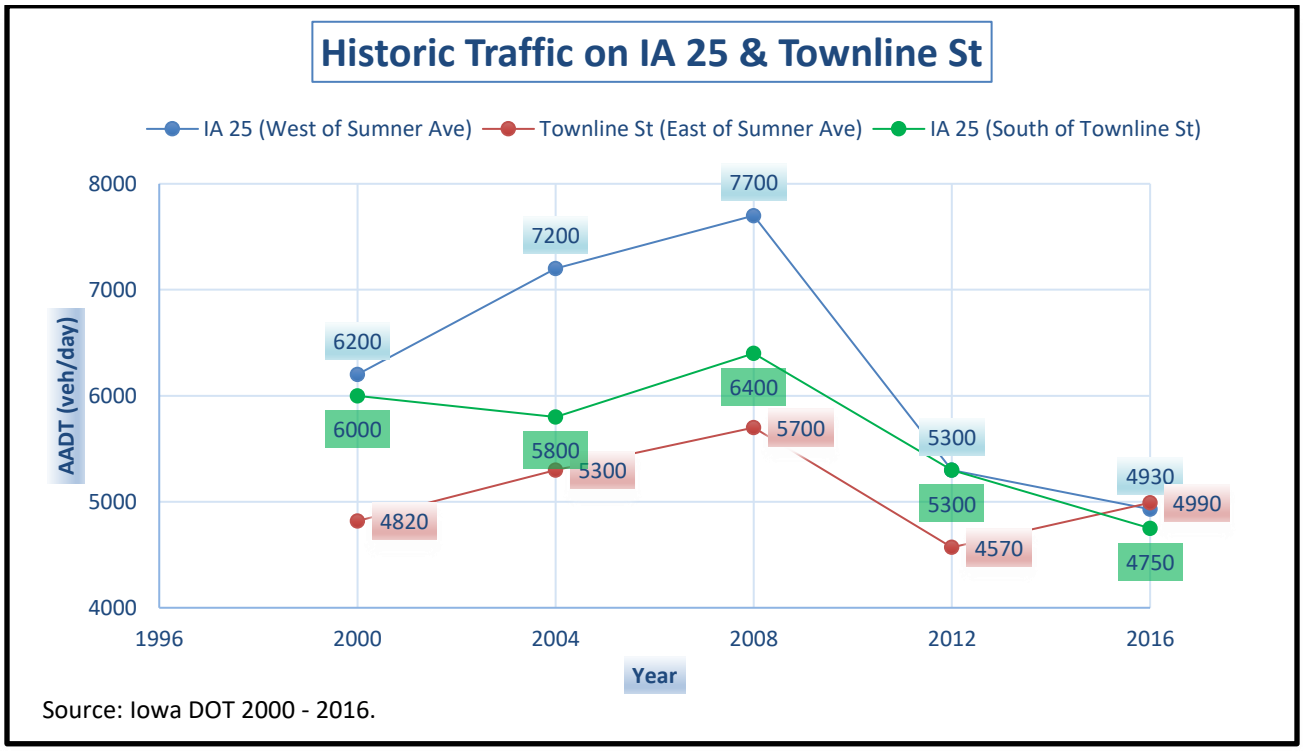


Figure 2: Historic AADT in the City of Creston

3. CRASH HISTORY

The crash history from 2014 through 2018 for the IA 25 corridor (Cottonwood Rd to New York Ave) and along Townline St (Sumner Ave to N Cherry St) was reviewed using reported crash data obtained from Iowa DOT's Iowa Crash Analysis Tool (ICAT). Crashes were reviewed for overall frequency as well as crash rates calculated based on annual average daily traffic (AADT). The review also included the crash severity, crash type, major causes, driver demographics, and time of day distribution.

Table 1 below summarizes all the crashes throughout the study corridor and Table 2 shows a similar summary for all of the study intersections. The statewide average crash rates for similar corridors and intersections are 382 crashes per hundred million vehicles miles (HMVM) and 0.8 crashes per million entering vehicles (MEV) respectively. Refer to the appendix for more crash data and collision diagrams.

Table 1: Corridor Crash Summary for IA 25 & Townline St (2014-2018)

Corridor Section	Crashes (Injuries)	Crash Severity	Crash Rate*	Predominant Crash Types (Crashes)	Predominant Major Causes (Crashes)
IA 25 (Cottonwood Rd to New York Ave)	105 (43)	16 Minor 14 Possible 75 PDO	480.7	·Rear-end (34) ·Broadside (31) ·Oncoming Left Turn (20) ·Sideswipe, same direction (8) ·Non-collision (6)	·FTYROW: Making left turn (23) ·Followed Too Close (18) ·FTYROW: From Stop Sign (9) ·Ran Traffic Signal (8) ·Other (4)
Townline St (East of Sumner Ave to Cherry St)	14 (5)	3 Possible 11 PDO	160.1	·Broadside (8) ·Rear-end (2) ·Oncoming Left Turn (1)	·FTYROW: From Stop Sign (4) ·FTYROW: Making Left Turn (2) ·Exceeded Speed Limit (2)

* Crashes per hundred million vehicle-miles traveled
PDO = Property Damage Only
FTYROW = Failure to Yield Right of Way

Table 2: Study Intersection Crash Summary on IA 25 (2014-2018)

Intersection	Crashes (Injuries)	Crash Severity	Crash Rate*	Predominant Crash Types (Crashes)	Predominant Major Causes (Crashes)
IA 25 & Lincoln St	12 (4)	2 Minor 2 Possible 8 PDO	1.00	·Broadside (6) ·Oncoming Left Turn (4)	·Ran Traffic Signal (6) ·FTYROW: Making Left Turn (4)
IA 25 & Townline Rd	10 (2)	2 Minor 8 PDO	0.63	·Sideswipe, same direction (4) ·Broadside (4)	·FTYROW: Making Left Turn (3) ·Other (2)
IA 25 & Howard St	3 (3)	2 Possible 1 PDO	0.23	·Broadside (2) ·Rear-end (1)	·FTYROW: Stop Sign (2) ·Driver Distraction (1)
IA 25 & Adams St	31 (9)	4 Minor 3 Possible 24 PDO	1.17	·Oncoming Left Turn (11) ·Rear-end (9) ·Broadside (5)	·FTYROW: Making Left Turn (12) ·Followed Too Close (6) ·Ran Traffic Signal (2)
IA 25 & New York Ave	11 (6)	2 Minor 1 Possible 8 PDO	0.46	·Rear-end (8) ·Broadside (2)	·Followed Too Close (5) ·Other (3)
Cherry St & Townline St	2 (1)	1 Possible 1 PDO	0.19	·Broadside (2)	·FTYROW: Driveway (1) ·Ran Stop Sign (1)

* Crashes per million entering vehicles | PDO = Property Damage Only | FTYROW = Failure to Yield Right of Way

In general, IA 25 has not performed well with respect to safety, with a higher than average corridor crash rate and multiple intersections near or above the statewide average intersection crash rate. A total of 16 minor injury crashes occurred throughout the corridor resulting in 22 minor/non-incapacitating injuries. There were no fatal or serious injury crashes reported in the last 5 years along the study corridor. Figure 3 below shows distribution of crash severity every year along IA 25 study corridor.

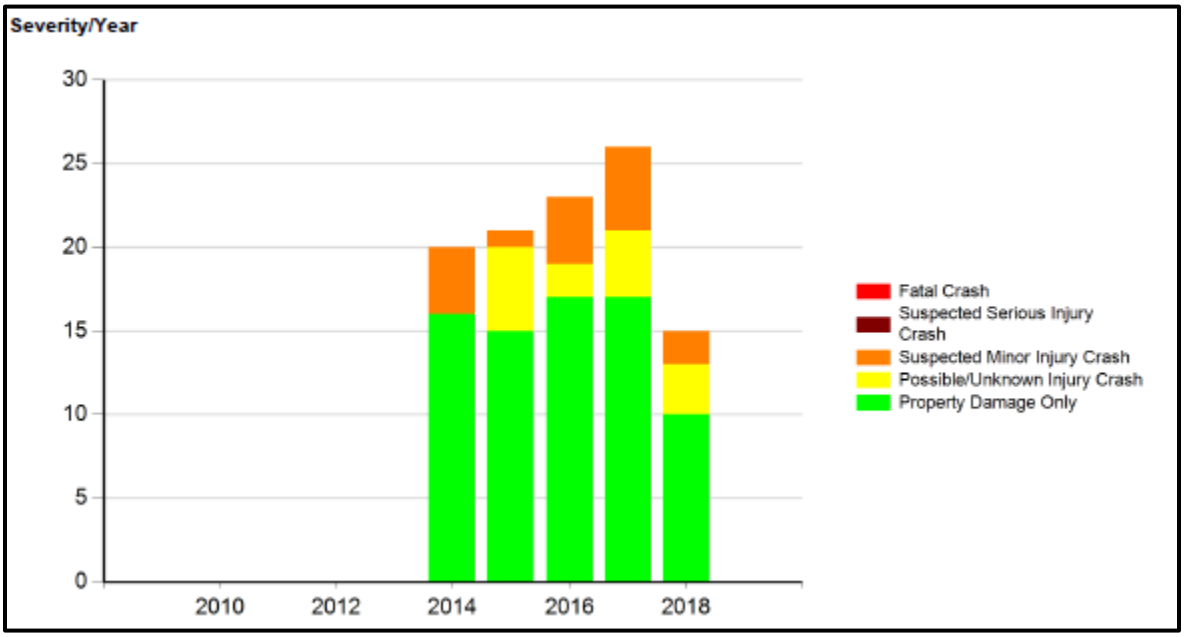


Figure 3: Reported Crash Severity Distribution on IA 25 Corridor 2014-2018

The predominant crash types are rear-end, broadside and angle, oncoming left turn. These crashes were mostly caused by following too close, violating traffic regulations such as running a red light and failing to yield when making a left turn.

The high number of rear-end crashes indicate safety concerns related to vehicles stopping. Out of 34 rear-end crashes throughout the study corridor, 18 of them occurred at signalized intersections, indicating a potential concern with through traffic not stopping for left turning traffic or clearance interval timings. Oncoming left turn and broadside crashes along the corridor indicate potential line of sight issues for turning traffic.

The broadside crashes reported at IA 25 and Lincoln Street were caused by either eastbound or westbound drivers running the traffic signal, indicating a potential concern with clearance interval timings or drivers becoming accustomed to the traffic signal not changing on a regular basis.

The Townline St corridor from Sumner Ave to N Cherry St has performed well with respect to safety, with a lower than average corridor crash rate.

4. IA 25 CORRIDOR LANE RECONFIGURATION

The IA 25 corridor from Cottonwood Rd to New York Ave was analyzed for reconfiguration from its current 4-lane configuration to a 3-lane with a continuous two-way left turn lane (TWLTL). Per the FHWA Road Diet Informational Guide, roadways that carry less than 20,000 vehicles per day may be good candidates for the 4-lane to 3-lane reduction. The criteria that were evaluated in the analysis were current daily traffic volumes, historic crash patterns, crash frequency, and predominant major causes for crashes along the corridor.

Crashes along the corridor that occur due to "Failure to yield right of way" (FTYROW) when making a left turn and "Followed too close" can be reduced by removing left turning vehicles from through traffic lanes. Opposite direction crashes can be extremely severe since opposing vehicles have high relative speeds. Cross-centerline crashes can be reduced with wider lanes and/or a TWLTL between opposing lanes of traffic. Operational and safety benefits of a 4-lane to 3-lane conversion include:

- Reduction in crashes by 19-47% (Source: *FHWA Road Diet Informational Guide*)
- Separating Left Turns – Reduce the crash potential by removing left turning vehicles from through traffic lanes and reducing vehicle shadowing from opposing left turn vehicles.
- Side-street Traffic– Vehicles can more comfortably enter the mainline roadway because there are fewer lanes to cross. Gaps in mainline traffic are more defined.
- Slower Traffic Speeds – Reducing the number and/or width of travel lanes encourages drivers to drive the speed limit and can lead to fewer and less severe traffic crashes.
- Speed Differential Reductions - The reduction of speed differential due to a road diet provides more consistent traffic flow and less "accordion-style" slow-and-go operations along the corridor.
- Opportunity to provide on-street bicycle lanes or additional space between travel lanes and sidewalks.
- TWLTL can be used by emergency vehicles.
- Improved pedestrian crossing opportunities, fewer lanes to cross and possible median pedestrian refuge area.
- Removing heavy vehicles from the gutter line can decrease the rate of deterioration of existing pavement

Additional information regarding 4-lane to 3-lane conversions is available at https://iowadot.gov/traffic/4-to-3-lane-conversion/3-lane-roads

5. TRAFFIC SIGNAL WARRANT ANALYSIS

2009 Manual on Uniform Traffic Control Devices (MUTCD) traffic signal warrants were reviewed for the IA 25 intersections with Lincoln Street and Adams Street. Traffic data utilized in this analysis included 7-hour turning movement counts collected by the Iowa DOT in 2016.

Traffic signalization was found to be warranted for the Adams Street intersection (Warrants 2 and 3) and was found not to be warranted for the Lincoln Street intersection based on traffic volumes. There is a marked trail crossing on the west side of the Lincoln Street intersection, but pedestrian counts were not available to review the Pedestrian Crossing warrant.

6. CAPACITY ANALYSIS

Intersection capacity analysis was completed following the methods outlined in the Highway Capacity Manual, 6th Edition (HCM), incorporated into the traffic analysis software Synchro 10. Intersection delay is a function of traffic factors such as traffic volume, turning vehicles, vehicle types and arrival patterns as well as geometric factors such as number of lanes and traffic control. Intersection operations are categorized to average vehicular delay to level of service (LOS) criteria.

LOS A is considered the most desirable level, with the least delay, while LOS F experiences the most delay. LOS C is often considered the acceptable goal for intersection delay. Table 3 below shows LOS criteria defined by the HCM for unsignalized and signalized intersections.

Table 3 : Level of Service (LOS) Definition

LOS	Average Delay per Vehicle (sec)	
	Unsignalized Intersection	Signalized Intersection
A	Less than 10	Less than 10
B	10-15	10-20
C	15-25	20-35
D	25-35	35-55
E	35-50	55-80
F	Greater than 50	Greater than 80

Capacity analysis was completed for existing conditions with existing traffic and for the proposed scenario of a 4-3 lane conversion of IA 25 from Cottonwood Road to New York Ave. Results of AM and PM peak hour capacity analyses for the study scenarios (existing geometry and traffic, proposed geometry and existing traffic) are summarized in Tables 4 & 5.

Table 4: *Synchro 10* 2019 Existing Capacity Analysis (AM & PM Peak)

Intersection	Control	Approach	Delay (sec/veh) / LOS		Queueing (ft)*			
			AM Peak	PM Peak	AM Peak		PM Peak	
IA 25 & Lincoln St	Signal	Overall	4.6 / A	5.7 / A	NB	25	NB	25
					SB	25	SB	30
					EB	25	EB	25
					WB	25	WB	25
IA 25 & Townline Rd	All-way Stop	Overall	11.2 / B	12.0 / B	NB	40	NB	40
					SB	25	SB	25
					EB	50	EB	40
					WB	25	WB	60
IA 25 & Howard St	Two-way Stop	EB	10.1 / B	11.3 / B	EB	25	EB	25
		WB	11.5 / B	11.1 / B	WB	25	WB	25
IA 25 & Adams St	Signal	Overall	5.8 / A	8.2 / A	NB	25	NB	60
					SB	25	SB	50
					EB	25	EB	30
					WB	25	WB	70
IA 25 & New York Ave	Signal	Overall	11.1 / B	14.0 / B	NB	100	NB	170
					SB	85	SB	140
					EB	35	EB	60
					WB	45	WB	40
Cherry St & Townline Rd	All-way Stop	Overall	8.6 / A	9.7 / A	NB	25	NB	25
					SB	25	SB	30
					EB	25	EB	30
					WB	25	WB	25

* Note: A minimum of 25 ft was assumed to be the minimum queue length, which is equivalent to one vehicle. Queue length reported is 95%ile based on Synchro (for signalized) and HCM (for Stop-controlled) Analysis.

Table 5: *Synchro 10* 2019 Proposed 4 - 3 lane scenario Capacity Analysis (AM & PM Peak)

Intersection	Control	Approach	Delay (sec/veh) / LOS		Queueing (ft)*			
			AM Peak	PM Peak	AM Peak		PM Peak	
IA 25 & Lincoln St	Signal	Overall	5.1 / A	6.5 / A	NB	25	NB	25
					SB	25	SB	30
					EB	25	EB	35
					WB	30	WB	50
IA 25 & Townline Rd	All-way Stop	Overall	12.8 / B	12.8 / B	NB	40	NB	40
					SB	25	SB	25
					EB	90	EB	65
					WB	25	WB	60
IA 25 & Howard St	Two-way Stop	EB	10.6 / B	11.6 / B	EB	25	EB	25
		WB	12.3 / B	11.7 / B	WB	25	WB	25
IA 25 & Adams St	Signal	Overall	9.6 / A	14.6 / B	NB	105	NB	240
					SB	85	SB	175
					EB	40	EB	60
					WB	60	WB	135
IA 25 & New York Ave	Signal	Overall	10.5 / B	13.3 / B	NB	100	NB	170
					SB	85	SB	140
					EB	35	EB	60
					WB	45	WB	40

* Note: A minimum of 25 ft was assumed to be the minimum queue length, which is equivalent to one vehicle. Queue length reported is 95%ile based on Synchro (for signalized) and HCM (for Stop-controlled) Analysis.

The capacity analysis indicates that reconfiguration of IA 25 from a 4-lane undivided to a 3-lane roadway with a continuous TWLTL would result in slight increases in delay at intersections along the study corridor as well as small increases in queue lengths for north and south approaches at the intersections.

Because the intersection of IA 25 and Lincoln Street was found to not meet traffic signal warrants based on traffic volumes, a modeling scenario was completed with two-way stop control traffic control at the intersection. The intersection is anticipated to operate with acceptable levels of service during the peak hours of the day. The following capacity results were reported for the southbound movement (critical movement) from the traffic modeling:

- 4-lane undivided roadway (AM Peak) – LOS B (10.6 sec delay) / 25’ Queue
- 4-lane undivided roadway (PM Peak) – LOS B (12.6 sec delay) / 25’ Queue
- 3-lane roadway (AM Peak) – LOS B (11.1 sec delay) / 25’ Queue
- 3-lane roadway (PM Peak) – LOS B (13.2 sec delay) / 25’ Queue

The intersection of Cherry Street and Townline Road currently operates well and is expected to continue to operate at an acceptable level into the future.

7. CONCLUSIONS/RECOMMENDATIONS

A. IA 25 Corridor/ Intersections

Because average daily traffic on IA 25 is well below the typical threshold for a 4-lane to 3-lane reduction and there is a pattern of crashes typically associated with 4-lane undivided roadways, it is recommended that the City and Iowa DOT further consider converting the street to a 3-lane configuration. The crash rate along the corridor is higher than the state average for similar corridors. As reported, a 4-lane to 3-lane reconfiguration could potentially reduce crashes and also improve traffic flow along the study corridor. The proposed changes would also align with the existing configuration of IA 25 south of Fremont Street, which is a 3 lane road with a TWLTL.

The intersection of IA 25 & Townline Rd is currently functioning as an All-way Stop controlled intersection with existing traffic signals continuously flashing red. It is recommended that the signals and the stop signs on wood posts be removed and replaced with Stop signs with solar powered flashing beacons.

It is recommended to further investigate the potential of the removal of the traffic signals at IA 25 & Lincoln Street due to the recent crash patterns and relatively low volume of traffic on Lincoln Street. It is also recommended to further review the appropriate treatment for the crosswalk on the west side of the intersection in conjunction with Southwestern Community College and the adjacent neighborhood. There are several potential treatments that could be applicable including traditional pedestrian crossing signage, high visibility crosswalk markings, rectangular rapid flashing beacons, or maintaining traffic signalization.

An alternative to the all-way stop or traffic signalization control along the corridor would be to construct single-lane roundabouts. Roundabouts would likely improve safety, significantly reduce delays at the intersections, and have proven to safely accommodate pedestrian crossings. Because construction costs would be higher and some right-of-way acquisition may be necessary, this could be a longer term solution for the corridor. Additional information regarding roundabouts in Iowa can be found at https://iowadot.gov/traffic/roundabouts

B. Townline Street Corridor

The Townline Street corridor is recommended to remain in its current configuration with the exception of the existing 4-lane undivided roadway section near the intersection with IA 25. The 4-lane section is recommended to be converted to a 2-lane section with a westbound left turn lane at the IA 25 intersection if IA 25 is converted as discussed above. Although the pavement width could accommodate a 3-lane section along the Townline Street corridor, the following considerations are offered in support of retaining the existing 2-lane section:

- The two-lane section adjacent to the High School provides a shorter crossing distance for students or pedestrians and reduced potential for sight line obstructions due to turning vehicles, particularly at the N Sycamore intersection.
- The average daily traffic on the corridor (approximately 5,000 vehicles per day) is well within the capacity of a two-lane without turn lanes (approximately 9,500 vehicles per day).
- The crash history for the corridor is relatively low and most of the crash types that are occurring would not be impacted by the addition of a dedicated turn lane.

8. PROJECT COST OPINION

The project costs are based on the following assumptions:

- Pavement marking removals and new pavement markings on IA 25 from west of Cottonwood Rd to south of Jefferson St.
- Remove and Install new traffic signal poles and mast arms at the intersection of IA 25 & Adams St to accommodate the new lane configuration (only includes poles / mast arms for IA 25 traffic).
- Modify traffic control at the IA 25 & Lincoln Street intersection (further study required to determine recommended improvements, assumed to be $50,000 in this estimate)
- Traffic signal controller and cabinet modifications to accommodate new left turn signal phasing.
- Removal of traffic signal poles and mast arms at the intersection of IA 25 & Townline Rd and replace with All-way Stop signs with solar powered overhead flashing beacons.

Order of magnitude construction cost opinions for the proposed improvements are shown in Table 6.

Table 6: Opinion of Probable Project Costs (4-lane to 3-lane conversion of IA 25)

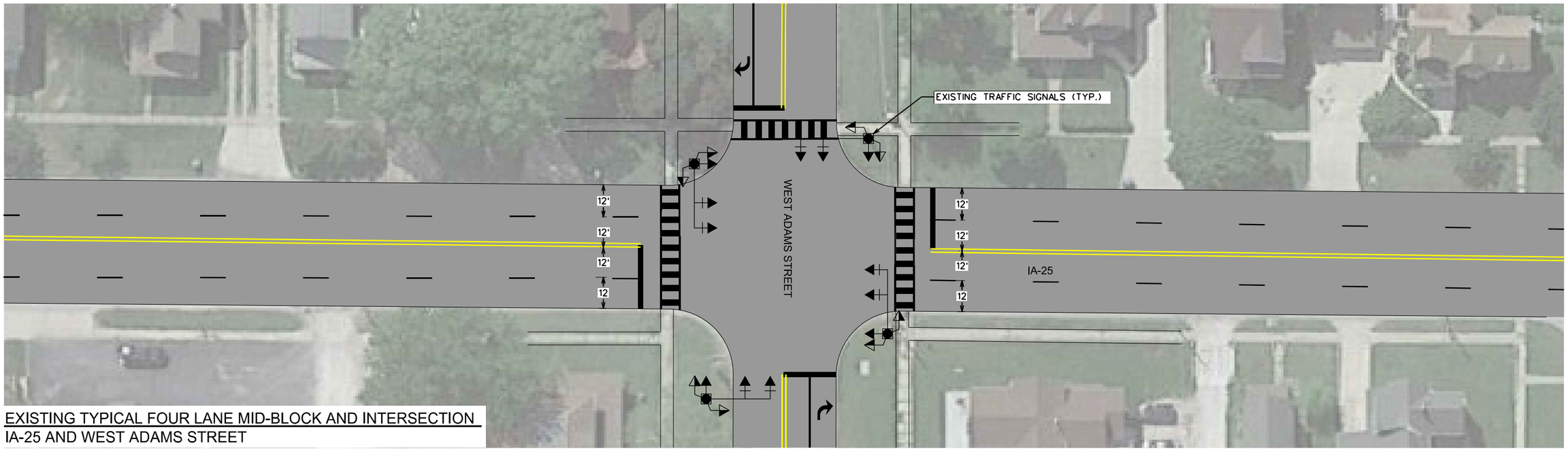
ITEM #	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
1	Pavement Marking Removals	280	STA	$ 35.00	$ 9,800.00
2	Pavement Markings	475	STA	$ 75.00	$ 35,625.00
3	Pavement Marking Symbols	1	LS	$ 20,000.00	$ 20,000.00
4	Traffic Signal Modifications	2	LS	$ 50,000.00	$ 100,000.00
5	Traffic Signal Removal	1	LS	$ 15,000.00	$ 15,000.00
6	4 Stop Signs with Overhead Flashing Beacon	1	LS	$ 25,000.00	$ 25,000.00
7	Traffic Signs	1	LS	$ 5,000.00	$ 5,000.00
8	Traffic Control / Mobilization (10%)	1	LS	$ 20,000.00	$ 20,000.00
				Subtotal (Rounded):	$ 231,000.00
				Contingency (20%):	$ 47,000.00
				CONSTRUCTION TOTAL:	$ 278,000.00
				Administration, Survey, Engineering, and Construction Services (25%)	$ 70,000.00
				TOTAL PROJECT COSTS	$ 348,000.00

9. POTENTIAL FUNDING SOURCES

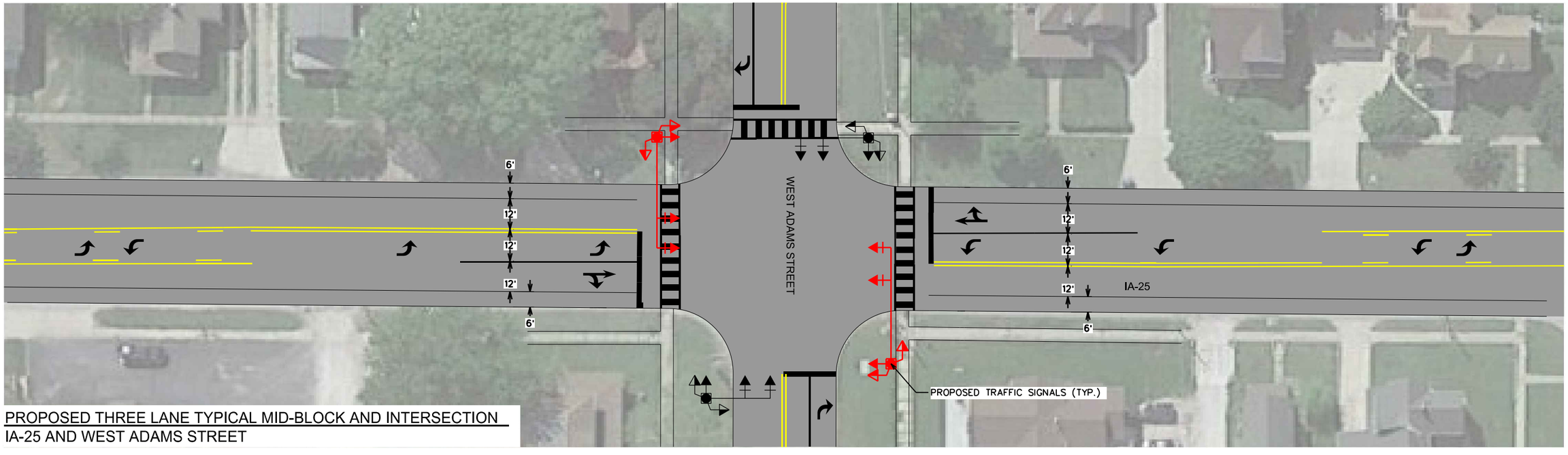
Funding for traffic safety improvements on public roads under county, city, or state jurisdiction may be available through the Traffic Safety Improvement Program (TSIP). The application deadline for TSIP funding is August 15th of each year. "Site specific" funding is eligible for up to $500,000 with no local match required. Application forms are available from the Iowa DOT, and the application is submitted to the Iowa DOT Office of Traffic and Safety.

The Urban-State Traffic Engineering Program (U-STEP) provides funding for solving traffic operation and safety problems on primary roads in Iowa Cities. City must match 45 percent of the constructions cost and the city must also engineer and administer the project. A maximum funding of $200,000 per project for spot improvements (single intersection) or a maximum of $400,000 per project for linear improvements (two or more intersections) is available through this program. Prior to approval of funding, Iowa DOT will review plans and specifications.

Further information on potential funding sources is available on the Iowa DOT website at: https://iowadot.gov/pol_leg_services/Funding-Guide.pdf



EXISTING TYPICAL FOUR LANE MID-BLOCK AND INTERSECTION
IA-25 AND WEST ADAMS STREET



PROPOSED THREE LANE TYPICAL MID-BLOCK AND INTERSECTION
IA-25 AND WEST ADAMS STREET

SNYDER & ASSOCIATES

0 20 40
FEET

City of Creston TEAP Study

IA-25 and West Adams Intersection

Union County, Iowa

07/08/2019

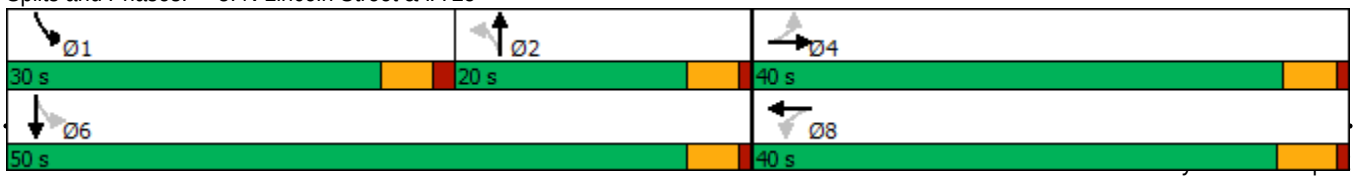
Lanes, Volumes, Timings
3: N Lincoln Street & IA 25

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	104	2	7	96	52	4	9	12	56	5	5
Future Volume (vph)	2	104	2	7	96	52	4	9	12	56	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.949			0.935			0.990	
Flt Protected		0.999			0.998			0.993			0.959	
Satd. Flow (prot)	0	3525	0	0	3352	0	0	1729	0	0	1769	0
Flt Permitted		0.952			0.946			0.933			0.953	
Satd. Flow (perm)	0	3359	0	0	3177	0	0	1625	0	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			57			13			5	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1348			907			1200			681	
Travel Time (s)		26.3			17.7			32.7			18.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	113	2	8	104	57	4	10	13	61	5	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	117	0	0	169	0	0	27	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5		22.5	22.5		14.5	14.5		15.0	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		30.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		22.2%	22.2%		33.3%	55.6%	
Maximum Green (s)	35.5	35.5		35.0	35.0		15.5	15.5		25.0	45.5	
Yellow Time (s)	3.5	3.5		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			5.0			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)											12.0	
Flash Dont Walk (s)											16.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		26.0			25.8			10.1			10.1	
Actuated g/C Ratio		0.78			0.77			0.30			0.30	
v/c Ratio		0.04			0.07			0.05			0.13	
Control Delay		3.9			3.2			6.8			8.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.9			3.2			6.8			8.8	
LOS		A			A			A			A	
Approach Delay		3.9			3.2			6.8			8.8	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		0			0			1			6	
Queue Length 95th (ft)		13			15			11			25	
Internal Link Dist (ft)		1268			827			1120			601	
Turn Bay Length (ft)												
Base Capacity (vph)		3359			3177			769			1757	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.03			0.05			0.04			0.04	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 33.3	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.13	
Intersection Signal Delay: 4.7	Intersection LOS: A
Intersection Capacity Utilization 30.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: N Lincoln Street & IA 25



Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	0	2	177	155	63	169	2	176	6	113	2	1
Future Vol, veh/h	0	2	177	155	63	169	2	176	6	113	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	192	168	68	184	2	191	7	123	2	1
Number of Lanes	0	0	2	0	0	2	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	11.3	10.7	11.6	9.6
HCM LOS	B	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	2%	0%	43%	0%	25%
Vol Thru, %	0%	5%	98%	36%	57%	98%	12%
Vol Right, %	0%	95%	0%	64%	0%	2%	62%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	119	91	244	148	87	8
LT Vol	176	0	2	0	63	0	2
Through Vol	0	6	89	89	85	85	1
RT Vol	0	113	0	155	0	2	5
Lane Flow Rate	191	129	98	265	160	94	9
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.354	0.197	0.162	0.401	0.277	0.156	0.016
Departure Headway (Hd)	6.67	5.493	5.911	5.448	6.223	5.99	6.432
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	539	653	608	662	577	599	556
Service Time	4.402	3.225	3.64	3.178	3.956	3.723	4.479
HCM Lane V/C Ratio	0.354	0.198	0.161	0.4	0.277	0.157	0.016
HCM Control Delay	13	9.6	9.8	11.8	11.3	9.8	9.6
HCM Lane LOS	B	A	A	B	B	A	A
HCM 95th-tile Q	1.6	0.7	0.6	1.9	1.1	0.5	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	5
Future Vol, veh/h	5
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	5
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	3	12	4	11	5	230	12	22	224	1
Future Vol, veh/h	0	1	3	12	4	11	5	230	12	22	224	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	3	13	4	12	5	250	13	24	243	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	429	565	122	437	559	132	244	0	0	263	0	0
Stage 1	292	292	-	267	267	-	-	-	-	-	-	-
Stage 2	137	273	-	170	292	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	510	433	906	503	436	893	1319	-	-	1298	-	-
Stage 1	692	670	-	715	687	-	-	-	-	-	-	-
Stage 2	852	683	-	815	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	490	422	906	491	425	893	1319	-	-	1298	-	-
Mov Cap-2 Maneuver	490	422	-	491	425	-	-	-	-	-	-	-
Stage 1	689	656	-	712	684	-	-	-	-	-	-	-
Stage 2	832	680	-	794	656	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.5	0.2	0.8
HCM LOS	B	B		

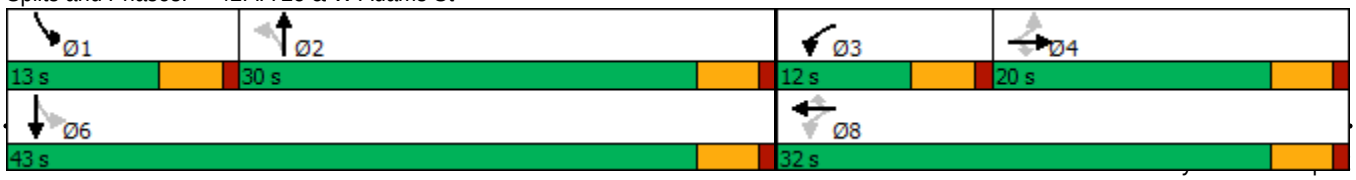
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1319	-	-	704	585	1298	-	-
HCM Lane V/C Ratio	0.004	-	-	0.006	0.05	0.018	-	-
HCM Control Delay (s)	7.7	0	-	10.1	11.5	7.8	0.1	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	45	26	72	33	51	19	175	77	37	179	13
Future Volume (vph)	19	45	26	72	33	51	19	175	77	37	179	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.957			0.992	
Flt Protected		0.985			0.967			0.996			0.992	
Satd. Flow (prot)	0	1835	1583	0	1801	1583	0	3373	0	0	3483	0
Flt Permitted		0.881			0.752			0.930			0.885	
Satd. Flow (perm)	0	1641	1583	0	1401	1583	0	3150	0	0	3107	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			87		84			12	
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		340			341			685			1328	
Travel Time (s)		7.7			7.8			13.3			30.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	49	28	78	36	55	21	190	84	40	195	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	28	0	114	55	0	295	0	0	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0	15.0	15.0		5.0	15.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	20.0	20.0	20.0	9.5	32.0	32.0	30.0	30.0		9.5	43.0	
Total Split (s)	20.0	20.0	20.0	12.0	32.0	32.0	30.0	30.0		13.0	43.0	
Total Split (%)	26.7%	26.7%	26.7%	16.0%	42.7%	42.7%	40.0%	40.0%		17.3%	57.3%	
Maximum Green (s)	15.5	15.5	15.5	7.5	27.5	27.5	25.5	25.5		8.5	38.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5		4.5			4.5	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		None	Min	
Walk Time (s)	0.0	0.0	0.0		7.0	7.0	7.0	7.0			8.0	
Flash Dont Walk (s)	15.0	15.0	15.0		15.0	15.0	12.0	12.0			12.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0			0	
Act Effct Green (s)		10.0	10.0		10.0	10.0		18.9			18.9	
Actuated g/C Ratio		0.29	0.29		0.29	0.29		0.55			0.55	
v/c Ratio		0.15	0.05		0.28	0.10		0.17			0.14	
Control Delay		9.8	0.2		11.4	2.2		4.4			5.6	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		9.8	0.2		11.4	2.2		4.4			5.6	
LOS		A	A		B	A		A			A	
Approach Delay		7.1			8.4			4.4			5.6	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		9	0		16	0		10			12	
Queue Length 95th (ft)		25	0		39	9		23			23	
Internal Link Dist (ft)		260			261			605			1248	
Turn Bay Length (ft)												
Base Capacity (vph)		746	802		1130	1293		2536			3107	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.09	0.03		0.10	0.04		0.12			0.08	

Intersection Summary	
Area Type: Other	
Cycle Length: 75	
Actuated Cycle Length: 34.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.28	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 42: IA 25 & W Adams St



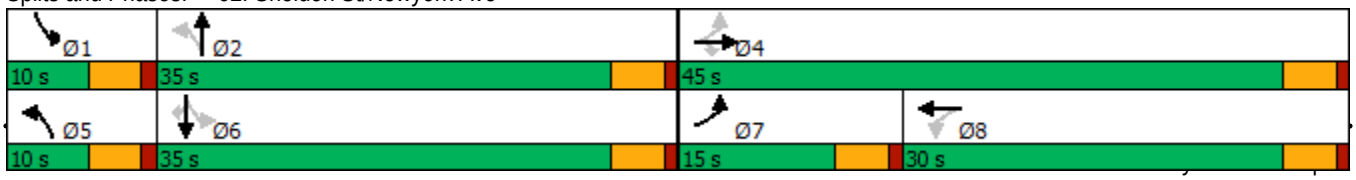
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	13	28	48	13	28	22	235	10	3	207	60
Future Volume (vph)	48	13	28	48	13	28	22	235	10	3	207	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	100		0	100		110
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.958			0.994				0.850
Flt Protected		0.962			0.974		0.950			0.950		
Satd. Flow (prot)	0	1792	1583	0	1738	0	1770	1852	0	1770	1863	1583
Flt Permitted		0.708			0.795		0.618			0.595		
Satd. Flow (perm)	0	1319	1583	0	1419	0	1151	1852	0	1108	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		25			3				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		418			325			1024			573	
Travel Time (s)		9.5			7.4			23.3			13.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	14	30	52	14	30	24	255	11	3	225	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	30	0	96	0	24	266	0	3	225	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (%)	16.7%	50.0%	50.0%	33.3%	33.3%		11.1%	38.9%		11.1%	38.9%	38.9%
Maximum Green (s)	10.5	40.5	40.5	25.5	25.5		5.5	30.5		5.5	30.5	30.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min		Min	Min	Min
Act Effct Green (s)		10.5	10.5		10.5		21.3	15.6		21.3	15.6	15.6
Actuated g/C Ratio		0.27	0.27		0.27		0.56	0.41		0.56	0.41	0.41
v/c Ratio		0.18	0.06		0.24		0.03	0.35		0.00	0.30	0.09
Control Delay		14.9	1.7		12.6		4.7	11.7		4.3	11.3	1.1
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		14.9	1.7		12.6		4.7	11.7		4.3	11.3	1.1
LOS		B	A		B		A	B		A	B	A
Approach Delay		10.8			12.6			11.1			9.0	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		14	0		15		2	49		0	41	0
Queue Length 95th (ft)		37	5		43		8	98		3	84	7
Internal Link Dist (ft)		338			245			944			493	
Turn Bay Length (ft)			50				100			100		110
Base Capacity (vph)		1253	1507		989		732	1508		715	1517	1312
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.05	0.02		0.10		0.03	0.18		0.00	0.15	0.05

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 38.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 10.5 — Intersection LOS: B
Intersection Capacity Utilization 40.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 62: Sheldon St/Newyork Ave



Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	65	31	9	135	10	40	12	4	28	49	70
Future Vol, veh/h	31	65	31	9	135	10	40	12	4	28	49	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	71	34	10	147	11	43	13	4	30	53	76
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.9	8.4	8.6
HCM LOS	A	A	A	A

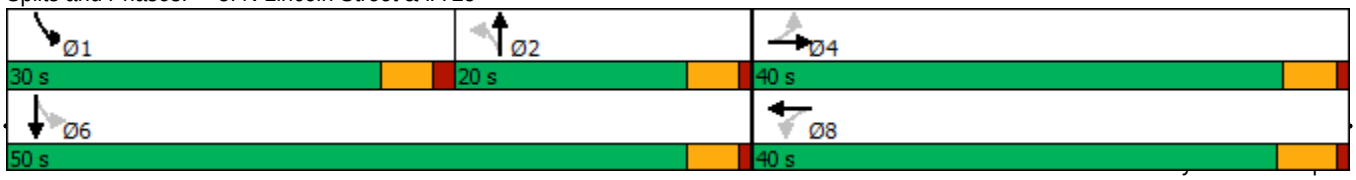
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	24%	6%	19%
Vol Thru, %	21%	51%	88%	33%
Vol Right, %	7%	24%	6%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	127	154	147
LT Vol	40	31	9	28
Through Vol	12	65	135	49
RT Vol	4	31	10	70
Lane Flow Rate	61	138	167	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.174	0.213	0.198
Departure Headway (Hd)	4.935	4.548	4.583	4.472
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	725	788	783	802
Service Time	2.973	2.582	2.615	2.504
HCM Lane V/C Ratio	0.084	0.175	0.213	0.2
HCM Control Delay	8.4	8.5	8.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.8	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	141	9	17	155	51	6	10	15	55	29	3
Future Volume (vph)	5	141	9	17	155	51	6	10	15	55	29	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.966			0.936			0.996	
Flt Protected		0.999			0.996			0.990			0.969	
Satd. Flow (prot)	0	3504	0	0	3405	0	0	1726	0	0	1798	0
Flt Permitted		0.948			0.934			0.913			0.788	
Satd. Flow (perm)	0	3325	0	0	3193	0	0	1592	0	0	1462	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			50			16			3	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2900			907			1200			681	
Travel Time (s)		56.5			17.7			32.7			18.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	153	10	18	168	55	7	11	16	60	32	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	0	0	241	0	0	34	0	0	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5		22.5	22.5		14.5	14.5		15.0	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		30.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		22.2%	22.2%		33.3%	55.6%	
Maximum Green (s)	35.5	35.5		35.0	35.0		15.5	15.5		25.0	45.5	
Yellow Time (s)	3.5	3.5		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			5.0			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)											12.0	
Flash Dont Walk (s)											16.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		23.1			22.8			10.0			10.0	
Actuated g/C Ratio		0.67			0.66			0.29			0.29	
v/c Ratio		0.08			0.11			0.07			0.22	
Control Delay		4.8			4.3			7.0			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.8			4.3			7.0			10.7	
LOS		A			A			A			B	
Approach Delay		4.8			4.3			7.0			10.7	
Approach LOS		A			A			A			B	
Queue Length 50th (ft)		7			10			2			13	
Queue Length 95th (ft)		17			21			13			33	
Internal Link Dist (ft)		2820			827			1120			601	
Turn Bay Length (ft)												
Base Capacity (vph)		3325			3193			723			1462	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.05			0.08			0.05			0.06	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 34.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.22	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 38.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: N Lincoln Street & IA 25



Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	0	5	131	147	154	178	13	166	18	66	7	19
Future Vol, veh/h	0	5	131	147	154	178	13	166	18	66	7	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	142	160	167	193	14	180	20	72	8	21
Number of Lanes	0	0	2	0	0	2	0	1	1	0	0	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	11	13	12.1	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	7%	0%	63%	0%	21%
Vol Thru, %	0%	21%	93%	31%	37%	87%	56%
Vol Right, %	0%	79%	0%	69%	0%	13%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	84	71	213	243	102	34
LT Vol	166	0	5	0	154	0	7
Through Vol	0	18	66	66	89	89	19
RT Vol	0	66	0	147	0	13	8
Lane Flow Rate	180	91	77	231	264	111	37
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.347	0.149	0.13	0.358	0.46	0.18	0.07
Departure Headway (Hd)	6.924	5.86	6.114	5.586	6.271	5.859	6.823
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	520	612	586	642	573	612	524
Service Time	4.664	3.6	3.857	3.329	4.011	3.599	4.882
HCM Lane V/C Ratio	0.346	0.149	0.131	0.36	0.461	0.181	0.071
HCM Control Delay	13.3	9.6	9.8	11.4	14.3	9.9	10.4
HCM Lane LOS	B	A	A	B	B	A	B
HCM 95th-tile Q	1.5	0.5	0.4	1.6	2.4	0.7	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	8
Future Vol, veh/h	8
Peak Hour Factor	0.92
Heavy Vehicles, %	2
Mvmt Flow	9
Number of Lanes	0

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	2	17	7	14	5	204	14	7	189	2
Future Vol, veh/h	1	4	2	17	7	14	5	204	14	7	189	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	2	18	8	15	5	222	15	8	205	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	347	469	104	361	463	119	207	0	0	237	0	0
Stage 1	222	222	-	240	240	-	-	-	-	-	-	-
Stage 2	125	247	-	121	223	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	583	491	931	570	495	910	1361	-	-	1327	-	-
Stage 1	760	718	-	742	706	-	-	-	-	-	-	-
Stage 2	866	701	-	870	718	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	562	486	931	560	490	910	1361	-	-	1327	-	-
Mov Cap-2 Maneuver	562	486	-	560	490	-	-	-	-	-	-	-
Stage 1	757	713	-	739	703	-	-	-	-	-	-	-
Stage 2	839	698	-	857	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	11.1	0.2	0.3
HCM LOS	B	B		

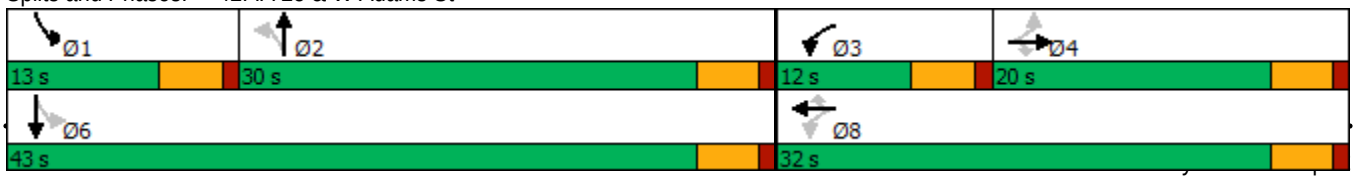
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1361	-	-	576	633	1327	-	-
HCM Lane V/C Ratio	0.004	-	-	0.013	0.065	0.006	-	-
HCM Control Delay (s)	7.7	0	-	11.3	11.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	66	55	124	83	50	26	269	113	30	254	26
Future Volume (vph)	20	66	55	124	83	50	26	269	113	30	254	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.958			0.988	
Flt Protected		0.988			0.971			0.997			0.995	
Satd. Flow (prot)	0	1840	1583	0	1809	1583	0	3380	0	0	3479	0
Flt Permitted		0.905			0.762			0.922			0.893	
Satd. Flow (perm)	0	1686	1583	0	1419	1583	0	3126	0	0	3123	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			87		81			19	
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		340			341			685			1328	
Travel Time (s)		7.7			7.8			13.3			30.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	72	60	135	90	54	28	292	123	33	276	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	60	0	225	54	0	443	0	0	337	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0	15.0	15.0		5.0	15.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	20.0	20.0	20.0	9.5	32.0	32.0	30.0	30.0		9.5	43.0	
Total Split (s)	20.0	20.0	20.0	12.0	32.0	32.0	30.0	30.0		13.0	43.0	
Total Split (%)	26.7%	26.7%	26.7%	16.0%	42.7%	42.7%	40.0%	40.0%		17.3%	57.3%	
Maximum Green (s)	15.5	15.5	15.5	7.5	27.5	27.5	25.5	25.5		8.5	38.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0		0.0			0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5		4.5			4.5	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		None	Min	
Walk Time (s)	0.0	0.0	0.0		7.0	7.0	7.0	7.0			8.0	
Flash Dont Walk (s)	15.0	15.0	15.0		15.0	15.0	12.0	12.0			12.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0			0	
Act Effct Green (s)		12.8	12.8		12.8	12.8		15.7			15.7	
Actuated g/C Ratio		0.34	0.34		0.34	0.34		0.42			0.42	
v/c Ratio		0.16	0.09		0.47	0.09		0.33			0.26	
Control Delay		8.7	0.3		12.7	1.6		7.6			8.3	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		8.7	0.3		12.7	1.6		7.6			8.3	
LOS		A	A		B	A		A			A	
Approach Delay		5.4			10.5			7.6			8.3	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		13	0		34	0		22			18	
Queue Length 95th (ft)		31	1		71	8		61			52	
Internal Link Dist (ft)		260			261			605			1248	
Turn Bay Length (ft)												
Base Capacity (vph)		730	772		1045	1189		2162			3054	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.13	0.08		0.22	0.05		0.20			0.11	

Intersection Summary	
Area Type: Other	
Cycle Length: 75	
Actuated Cycle Length: 37.6	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 8.2	Intersection LOS: A
Intersection Capacity Utilization 54.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 42: IA 25 & W Adams St

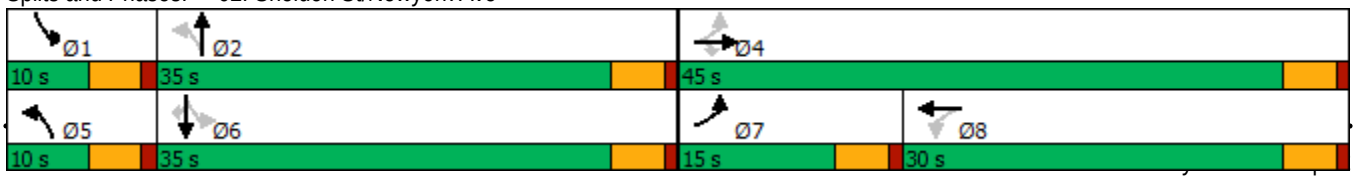


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	22	34	21	32	4	33	372	16	2	324	78
Future Volume (vph)	73	22	34	21	32	4	33	372	16	2	324	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	100		0	100		110
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.994				0.850
Flt Protected		0.963			0.982		0.950			0.950		
Satd. Flow (prot)	0	1794	1583	0	1813	0	1770	1852	0	1770	1863	1583
Flt Permitted		0.735			0.853		0.483			0.404		
Satd. Flow (perm)	0	1369	1583	0	1575	0	900	1852	0	753	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		4			3				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		418			325			1023			1317	
Travel Time (s)		9.5			7.4			23.3			29.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	24	37	23	35	4	36	404	17	2	352	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	37	0	62	0	36	421	0	2	352	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (%)	16.7%	50.0%	50.0%	33.3%	33.3%		11.1%	38.9%		11.1%	38.9%	38.9%
Maximum Green (s)	10.5	40.5	40.5	25.5	25.5		5.5	30.5		5.5	30.5	30.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min		Min	Min	Min
Act Effct Green (s)		11.0	11.0		11.0		23.1	17.4		23.1	17.4	17.4
Actuated g/C Ratio		0.25	0.25		0.25		0.53	0.40		0.53	0.40	0.40
v/c Ratio		0.30	0.08		0.16		0.06	0.57		0.00	0.48	0.12
Control Delay		18.7	2.5		15.8		4.8	15.3		4.5	13.8	1.6
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		18.7	2.5		15.8		4.8	15.3		4.5	13.8	1.6
LOS		B	A		B		A	B		A	B	A
Approach Delay		14.4			15.8			14.5			11.4	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		22	0		12		3	86		0	69	0
Queue Length 95th (ft)		63	9		40		12	170		2	138	11
Internal Link Dist (ft)		338			245			943			1237	
Turn Bay Length (ft)			50				100			100		110
Base Capacity (vph)		1215	1413		955		587	1330		529	1337	1172
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.08	0.03		0.06		0.06	0.32		0.00	0.26	0.07

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 43.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 62: Sheldon St/Newyork Ave



Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	96	28	15	151	37	70	56	9	10	37	65
Future Vol, veh/h	73	96	28	15	151	37	70	56	9	10	37	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	79	104	30	16	164	40	76	61	10	11	40	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	9.8	9.7	8.9
HCM LOS	A	A	A	A

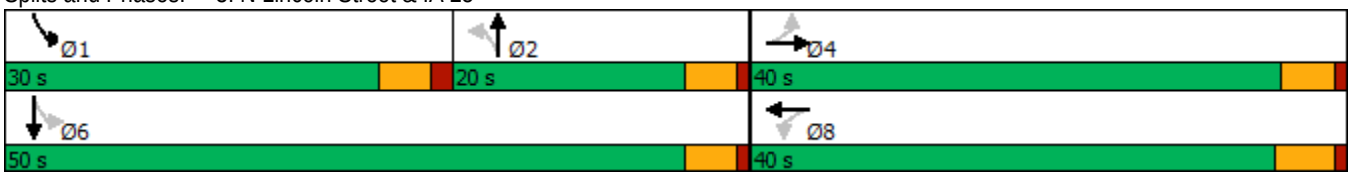
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	37%	7%	9%
Vol Thru, %	41%	49%	74%	33%
Vol Right, %	7%	14%	18%	58%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	197	203	112
LT Vol	70	73	15	10
Through Vol	56	96	151	37
RT Vol	9	28	37	65
Lane Flow Rate	147	214	221	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.212	0.289	0.293	0.164
Departure Headway (Hd)	5.19	4.862	4.776	4.844
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	732	746	732
Service Time	3.273	2.938	2.849	2.93
HCM Lane V/C Ratio	0.215	0.292	0.296	0.167
HCM Control Delay	9.7	9.9	9.8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1.2	1.2	0.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	104	2	7	96	52	4	9	12	56	5	5
Future Volume (vph)	2	104	2	7	96	52	4	9	12	56	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.947			0.935			0.990	
Flt Protected	0.950			0.950				0.993			0.959	
Satd. Flow (prot)	1770	1857	0	1770	1764	0	0	1729	0	0	1769	0
Flt Permitted	0.655			0.683				0.933			0.953	
Satd. Flow (perm)	1220	1857	0	1272	1764	0	0	1625	0	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			36			13			5	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2900			907			1200			681	
Travel Time (s)		56.5			17.7			32.7			18.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	113	2	8	104	57	4	10	13	61	5	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	115	0	8	161	0	0	27	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		14.5	14.5		15.0	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		30.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		22.2%	22.2%		33.3%	55.6%	
Maximum Green (s)	35.5	35.5		35.0	35.0		15.5	15.5		25.0	45.5	
Yellow Time (s)	3.5	3.5		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		5.0	5.0			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)											12.0	
Flash Dont Walk (s)											16.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	26.0	26.0		25.8	25.8			10.1			10.1	
Actuated g/C Ratio	0.78	0.78		0.77	0.77			0.30			0.30	
v/c Ratio	0.00	0.08		0.01	0.12			0.05			0.13	
Control Delay	5.0	4.2		5.0	3.9			6.8			8.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.0	4.2		5.0	3.9			6.8			8.8	
LOS	A	A		A	A			A			A	
Approach Delay		4.2			3.9			6.8			8.8	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	0	0		0	0			1			6	
Queue Length 95th (ft)	2	26		5	32			11			25	
Internal Link Dist (ft)		2820			827			1120			601	
Turn Bay Length (ft)	50			50								
Base Capacity (vph)	1220	1857		1272	1764			769			1757	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.06		0.01	0.09			0.04			0.04	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 33.3	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.13	
Intersection Signal Delay: 5.1	Intersection LOS: A
Intersection Capacity Utilization 30.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: N Lincoln Street & IA 25



Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	177	155	63	169	2	176	6	113	2	1	5
Future Vol, veh/h	2	177	155	63	169	2	176	6	113	2	1	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	192	168	68	184	2	191	7	123	2	1	5
Number of Lanes	1	1	0	0	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	15.2	10.8	11.8	9.7
HCM LOS	C	B	B	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	43%	0%	25%
Vol Thru, %	0%	5%	0%	53%	57%	98%	12%
Vol Right, %	0%	95%	0%	47%	0%	2%	62%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	119	2	332	148	87	8
LT Vol	176	0	2	0	63	0	2
Through Vol	0	6	0	177	85	85	1
RT Vol	0	113	0	155	0	2	5
Lane Flow Rate	191	129	2	361	160	94	9
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.358	0.2	0.004	0.559	0.278	0.157	0.016
Departure Headway (Hd)	6.736	5.558	6.413	5.576	6.236	6.003	6.562
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	645	558	646	576	597	544
Service Time	4.472	3.294	4.149	3.312	3.975	3.742	4.62
HCM Lane V/C Ratio	0.358	0.2	0.004	0.559	0.278	0.157	0.017
HCM Control Delay	13.2	9.7	9.2	15.2	11.4	9.9	9.7
HCM Lane LOS	B	A	A	C	B	A	A
HCM 95th-tile Q	1.6	0.7	0	3.5	1.1	0.6	0

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	3	12	4	11	5	230	12	22	224	1
Future Vol, veh/h	0	1	3	12	4	11	5	230	12	22	224	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	3	13	4	12	5	250	13	24	243	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	567	565	244	561	559	257	244	0	0	263	0	0
Stage 1	292	292	-	267	267	-	-	-	-	-	-	-
Stage 2	275	273	-	294	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	434	434	795	438	438	782	1322	-	-	1301	-	-
Stage 1	716	671	-	738	688	-	-	-	-	-	-	-
Stage 2	731	684	-	714	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	417	424	795	428	428	782	1322	-	-	1301	-	-
Mov Cap-2 Maneuver	417	424	-	428	428	-	-	-	-	-	-	-
Stage 1	713	659	-	735	685	-	-	-	-	-	-	-
Stage 2	713	681	-	697	659	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	12.3	0.2	0.7
HCM LOS	B	B		

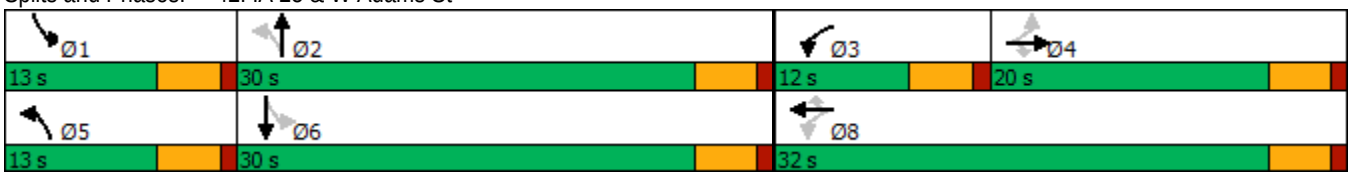
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	652	525	1301	-	-
HCM Lane V/C Ratio	0.004	-	-	0.007	0.056	0.018	-	-
HCM Control Delay (s)	7.7	-	-	10.6	12.3	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	45	26	72	33	51	19	175	77	37	179	13
Future Volume (vph)	19	45	26	72	33	51	19	175	77	37	179	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.954			0.990	
Flt Protected		0.985			0.967		0.950			0.950		
Satd. Flow (prot)	0	1835	1583	0	1801	1583	1770	1777	0	1770	1844	0
Flt Permitted		0.880			0.752		0.627			0.557		
Satd. Flow (perm)	0	1639	1583	0	1401	1583	1168	1777	0	1038	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			87		32			5	
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		396			377			2002			1328	
Travel Time (s)		9.0			8.6			39.0			30.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	49	28	78	36	55	21	190	84	40	195	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	70	28	0	114	55	21	274	0	40	209	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	20.0	20.0	20.0	9.5	32.0	32.0	9.5	30.0		9.5	30.0	
Total Split (s)	20.0	20.0	20.0	12.0	32.0	32.0	13.0	30.0		13.0	30.0	
Total Split (%)	26.7%	26.7%	26.7%	16.0%	42.7%	42.7%	17.3%	40.0%		17.3%	40.0%	
Maximum Green (s)	15.5	15.5	15.5	7.5	27.5	27.5	8.5	25.5		8.5	25.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	0.0	0.0	0.0		7.0	7.0		7.0			8.0	
Flash Dont Walk (s)	15.0	15.0	15.0		15.0	15.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0	0		0	0		0			0	
Act Effct Green (s)		10.7	10.7		10.7	10.7	21.1	20.0		22.0	21.9	
Actuated g/C Ratio		0.27	0.27		0.27	0.27	0.54	0.51		0.56	0.56	
v/c Ratio		0.16	0.05		0.30	0.11	0.03	0.30		0.06	0.20	
Control Delay		13.9	0.2		15.7	2.9	5.1	10.1		5.2	8.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		13.9	0.2		15.7	2.9	5.1	10.1		5.2	8.4	
LOS		B	A		B	A	A	B		A	A	
Approach Delay		10.0			11.6			9.7			7.9	
Approach LOS		A			B			A			A	
Queue Length 50th (ft)		9	0		16	0	2	25		4	21	
Queue Length 95th (ft)		40	0		61	12	9	106		14	85	
Internal Link Dist (ft)		316			297			1922			1248	
Turn Bay Length (ft)							50			50		
Base Capacity (vph)		663	731		1005	1160	782	1284		750	1326	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.11	0.04		0.11	0.05	0.03	0.21		0.05	0.16	

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 39.3	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.30	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 42: IA 25 & W Adams St

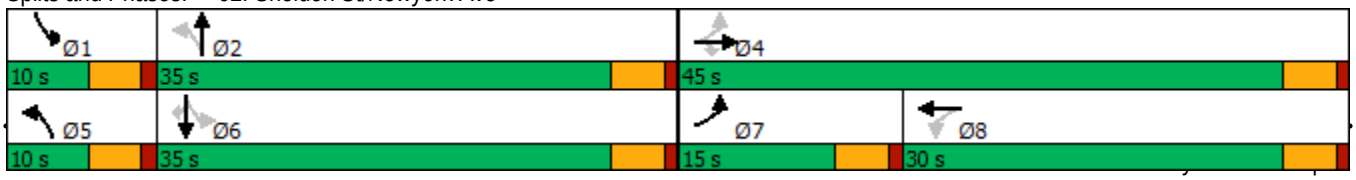


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	13	28	48	13	28	22	235	10	3	207	60
Future Volume (vph)	48	13	28	48	13	28	22	235	10	3	207	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	100		0	100		110
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.958			0.994				0.850
Flt Protected		0.962			0.974		0.950			0.950		
Satd. Flow (prot)	0	1792	1583	0	1738	0	1770	1852	0	1770	1863	1583
Flt Permitted		0.708			0.795		0.618			0.595		
Satd. Flow (perm)	0	1319	1583	0	1419	0	1151	1852	0	1108	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		25			3				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		418			325			1030			2002	
Travel Time (s)		9.5			7.4			23.4			45.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	14	30	52	14	30	24	255	11	3	225	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	30	0	96	0	24	266	0	3	225	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (%)	16.7%	50.0%	50.0%	33.3%	33.3%		11.1%	38.9%		11.1%	38.9%	38.9%
Maximum Green (s)	10.5	40.5	40.5	25.5	25.5		5.5	30.5		5.5	30.5	30.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min		Min	Min	Min
Act Effct Green (s)		10.5	10.5		10.5		21.3	15.6		21.3	15.6	15.6
Actuated g/C Ratio		0.27	0.27		0.27		0.56	0.41		0.56	0.41	0.41
v/c Ratio		0.18	0.06		0.24		0.03	0.35		0.00	0.30	0.09
Control Delay		14.9	1.7		12.6		4.7	11.7		4.3	11.3	1.1
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		14.9	1.7		12.6		4.7	11.7		4.3	11.3	1.1
LOS		B	A		B		A	B		A	B	A
Approach Delay		10.8			12.6			11.1			9.0	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		14	0		15		2	49		0	41	0
Queue Length 95th (ft)		37	5		43		8	98		3	84	7
Internal Link Dist (ft)		338			245			950			1922	
Turn Bay Length (ft)			50				100			100		110
Base Capacity (vph)		1253	1507		989		732	1508		715	1517	1312
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.05	0.02		0.10		0.03	0.18		0.00	0.15	0.05

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 38.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.35	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 40.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 62: Sheldon St/Newyork Ave



Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	65	31	9	135	10	40	12	4	28	49	70
Future Vol, veh/h	31	65	31	9	135	10	40	12	4	28	49	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	71	34	10	147	11	43	13	4	30	53	76
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.9	8.4	8.6
HCM LOS	A	A	A	A

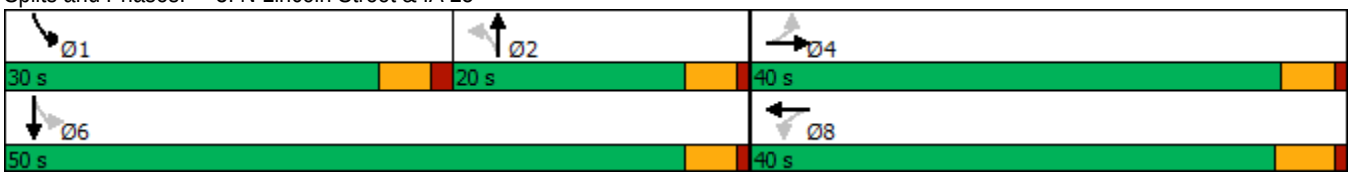
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	24%	6%	19%
Vol Thru, %	21%	51%	88%	33%
Vol Right, %	7%	24%	6%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	127	154	147
LT Vol	40	31	9	28
Through Vol	12	65	135	49
RT Vol	4	31	10	70
Lane Flow Rate	61	138	167	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.174	0.213	0.198
Departure Headway (Hd)	4.935	4.548	4.583	4.472
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	725	788	783	802
Service Time	2.973	2.582	2.615	2.504
HCM Lane V/C Ratio	0.084	0.175	0.213	0.2
HCM Control Delay	8.4	8.5	8.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.8	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	141	9	17	155	51	6	10	15	55	29	3
Future Volume (vph)	5	141	9	17	155	51	6	10	15	55	29	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.963			0.936			0.996	
Flt Protected	0.950			0.950				0.990			0.969	
Satd. Flow (prot)	1770	1846	0	1770	1794	0	0	1726	0	0	1798	0
Flt Permitted	0.619			0.654				0.913			0.788	
Satd. Flow (perm)	1153	1846	0	1218	1794	0	0	1592	0	0	1462	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			21			16			3	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2900			907			1200			681	
Travel Time (s)		56.5			17.7			32.7			18.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	153	10	18	168	55	7	11	16	60	32	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	163	0	18	223	0	0	34	0	0	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		14.5	14.5		15.0	32.5	
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		30.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%		22.2%	22.2%		33.3%	55.6%	
Maximum Green (s)	35.5	35.5		35.0	35.0		15.5	15.5		25.0	45.5	
Yellow Time (s)	3.5	3.5		4.0	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		5.0	5.0			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)											12.0	
Flash Dont Walk (s)											16.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	23.1	23.1		22.8	22.8			10.0			10.0	
Actuated g/C Ratio	0.67	0.67		0.66	0.66			0.29			0.29	
v/c Ratio	0.01	0.13		0.02	0.19			0.07			0.22	
Control Delay	5.4	5.4		5.8	5.5			7.0			10.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.4	5.4		5.8	5.5			7.0			10.7	
LOS	A	A		A	A			A			B	
Approach Delay		5.4			5.5			7.0			10.7	
Approach LOS		A			A			A			B	
Queue Length 50th (ft)	1	16		2	21			2			13	
Queue Length 95th (ft)	3	35		8	47			13			33	
Internal Link Dist (ft)		2820			827			1120			601	
Turn Bay Length (ft)	50			50								
Base Capacity (vph)	1153	1846		1218	1794			723			1462	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.00	0.09		0.01	0.12			0.05			0.06	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 34.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.22	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 33.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: N Lincoln Street & IA 25



Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	131	147	154	178	13	166	18	66	7	19	8
Future Vol, veh/h	5	131	147	154	178	13	166	18	66	7	19	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	142	160	167	193	14	180	20	72	8	21	9
Number of Lanes	1	1	0	0	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	13.5	13	12.2	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	63%	0%	21%
Vol Thru, %	0%	21%	0%	47%	37%	87%	56%
Vol Right, %	0%	79%	0%	53%	0%	13%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	84	5	278	243	102	34
LT Vol	166	0	5	0	154	0	7
Through Vol	0	18	0	131	89	89	19
RT Vol	0	66	0	147	0	13	8
Lane Flow Rate	180	91	5	302	264	111	37
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.349	0.15	0.01	0.479	0.461	0.181	0.071
Departure Headway (Hd)	6.967	5.903	6.591	5.708	6.281	5.869	6.906
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	606	542	632	573	611	517
Service Time	4.715	3.65	4.338	3.455	4.026	3.614	4.975
HCM Lane V/C Ratio	0.349	0.15	0.009	0.478	0.461	0.182	0.072
HCM Control Delay	13.4	9.7	9.4	13.6	14.3	9.9	10.5
HCM Lane LOS	B	A	A	B	B	A	B
HCM 95th-tile Q	1.6	0.5	0	2.6	2.4	0.7	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	2	17	7	14	5	204	14	7	189	2
Future Vol, veh/h	1	4	2	17	7	14	5	204	14	7	189	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	2	18	8	15	5	222	15	8	205	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	473	469	206	465	463	230	207	0	0	237	0	0
Stage 1	222	222	-	240	240	-	-	-	-	-	-	-
Stage 2	251	247	-	225	223	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	501	492	835	508	496	809	1364	-	-	1330	-	-
Stage 1	780	720	-	763	707	-	-	-	-	-	-	-
Stage 2	753	702	-	778	719	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	482	487	835	499	491	809	1364	-	-	1330	-	-
Mov Cap-2 Maneuver	482	487	-	499	491	-	-	-	-	-	-	-
Stage 1	777	716	-	760	704	-	-	-	-	-	-	-
Stage 2	728	699	-	767	715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	11.7	0.2	0.3
HCM LOS	B	B		

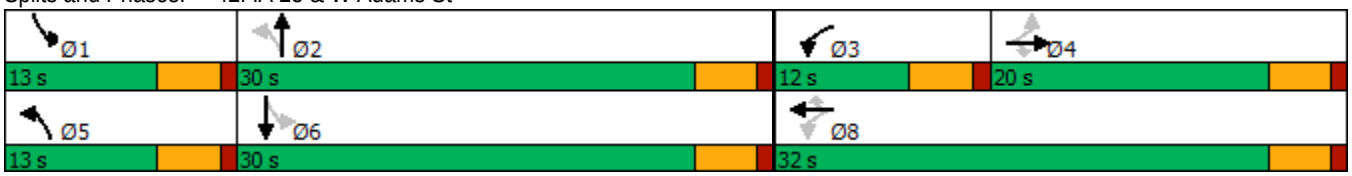
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1364	-	-	552	579	1330	-	-
HCM Lane V/C Ratio	0.004	-	-	0.014	0.071	0.006	-	-
HCM Control Delay (s)	7.7	-	-	11.6	11.7	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	66	55	124	83	50	26	269	113	30	254	26
Future Volume (vph)	20	66	55	124	83	50	26	269	113	30	254	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	50		0	50		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.956			0.986	
Flt Protected		0.988			0.971		0.950			0.950		
Satd. Flow (prot)	0	1840	1583	0	1809	1583	1770	1781	0	1770	1837	0
Flt Permitted		0.908			0.762		0.521			0.391		
Satd. Flow (perm)	0	1691	1583	0	1419	1583	970	1781	0	728	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			87		31			7	
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		396			377			2001			1328	
Travel Time (s)		9.0			8.6			39.0			30.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	72	60	135	90	54	28	292	123	33	276	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	60	0	225	54	28	415	0	33	304	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0	10.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	20.0	20.0	20.0	9.5	32.0	32.0	9.5	30.0		9.5	30.0	
Total Split (s)	20.0	20.0	20.0	12.0	32.0	32.0	13.0	30.0		13.0	30.0	
Total Split (%)	26.7%	26.7%	26.7%	16.0%	42.7%	42.7%	17.3%	40.0%		17.3%	40.0%	
Maximum Green (s)	15.5	15.5	15.5	7.5	27.5	27.5	8.5	25.5		8.5	25.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	0.0	0.0	0.0		7.0	7.0		7.0			8.0	
Flash Dont Walk (s)	15.0	15.0	15.0		15.0	15.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0	0		0	0		0			0	
Act Effct Green (s)		15.7	15.7		15.7	15.7	21.6	19.6		21.6	19.6	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.45	0.40		0.45	0.40	
v/c Ratio		0.17	0.10		0.49	0.09	0.05	0.56		0.07	0.41	
Control Delay		14.1	0.3		18.6	2.1	8.4	16.8		8.5	15.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		14.1	0.3		18.6	2.1	8.4	16.8		8.5	15.1	
LOS		B	A		B	A	A	B		A	B	
Approach Delay		8.7			15.4			16.2			14.4	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)		13	0		34	0	3	54		4	39	
Queue Length 95th (ft)		58	0		134	11	18	240		20	173	
Internal Link Dist (ft)		316			297			1921			1248	
Turn Bay Length (ft)							50			50		
Base Capacity (vph)		674	723		884	1019	595	1042		532	1066	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.14	0.08		0.25	0.05	0.05	0.40		0.06	0.29	

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 48.5	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 50.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 42: IA 25 & W Adams St

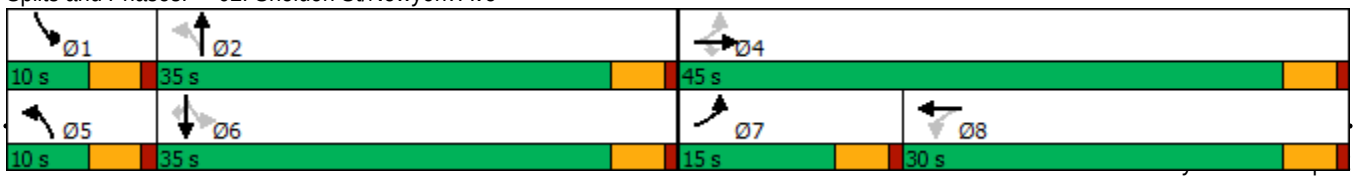


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	22	34	21	32	4	33	372	16	2	324	78
Future Volume (vph)	73	22	34	21	32	4	33	372	16	2	324	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	100		0	100		110
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.994				0.850
Flt Protected		0.963			0.982		0.950			0.950		
Satd. Flow (prot)	0	1794	1583	0	1813	0	1770	1852	0	1770	1863	1583
Flt Permitted		0.735			0.853		0.483			0.404		
Satd. Flow (perm)	0	1369	1583	0	1575	0	900	1852	0	753	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		4			3				127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		418			325			1034			2001	
Travel Time (s)		9.5			7.4			23.5			45.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	24	37	23	35	4	36	404	17	2	352	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	37	0	62	0	36	421	0	2	352	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		5.0	15.0		5.0	15.0	15.0
Minimum Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (s)	15.0	45.0	45.0	30.0	30.0		10.0	35.0		10.0	35.0	35.0
Total Split (%)	16.7%	50.0%	50.0%	33.3%	33.3%		11.1%	38.9%		11.1%	38.9%	38.9%
Maximum Green (s)	10.5	40.5	40.5	25.5	25.5		5.5	30.5		5.5	30.5	30.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		Min	Min		Min	Min	Min
Act Effct Green (s)		11.0	11.0		11.0		23.1	17.4		23.1	17.4	17.4
Actuated g/C Ratio		0.25	0.25		0.25		0.53	0.40		0.53	0.40	0.40
v/c Ratio		0.30	0.08		0.16		0.06	0.57		0.00	0.48	0.12
Control Delay		18.7	2.5		15.8		4.8	15.3		4.5	13.8	1.6
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		18.7	2.5		15.8		4.8	15.3		4.5	13.8	1.6
LOS		B	A		B		A	B		A	B	A
Approach Delay		14.4			15.8			14.5			11.4	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		22	0		12		3	86		0	69	0
Queue Length 95th (ft)		63	9		40		12	170		2	138	11
Internal Link Dist (ft)		338			245			954			1921	
Turn Bay Length (ft)			50				100			100		110
Base Capacity (vph)		1215	1413		955		587	1330		529	1337	1172
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.08	0.03		0.06		0.06	0.32		0.00	0.26	0.07

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 43.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 62: Sheldon St/Newyork Ave



Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	96	28	15	151	37	70	56	9	10	37	65
Future Vol, veh/h	73	96	28	15	151	37	70	56	9	10	37	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	79	104	30	16	164	40	76	61	10	11	40	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	9.8	9.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	52%	37%	7%	9%
Vol Thru, %	41%	49%	74%	33%
Vol Right, %	7%	14%	18%	58%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	197	203	112
LT Vol	70	73	15	10
Through Vol	56	96	151	37
RT Vol	9	28	37	65
Lane Flow Rate	147	214	221	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.212	0.289	0.293	0.164
Departure Headway (Hd)	5.19	4.862	4.776	4.844
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	732	746	732
Service Time	3.273	2.938	2.849	2.93
HCM Lane V/C Ratio	0.215	0.292	0.296	0.167
HCM Control Delay	9.7	9.9	9.8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	1.2	1.2	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	104	2	7	96	52	4	9	12	56	5	5
Future Vol, veh/h	2	104	2	7	96	52	4	9	12	56	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	113	2	8	104	57	4	10	13	61	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	115	0	0	189	295	58	215	268	81
Stage 1	-	-	-	-	-	-	118	118	-	149	149	-
Stage 2	-	-	-	-	-	-	71	177	-	66	119	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1416	-	-	1472	-	-	754	615	996	723	637	963
Stage 1	-	-	-	-	-	-	874	797	-	838	773	-
Stage 2	-	-	-	-	-	-	931	752	-	937	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	1472	-	-	740	610	996	701	632	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	740	610	-	701	632	-
Stage 1	-	-	-	-	-	-	872	795	-	836	768	-
Stage 2	-	-	-	-	-	-	914	747	-	912	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	9.8	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	776	1416	-	-	1472	-	-	710
HCM Lane V/C Ratio	0.035	0.002	-	-	0.005	-	-	0.101
HCM Control Delay (s)	9.8	7.5	0	-	7.5	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	104	2	7	96	52	4	9	12	56	5	5
Future Vol, veh/h	2	104	2	7	96	52	4	9	12	56	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	113	2	8	104	57	4	10	13	61	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	115	0	0	272	295	114	279	268	133
Stage 1	-	-	-	-	-	-	118	118	-	149	149	-
Stage 2	-	-	-	-	-	-	154	177	-	130	119	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1418	-	-	1474	-	-	680	616	939	673	638	916
Stage 1	-	-	-	-	-	-	887	798	-	854	774	-
Stage 2	-	-	-	-	-	-	848	753	-	874	797	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1474	-	-	668	612	939	652	634	916
Mov Cap-2 Maneuver	-	-	-	-	-	-	668	612	-	652	634	-
Stage 1	-	-	-	-	-	-	886	797	-	853	770	-
Stage 2	-	-	-	-	-	-	832	749	-	850	796	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	10	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	747	1418	-	-	1474	-	-	665
HCM Lane V/C Ratio	0.036	0.002	-	-	0.005	-	-	0.108
HCM Control Delay (s)	10	7.5	-	-	7.5	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	141	9	17	155	51	6	10	15	55	29	3
Future Vol, veh/h	5	141	9	17	155	51	6	10	15	55	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	153	10	18	168	55	7	11	16	60	32	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	163	0	0	304	427	82	324	405	112
Stage 1	-	-	-	-	-	-	168	168	-	232	232	-
Stage 2	-	-	-	-	-	-	136	259	-	92	173	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1343	-	-	1413	-	-	625	518	961	605	533	920
Stage 1	-	-	-	-	-	-	817	758	-	750	711	-
Stage 2	-	-	-	-	-	-	853	692	-	905	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1343	-	-	1413	-	-	586	508	961	577	523	920
Mov Cap-2 Maneuver	-	-	-	-	-	-	586	508	-	577	523	-
Stage 1	-	-	-	-	-	-	814	755	-	747	700	-
Stage 2	-	-	-	-	-	-	800	682	-	873	752	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	10.6	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	681	1343	-	-	1413	-	-	565
HCM Lane V/C Ratio	0.049	0.004	-	-	0.013	-	-	0.167
HCM Control Delay (s)	10.6	7.7	0	-	7.6	0	-	12.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	141	9	17	155	51	6	10	15	55	29	3
Future Vol, veh/h	5	141	9	17	155	51	6	10	15	55	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	153	10	18	168	55	7	11	16	60	32	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	163	0	0	417	427	158	414	405	196
Stage 1	-	-	-	-	-	-	168	168	-	232	232	-
Stage 2	-	-	-	-	-	-	249	259	-	182	173	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1346	-	-	1416	-	-	546	520	887	549	535	845
Stage 1	-	-	-	-	-	-	834	759	-	771	713	-
Stage 2	-	-	-	-	-	-	755	694	-	820	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1416	-	-	513	511	887	524	526	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	513	511	-	524	526	-
Stage 1	-	-	-	-	-	-	831	756	-	768	704	-
Stage 2	-	-	-	-	-	-	709	685	-	790	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	10.9	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	643	1346	-	-	1416	-	-	532
HCM Lane V/C Ratio	0.052	0.004	-	-	0.013	-	-	0.178
HCM Control Delay (s)	10.9	7.7	-	-	7.6	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Annualized Daily Traffic For All Vehicles

Station Number:

88310181099

Count Date:

Tuesday, July 05, 2016

County:

Union

Location Description:

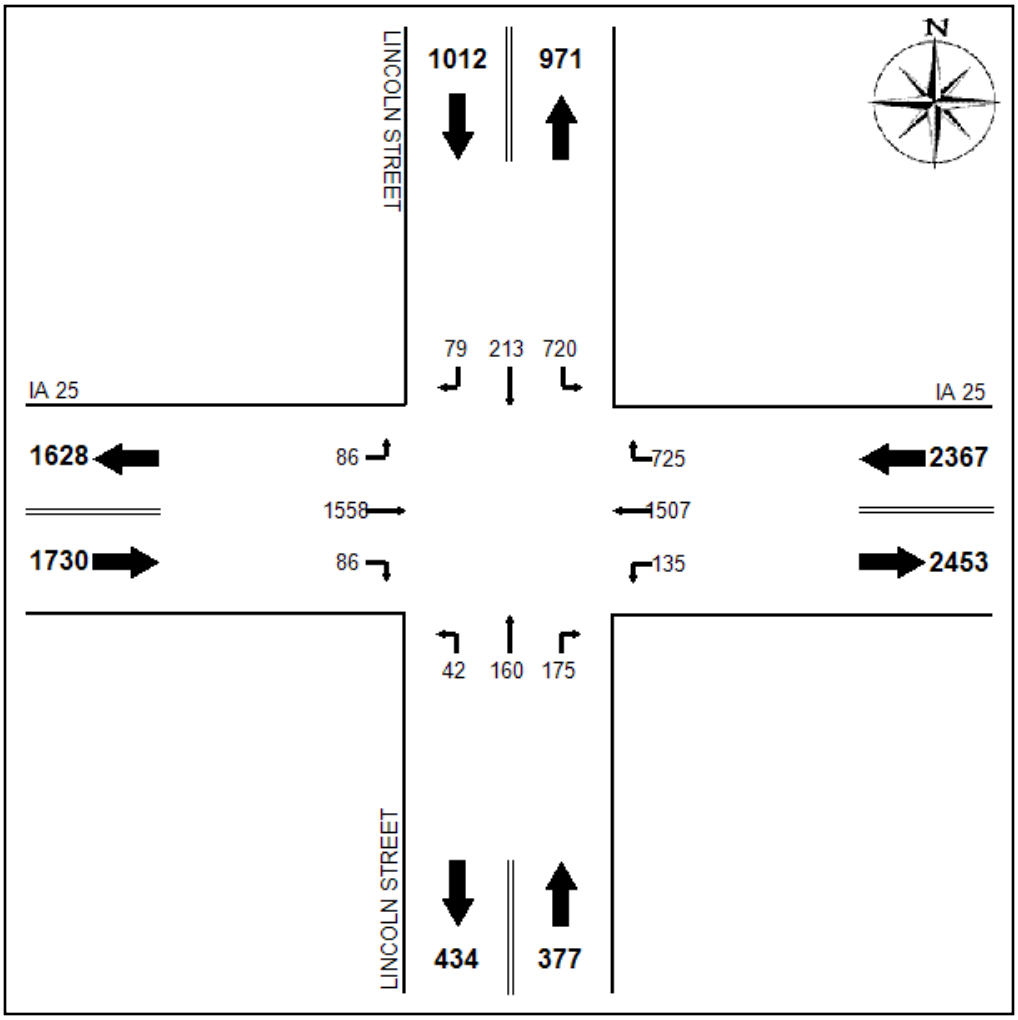
IA 25 & LINCOLN ST

Volume Factor: 1.864

Pass Class Factor: 1.925

SU Class Factor: 1.856

Combo Class Factor: 1.502



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	32	12	6	2	99	55	4	16	10	6	86	3
08:00	56	5	5	7	96	52	4	9	12	2	104	2
11:00	62	17	8	8	95	48	1	10	13	14	138	11
12:00	88	21	10	8	117	77	3	14	18	9	121	6
15:00	44	12	6	13	104	48	3	9	9	5	124	5
16:00	55	29	3	17	155	51	6	10	15	5	141	9
17:00	38	15	3	15	124	46	1	15	14	4	103	9

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Passenger Vehicles

Station Number:

88310181099

Count Date:

Tuesday, July 05, 2016

County:

Union

Location Description:

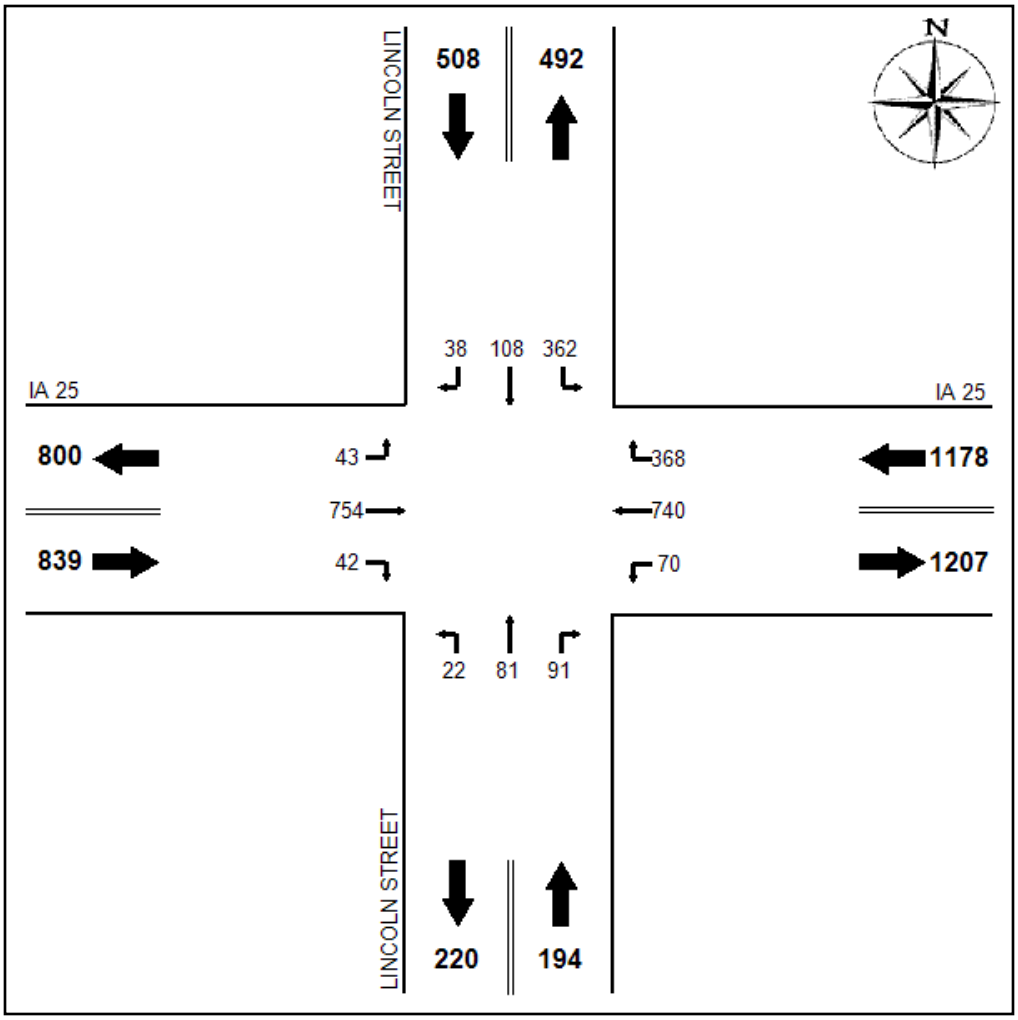
IA 25 & LINCOLN ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Passenger Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	32	11	4	2	94	53	4	16	10	6	83	3
08:00	49	5	5	7	86	51	4	9	12	2	95	1
11:00	59	16	8	8	86	46	1	9	13	14	122	10
12:00	88	21	9	8	113	76	3	14	18	7	109	6
15:00	41	12	6	13	95	48	3	9	9	5	117	5
16:00	55	29	3	17	146	49	6	10	15	5	134	8
17:00	38	14	3	15	120	45	1	14	14	4	94	9

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Single-Unit Trucks

Station Number:

88310181099

Count Date:

Tuesday, July 05, 2016

County:

Union

Location Description:

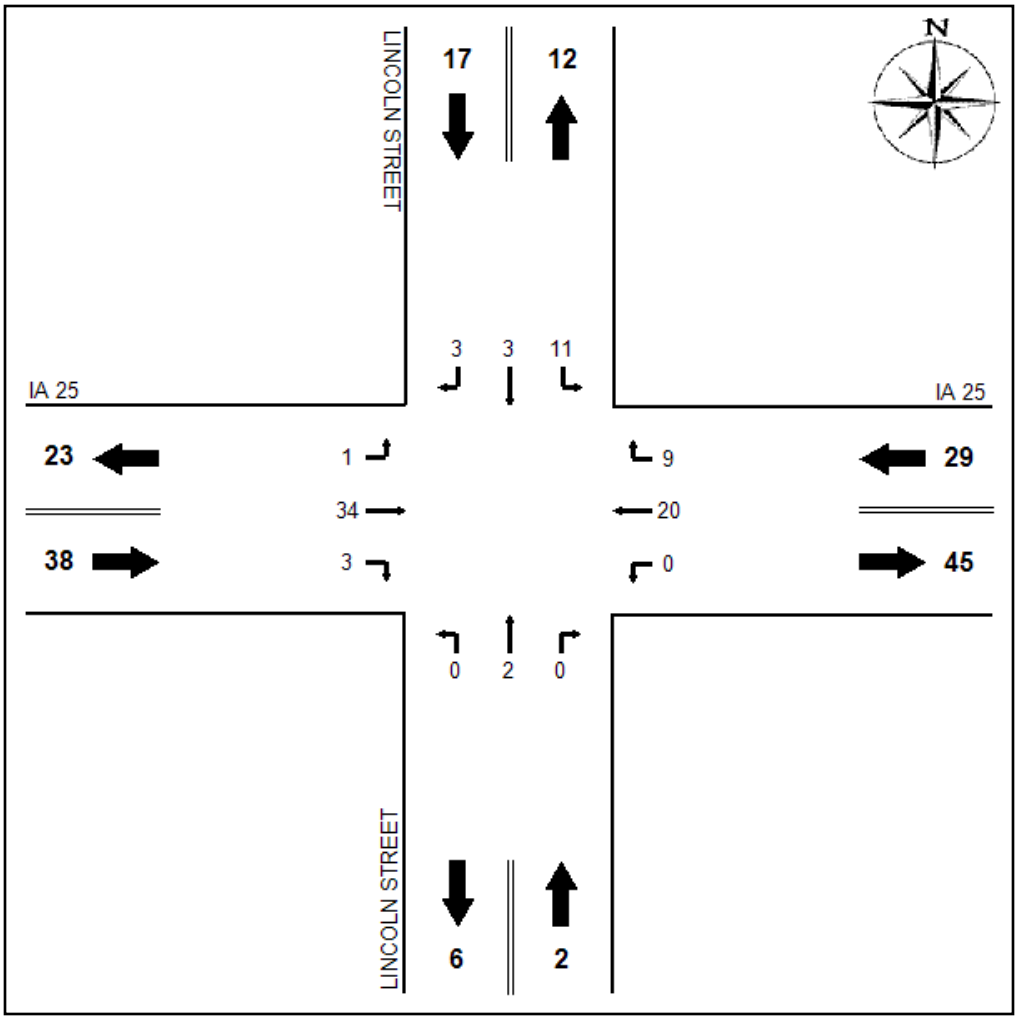
IA 25 & LINCOLN ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Single-Unit Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	0	1	2	0	2	2	0	0	0	0	2	0
08:00	7	0	0	0	4	1	0	0	0	0	4	1
11:00	1	1	0	0	5	2	0	1	0	0	10	1
12:00	0	0	1	0	3	1	0	0	0	1	9	0
15:00	3	0	0	0	2	0	0	0	0	0	2	0
16:00	0	0	0	0	3	2	0	0	0	0	2	1
17:00	0	1	0	0	1	1	0	1	0	0	5	0

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Combination Trucks

Station Number:

88310181099

Count Date:

Tuesday, July 05, 2016

County:

Union

Location Description:

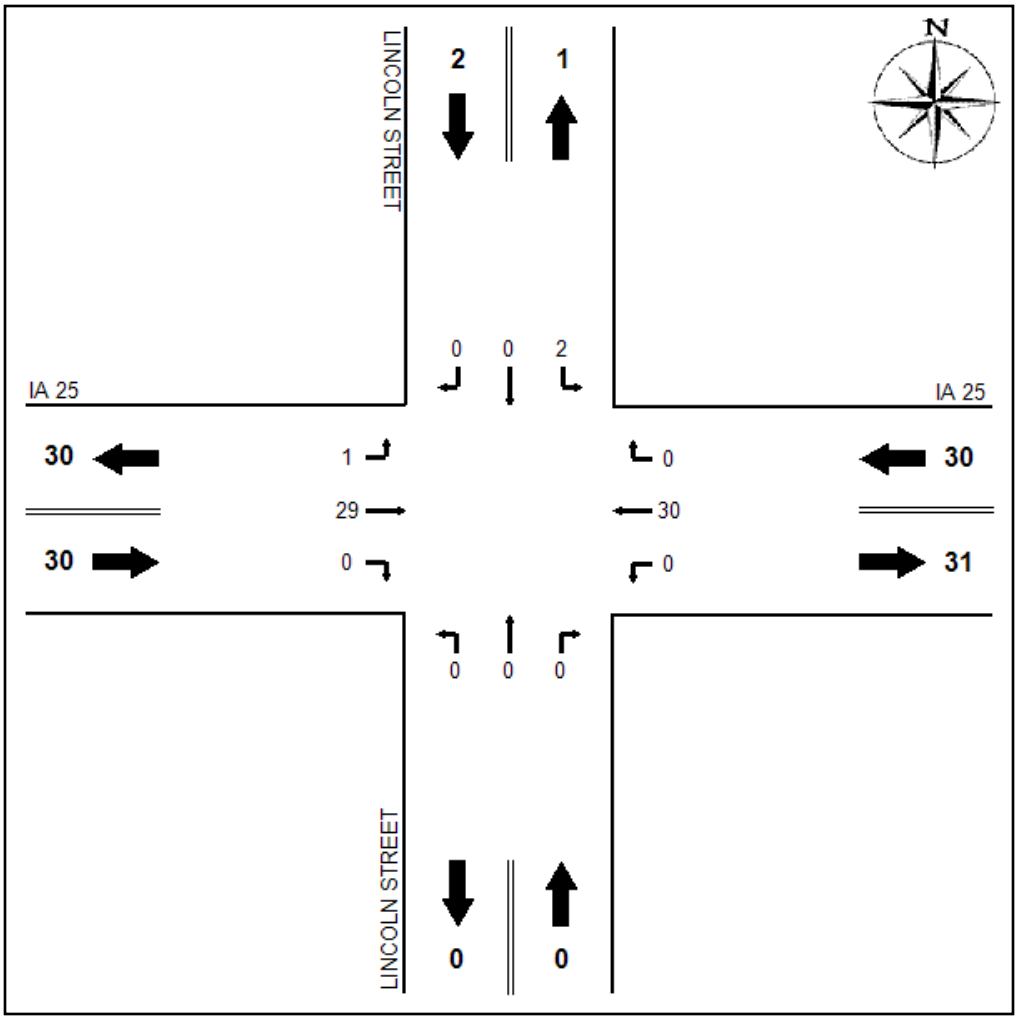
IA 25 & LINCOLN ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Combination Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	0	0	0	0	3	0	0	0	0	0	1	0
08:00	0	0	0	0	6	0	0	0	0	0	5	0
11:00	2	0	0	0	4	0	0	0	0	0	6	0
12:00	0	0	0	0	1	0	0	0	0	1	3	0
15:00	0	0	0	0	7	0	0	0	0	0	5	0
16:00	0	0	0	0	6	0	0	0	0	0	5	0
17:00	0	0	0	0	3	0	0	0	0	0	4	0

Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Sumner Ave & W Townline St
Creston, IA
115.1000.01P

File Name : SumnerAve_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

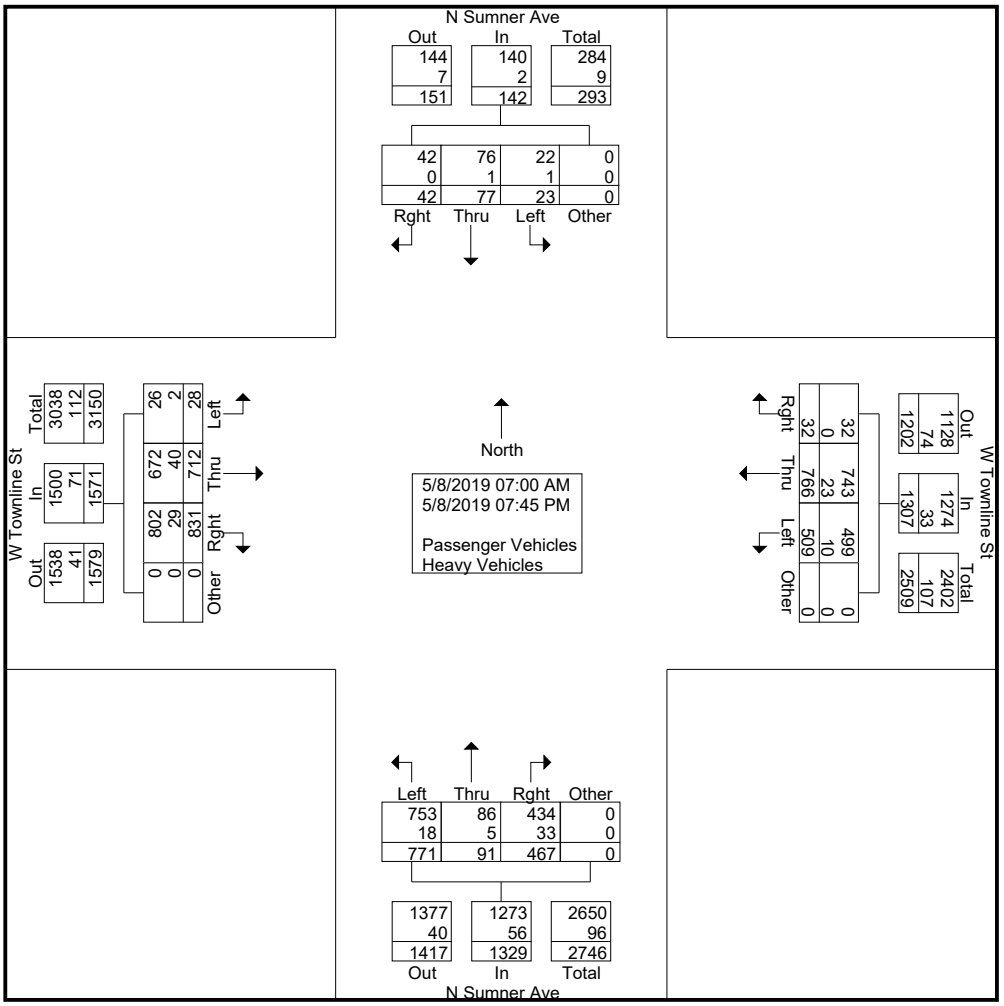
	N Sumner Ave From North					W Townline St From East					N Sumner Ave From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	0	27	14	0	41	14	0	20	0	34	11	24	2	0	37	112
07:15 AM	0	0	0	0	0	1	33	11	0	45	21	2	31	0	54	23	23	0	0	46	145
07:30 AM	3	1	1	0	5	0	34	9	0	43	40	0	50	0	90	37	43	2	0	82	220
07:45 AM	1	0	1	0	2	1	58	26	0	85	24	2	58	0	84	41	59	0	0	100	271
Total	4	1	2	0	7	2	152	60	0	214	99	4	159	0	262	112	149	4	0	265	748
08:00 AM	1	0	0	0	1	0	44	17	0	61	28	2	37	0	67	54	52	0	0	106	235
08:30 AM	2	3	0	0	5	1	29	9	0	39	14	3	26	0	43	28	23	1	0	52	139
08:45 AM	0	1	1	0	2	0	29	11	0	40	15	3	19	0	37	38	21	1	0	60	139
Total	3	4	1	0	8	1	102	37	0	140	57	8	82	0	147	120	96	2	0	218	513
11:00 AM	1	5	2	0	8	1	28	28	0	57	16	5	26	0	47	49	34	3	0	86	198
11:15 AM	0	2	1	0	3	0	16	14	0	30	26	3	21	0	50	37	26	2	0	65	148
11:30 AM	1	8	2	0	11	3	36	23	0	62	16	8	24	0	48	38	30	1	0	69	190
11:45 AM	4	3	1	0	8	1	26	6	0	33	21	3	41	0	65	40	24	1	0	65	171
Total	6	18	6	0	30	5	106	71	0	182	79	19	112	0	210	164	114	7	0	285	707
12:00 PM	1	5	0	0	6	2	26	26	0	54	15	5	46	0	66	42	43	1	0	86	212
12:15 PM	2	7	0	0	9	4	24	13	0	41	19	7	27	0	53	41	15	0	0	56	159
12:30 PM	2	6	0	0	8	1	31	15	0	47	23	10	27	0	60	37	16	2	0	55	170
12:45 PM	3	3	2	0	8	2	27	21	0	50	28	1	22	0	51	30	17	1	0	48	157
Total	8	21	2	0	31	9	108	75	0	192	85	23	122	0	230	150	91	4	0	245	698
03:00 PM	2	6	3	0	11	3	37	17	0	57	17	4	44	0	65	31	33	4	0	68	201
03:15 PM	3	5	1	0	9	4	61	57	0	122	12	9	43	0	64	33	27	0	0	60	255
03:30 PM	2	6	2	0	10	3	46	61	0	110	12	4	36	0	52	61	42	1	0	104	276
03:45 PM	1	2	1	0	4	3	34	19	0	56	25	1	43	0	69	22	29	0	0	51	180
Total	8	19	7	0	34	13	178	154	0	345	66	18	166	0	250	147	131	5	0	283	912
04:00 PM	5	1	0	0	6	0	35	20	0	55	16	6	40	0	62	39	35	2	0	76	199
04:15 PM	5	2	1	0	8	0	26	28	0	54	20	7	30	0	57	33	21	0	0	54	173
04:30 PM	2	4	4	0	10	1	39	45	0	85	16	2	31	0	49	32	35	0	0	67	211
04:45 PM	1	7	0	0	8	1	20	19	0	40	29	4	29	0	62	34	40	4	0	78	188
Total	13	14	5	0	32	2	120	112	0	234	81	19	130	0	230	138	131	6	0	275	771
Grand Total	42	77	23	0	142	32	766	509	0	1307	467	91	771	0	1329	831	712	28	0	1571	4349
Apprch %	29.6	54.2	16.2	0		2.4	58.6	38.9	0		35.1	6.8	58	0		52.9	45.3	1.8	0		
Total %	1	1.8	0.5	0	3.3	0.7	17.6	11.7	0	30.1	10.7	2.1	17.7	0	30.6	19.1	16.4	0.6	0	36.1	
Passenger Vehicles	42	76	22	0	140	32	743	499	0	1274	434	86	753	0	1273	802	672	26	0	1500	4187
% Passenger Vehicles	100	98.7	95.7	0	98.6	100	97	98	0	97.5	92.9	94.5	97.7	0	95.8	96.5	94.4	92.9	0	95.5	96.3
Heavy Vehicles	0	1	1	0	2	0	23	10	0	33	33	5	18	0	56	29	40	2	0	71	162
% Heavy Vehicles	0	1.3	4.3	0	1.4	0	3	2	0	2.5	7.1	5.5	2.3	0	4.2	3.5	5.6	7.1	0	4.5	3.7

Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Sumner Ave & W Townline St
Creston, IA
115.1000.01P

File Name : SumnerAve_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 2



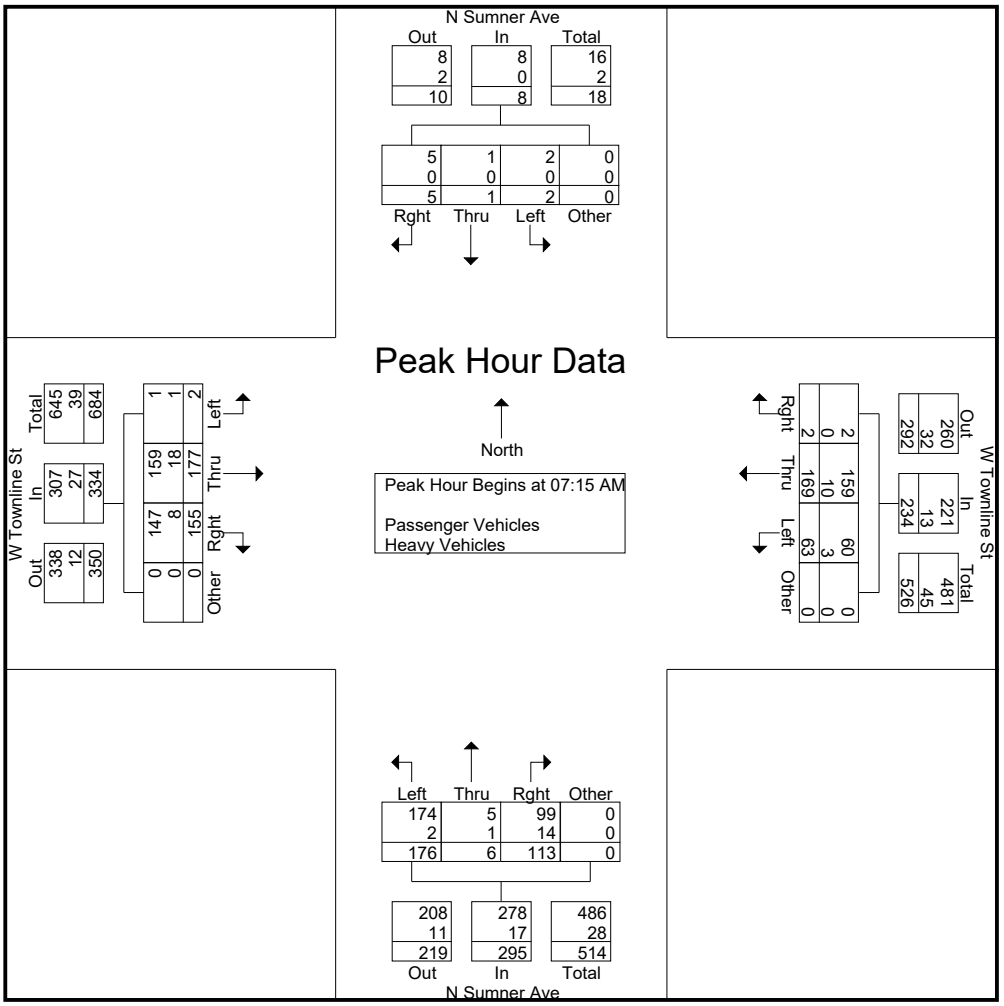
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Sumner Ave & W Townline St
Creston, IA
115.1000.01P

File Name : SumnerAve_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 3

	N Sumner Ave From North					W Townline St From East					N Sumner Ave From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	**1**	33	11	0	45	21	**2**	31	0	54	23	23	0	0	46	145
07:30 AM	**3**	**1**	**1**	0	**5**	0	34	9	0	43	**40**	0	50	0	**90**	37	43	**2**	0	82	220
07:45 AM	1	0	1	0	2	1	**58**	**26**	0	**85**	24	2	**58**	0	84	41	**59**	0	0	100	**271**
08:00 AM	1	0	0	0	1	0	44	17	0	61	28	2	37	0	67	**54**	52	0	0	**106**	235
Total Volume	5	1	2	0	8	2	169	63	0	234	113	6	176	0	295	155	177	2	0	334	871
% App. Total	62.5	12.5	25	0		0.9	72.2	26.9	0		38.3	2	59.7	0		46.4	53	0.6	0		
PHF	.417	.250	.500	.000	.400	.500	.728	.606	.000	.688	.706	.750	.759	.000	.819	.718	.750	.250	.000	.788	.804
Passenger Vehicles	5	1	2	0	8	2	159	60	0	221	99	5	174	0	278	147	159	1	0	307	814
% Passenger Vehicles	100	100	100	0	100	100	94.1	95.2	0	94.4	87.6	83.3	98.9	0	94.2	94.8	89.8	50.0	0	91.9	93.5
Heavy Vehicles	0	0	0	0	0	0	10	3	0	13	14	1	2	0	17	8	18	1	0	27	57
% Heavy Vehicles	0	0	0	0	0	0	5.9	4.8	0	5.6	12.4	16.7	1.1	0	5.8	5.2	10.2	50.0	0	8.1	6.5



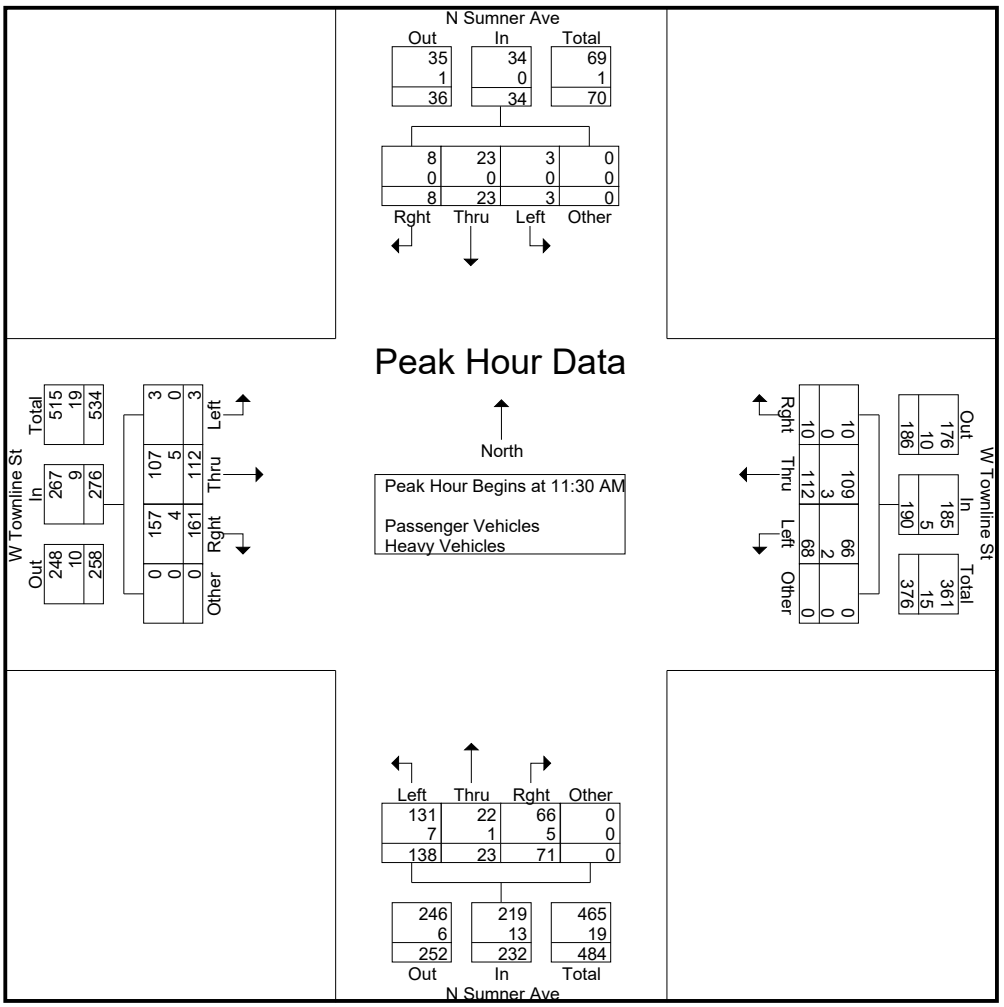
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Sumner Ave & W Townline St
Creston, IA
115.1000.01P

File Name : SumnerAve_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 4

	N Sumner Ave From North					W Townline St From East					N Sumner Ave From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	1	**8**	**2**	0	**11**	3	**36**	23	0	**62**	16	**8**	24	0	48	38	30	**1**	0	69	190
11:45 AM	**4**	3	1	0	8	1	26	6	0	33	**21**	3	41	0	65	40	24	1	0	65	171
12:00 PM	1	5	0	0	6	2	26	**26**	0	54	15	5	**46**	0	**66**	**42**	**43**	1	0	**86**	**212**
12:15 PM	2	7	0	0	9	**4**	24	13	0	41	19	7	27	0	53	41	15	0	0	56	159
Total Volume	8	23	3	0	34	10	112	68	0	190	71	23	138	0	232	161	112	3	0	276	732
% App. Total	23.5	67.6	8.8	0		5.3	58.9	35.8	0		30.6	9.9	59.5	0		58.3	40.6	1.1	0		
PHF	.500	.719	.375	.000	.773	.625	.778	.654	.000	.766	.845	.719	.750	.000	.879	.958	.651	.750	.000	.802	.863
Passenger Vehicles	8	23	3	0	34	10	109	66	0	185	66	22	131	0	219	157	107	3	0	267	705
% Passenger Vehicles	100	100	100	0	100	100	97.3	97.1	0	97.4	93.0	95.7	94.9	0	94.4	97.5	95.5	100	0	96.7	96.3
Heavy Vehicles	0	0	0	0	0	0	3	2	0	5	5	1	7	0	13	4	5	0	0	9	27
% Heavy Vehicles	0	0	0	0	0	0	2.7	2.9	0	2.6	7.0	4.3	5.1	0	5.6	2.5	4.5	0	0	3.3	3.7



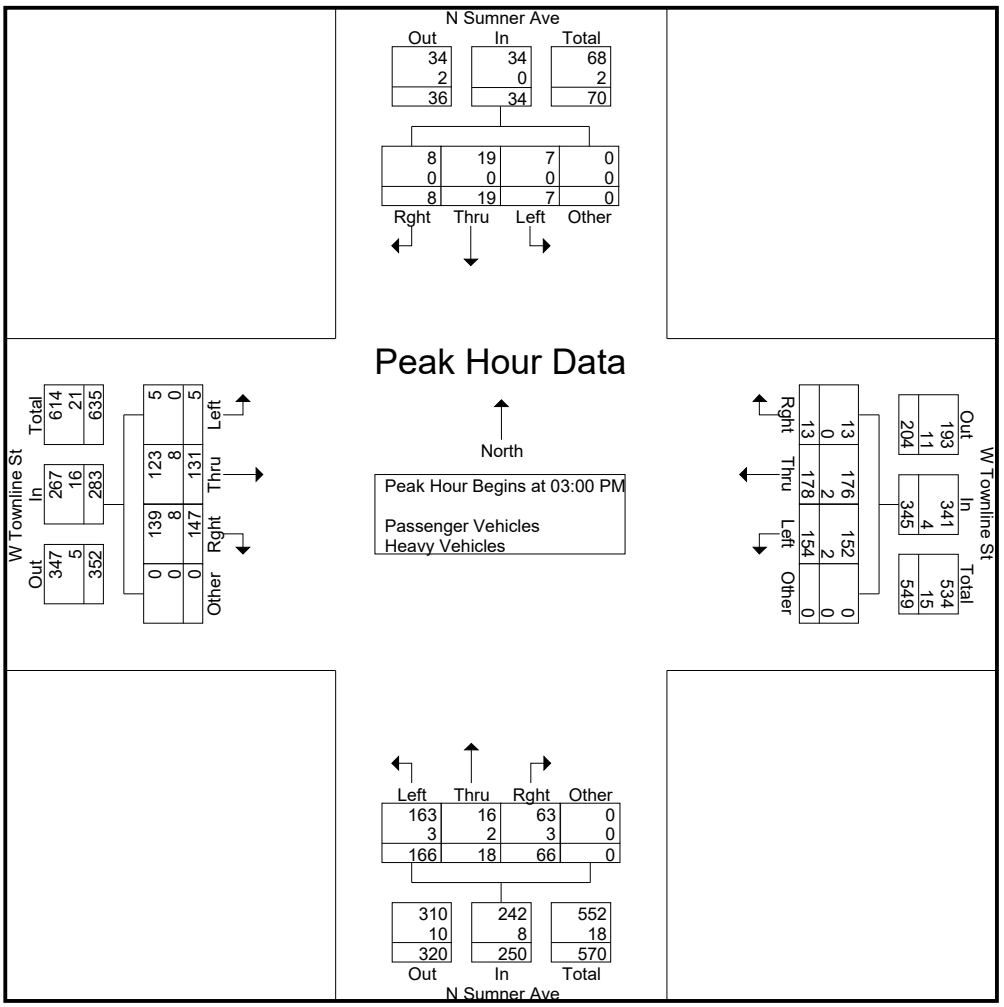
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Sumner Ave & W Townline St
Creston, IA
115.1000.01P

File Name : SumnerAve_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 5

	N Sumner Ave From North					W Townline St From East					N Sumner Ave From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	2	**6**	**3**	0	**11**	3	37	17	0	57	17	4	**44**	0	65	31	33	**4**	0	68	201
03:15 PM	**3**	5	1	0	9	**4**	**61**	57	0	**122**	12	**9**	43	0	64	33	27	0	0	60	255
03:30 PM	2	6	2	0	10	3	46	**61**	0	110	12	4	36	0	52	**61**	**42**	1	0	**104**	**276**
03:45 PM	1	2	1	0	4	3	34	19	0	56	**25**	1	43	0	**69**	22	29	0	0	51	180
Total Volume	8	19	7	0	34	13	178	154	0	345	66	18	166	0	250	147	131	5	0	283	912
% App. Total	23.5	55.9	20.6	0		3.8	51.6	44.6	0		26.4	7.2	66.4	0		51.9	46.3	1.8	0		
PHF	.667	.792	.583	.000	.773	.813	.730	.631	.000	.707	.660	.500	.943	.000	.906	.602	.780	.313	.000	.680	.826
Passenger Vehicles	8	19	7	0	34	13	176	152	0	341	63	16	163	0	242	139	123	5	0	267	884
% Passenger Vehicles	100	100	100	0	100	100	98.9	98.7	0	98.8	95.5	88.9	98.2	0	96.8	94.6	93.9	100	0	94.3	96.9
Heavy Vehicles	0	0	0	0	0	0	2	2	0	4	3	2	3	0	8	8	8	0	0	16	28
% Heavy Vehicles	0	0	0	0	0	0	1.1	1.3	0	1.2	4.5	11.1	1.8	0	3.2	5.4	6.1	0	0	5.7	3.1



Iowa Department of Transportation

Turning Movement Traffic Count Summary

Annualized Daily Traffic For All Vehicles

Station Number:

88218583099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

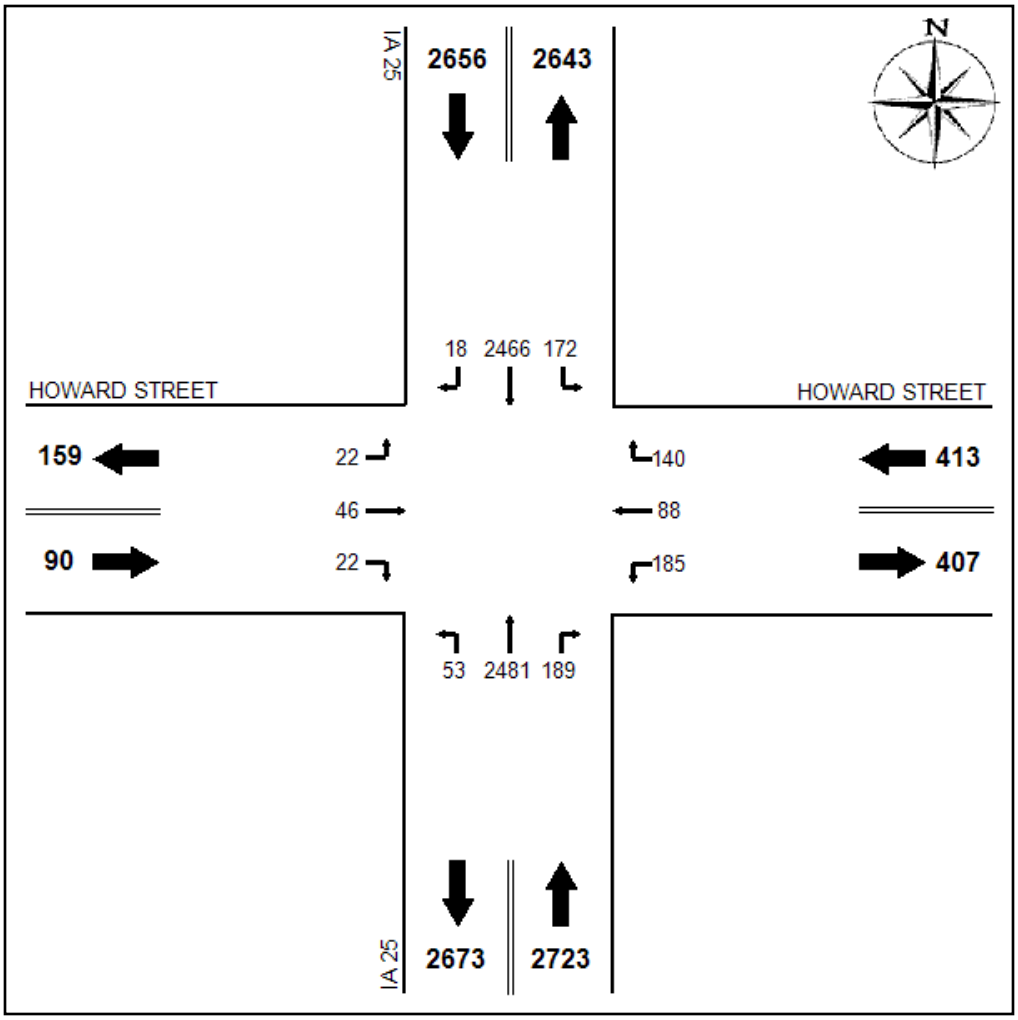
IA 25 & HOWARD ST

Volume Factor: 1.811

Pass Class Factor: 1.839

SU Class Factor: 1.574

Combo Class Factor: 1.455



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	10	142	1	6	6	8	2	186	7	1	8	4
08:00	22	224	1	12	4	11	5	230	12	0	1	3
11:00	13	257	1	15	8	16	5	235	22	2	0	0
12:00	20	278	3	16	8	16	2	239	23	2	4	2
15:00	11	159	1	16	7	7	2	146	10	2	5	0
16:00	7	189	2	17	7	14	5	204	14	1	4	2
17:00	11	109	1	19	8	5	8	123	15	4	3	1

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Passenger Vehicles

Station Number:

88218583099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

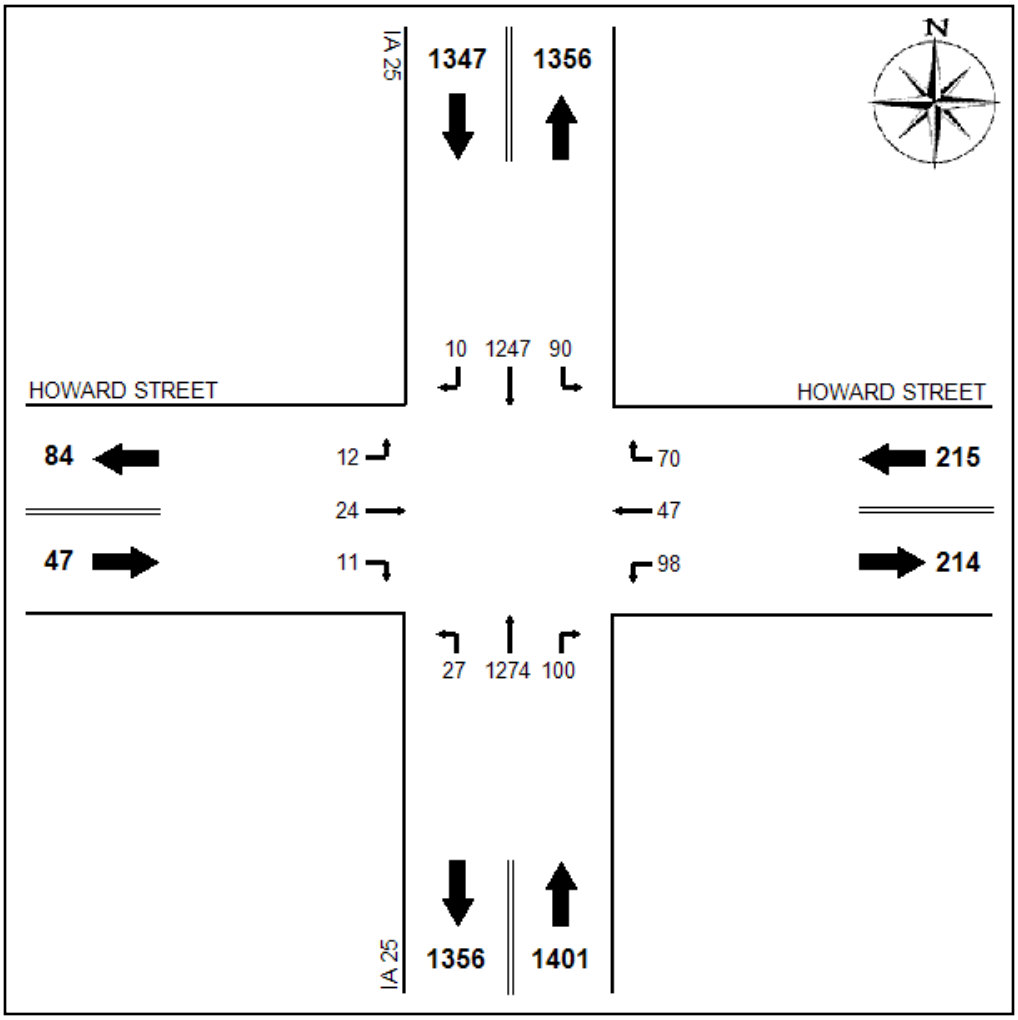
IA 25 & HOWARD ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Passenger Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	10	130	1	6	6	6	2	170	7	1	8	4
08:00	20	204	1	12	4	9	5	207	11	0	1	2
11:00	12	230	1	15	8	15	3	219	21	2	0	0
12:00	19	256	3	15	8	15	2	225	22	2	4	2
15:00	11	152	1	15	7	6	2	140	10	2	5	0
16:00	7	174	2	16	6	14	5	192	14	1	3	2
17:00	11	101	1	19	8	5	8	121	15	4	3	1

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Single-Unit Trucks

Station Number:

88218583099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

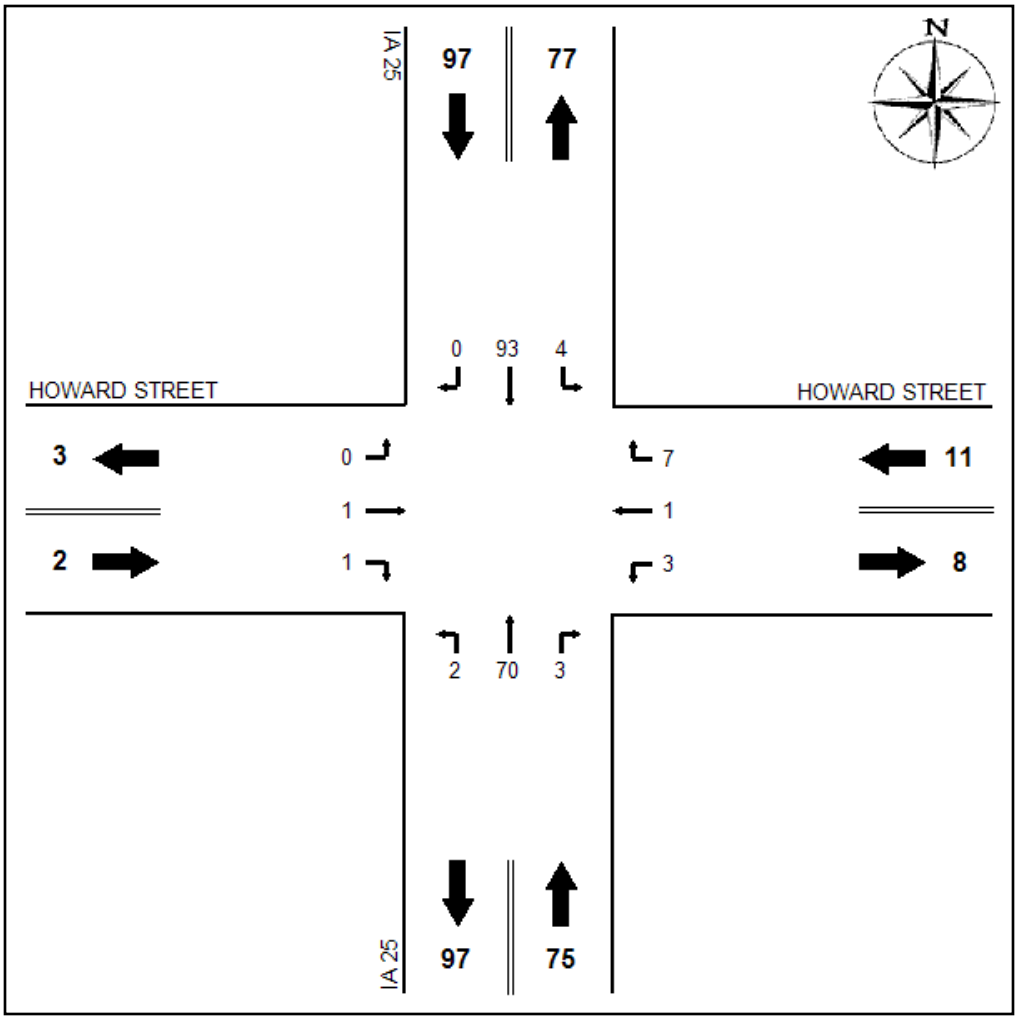
IA 25 & HOWARD ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Single-Unit Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	0	8	0	0	0	2	0	9	0	0	0	0
08:00	2	18	0	0	0	2	0	18	1	0	0	1
11:00	1	25	0	0	0	1	2	16	1	0	0	0
12:00	1	20	0	1	0	1	0	10	1	0	0	0
15:00	0	5	0	1	0	1	0	6	0	0	0	0
16:00	0	12	0	1	1	0	0	9	0	0	1	0
17:00	0	5	0	0	0	0	0	2	0	0	0	0

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Combination Trucks

Station Number:

88218583099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

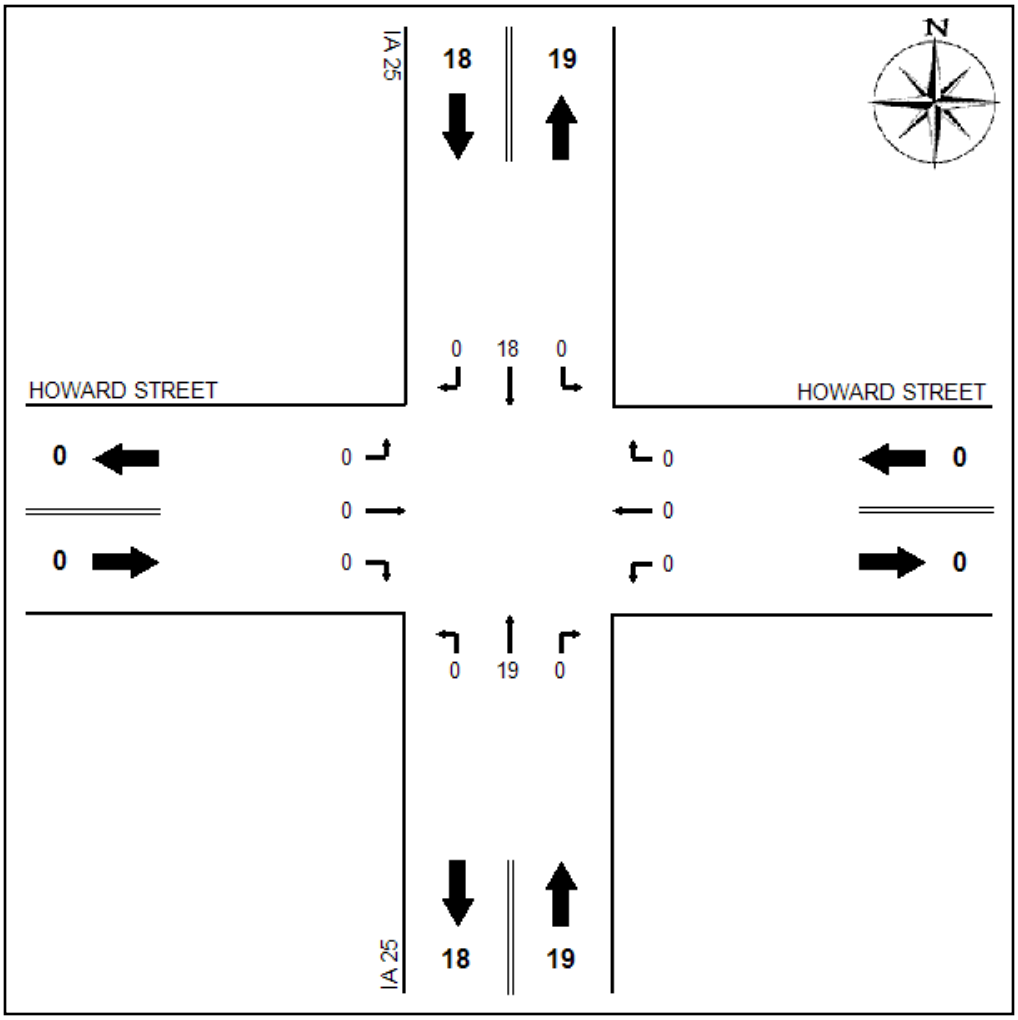
IA 25 & HOWARD ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Combination Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	0	4	0	0	0	0	0	7	0	0	0	0
08:00	0	2	0	0	0	0	0	5	0	0	0	0
11:00	0	2	0	0	0	0	0	0	0	0	0	0
12:00	0	2	0	0	0	0	0	4	0	0	0	0
15:00	0	2	0	0	0	0	0	0	0	0	0	0
16:00	0	3	0	0	0	0	0	3	0	0	0	0
17:00	0	3	0	0	0	0	0	0	0	0	0	0

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Annualized Daily Traffic For All Vehicles

Station Number:

88218184099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

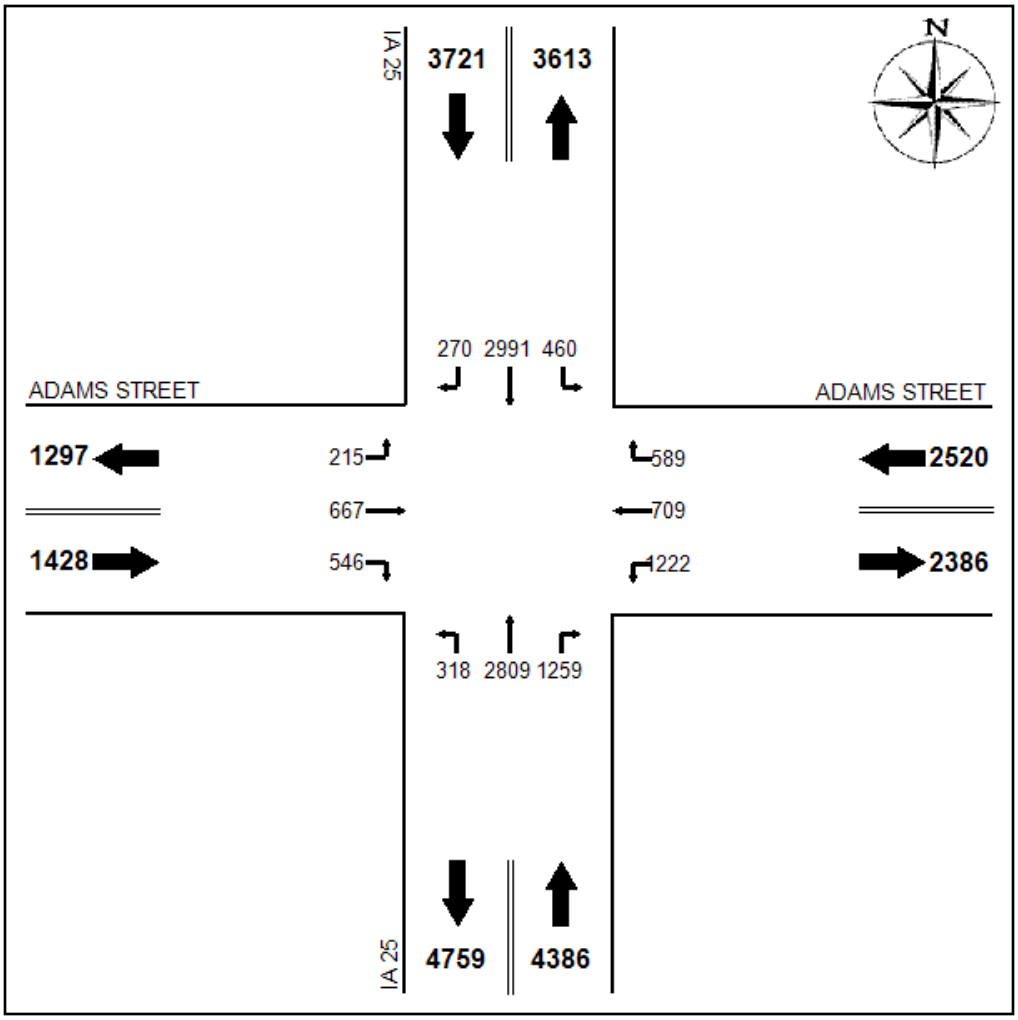
IA 25 & W ADAMS ST

Volume Factor: 1.811

Pass Class Factor: 1.839

SU Class Factor: 1.574

Combo Class Factor: 1.455



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	26	177	13	57	26	16	11	180	78	13	51	27
08:00	37	179	13	72	33	51	19	175	77	19	45	26
11:00	46	247	11	100	44	55	29	220	86	7	49	48
12:00	44	282	15	116	62	57	28	237	122	13	50	44
15:00	42	251	33	109	66	58	34	230	108	16	53	46
16:00	30	254	26	124	83	50	26	269	113	20	66	55
17:00	27	245	36	89	73	34	27	226	104	29	51	52

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Passenger Vehicles

Station Number:

88218184099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

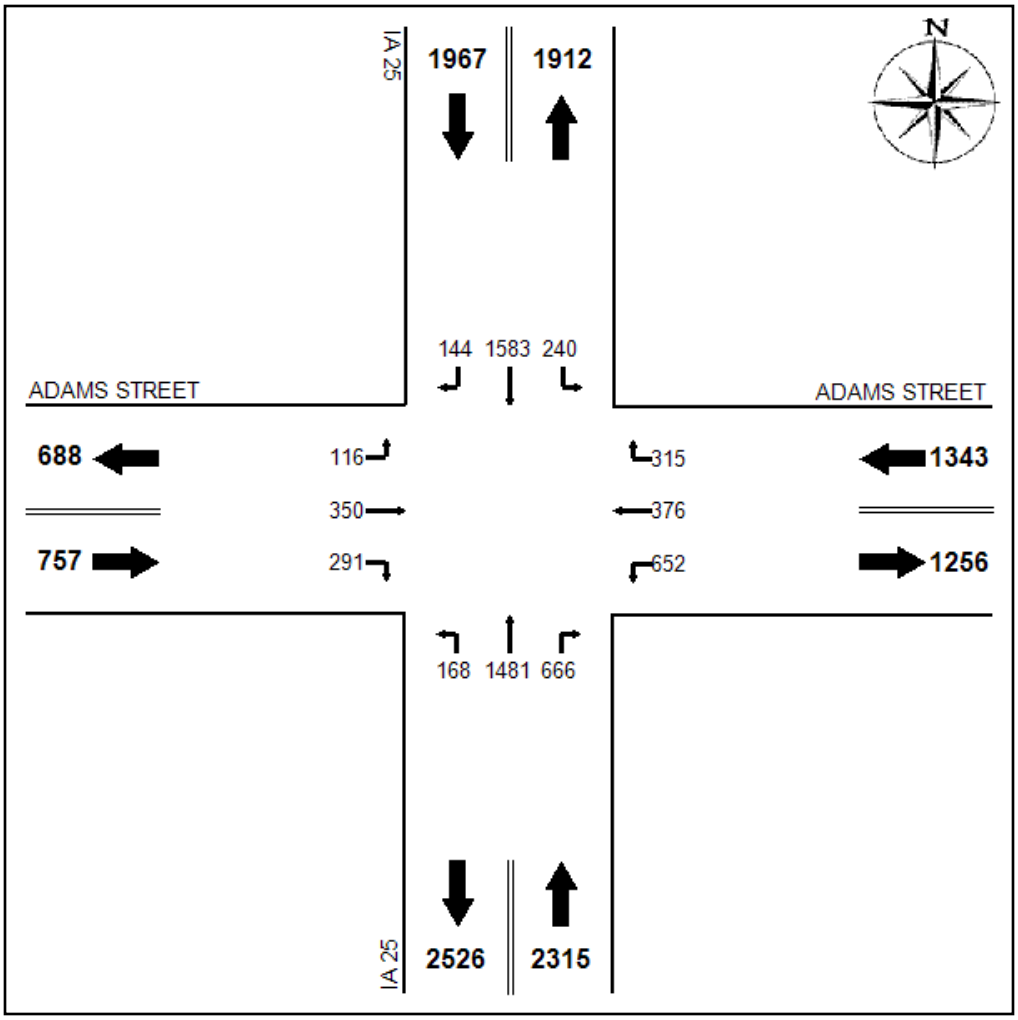
IA 25 & W ADAMS ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Passenger Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	24	165	12	55	24	16	10	165	77	13	47	27
08:00	35	175	13	68	31	50	17	168	74	19	42	25
11:00	44	235	11	97	43	53	28	211	79	7	46	47
12:00	43	274	15	112	58	55	27	225	117	12	49	42
15:00	39	248	32	108	65	58	33	226	108	16	51	44
16:00	28	247	25	123	82	49	26	262	109	20	64	55
17:00	27	239	36	89	73	34	27	224	102	29	51	51

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Single-Unit Trucks

Station Number:

88218184099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

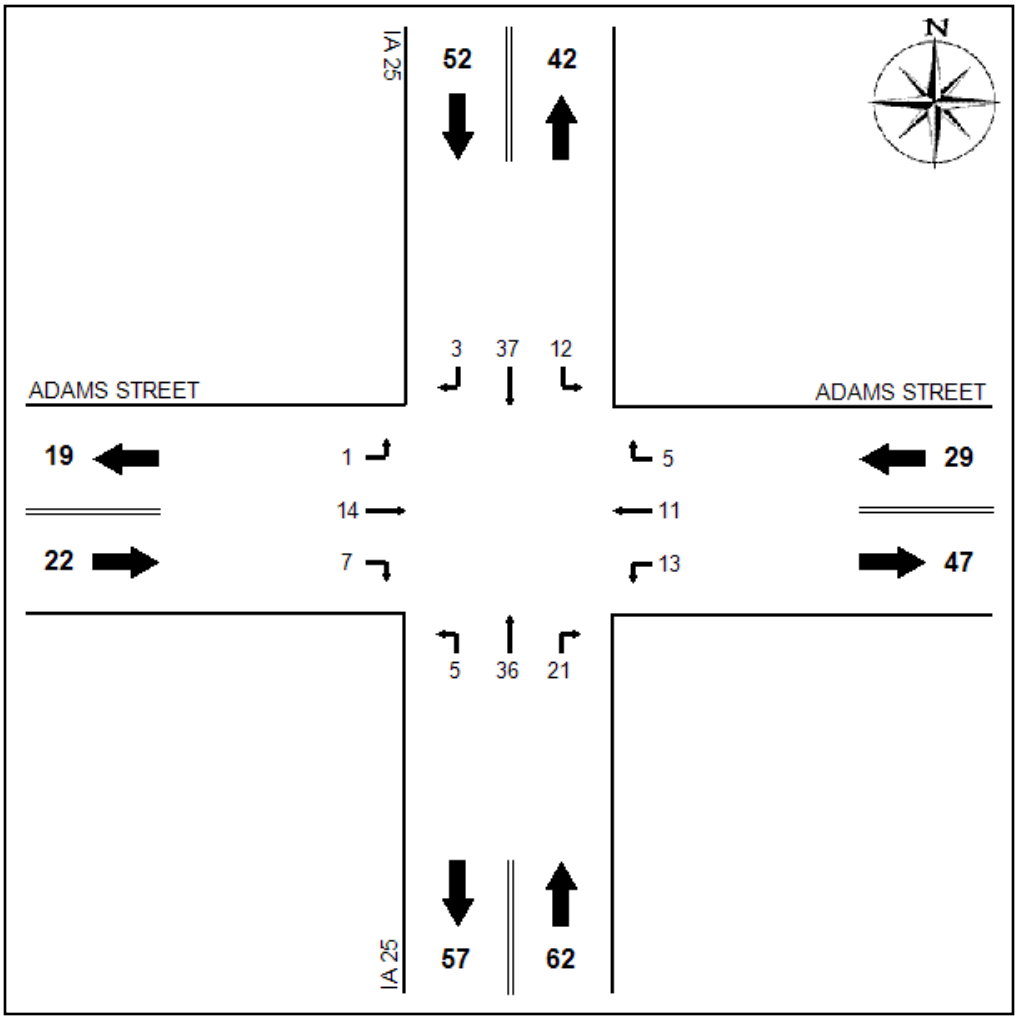
IA 25 & W ADAMS ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Single-Unit Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	2	10	1	2	2	0	1	6	1	0	4	0
08:00	2	2	0	3	2	0	2	4	3	0	2	1
11:00	2	9	0	3	1	2	0	8	6	0	3	1
12:00	1	7	0	3	4	2	1	9	5	1	1	2
15:00	3	2	1	1	1	0	1	4	0	0	2	2
16:00	2	3	1	1	1	1	0	4	4	0	2	0
17:00	0	4	0	0	0	0	0	1	2	0	0	1

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Vehicle Type: Combination Trucks

Station Number:

88218184099

Count Date:

Thursday, June 09, 2016

County:

Union

Location Description:

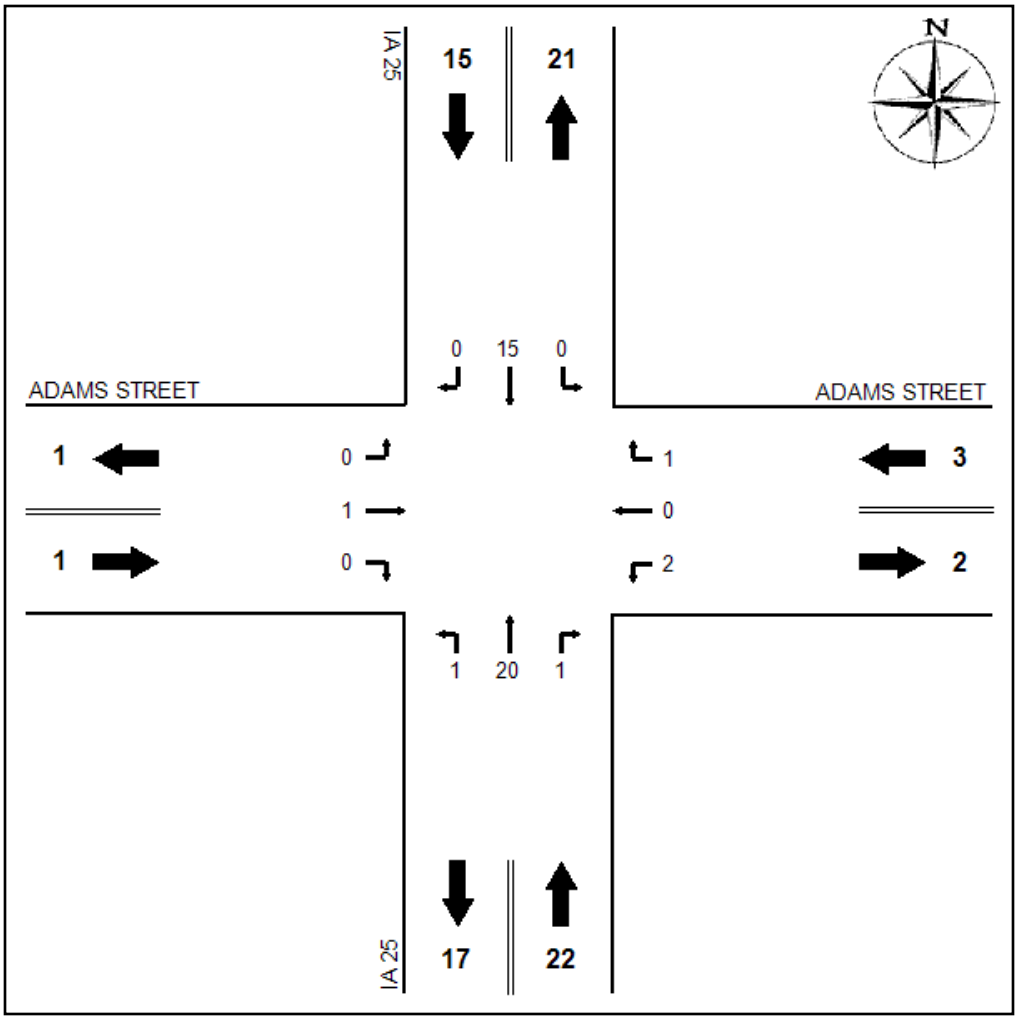
IA 25 & W ADAMS ST

Volume Factor: N/A

Pass Class Factor: N/A

SU Class Factor: N/A

Combo Class Factor: N/A



Raw Data-Combination Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*
07:00	0	2	0	0	0	0	0	9	0	0	0	0
08:00	0	2	0	1	0	1	0	3	0	0	1	0
11:00	0	3	0	0	0	0	1	1	1	0	0	0
12:00	0	1	0	1	0	0	0	3	0	0	0	0
15:00	0	1	0	0	0	0	0	0	0	0	0	0
16:00	0	4	0	0	0	0	0	3	0	0	0	0
17:00	0	2	0	0	0	0	0	1	0	0	0	0

Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Cherry St & W Townline St
Creston, IA
115.1000.01P

File Name : CherrySt_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

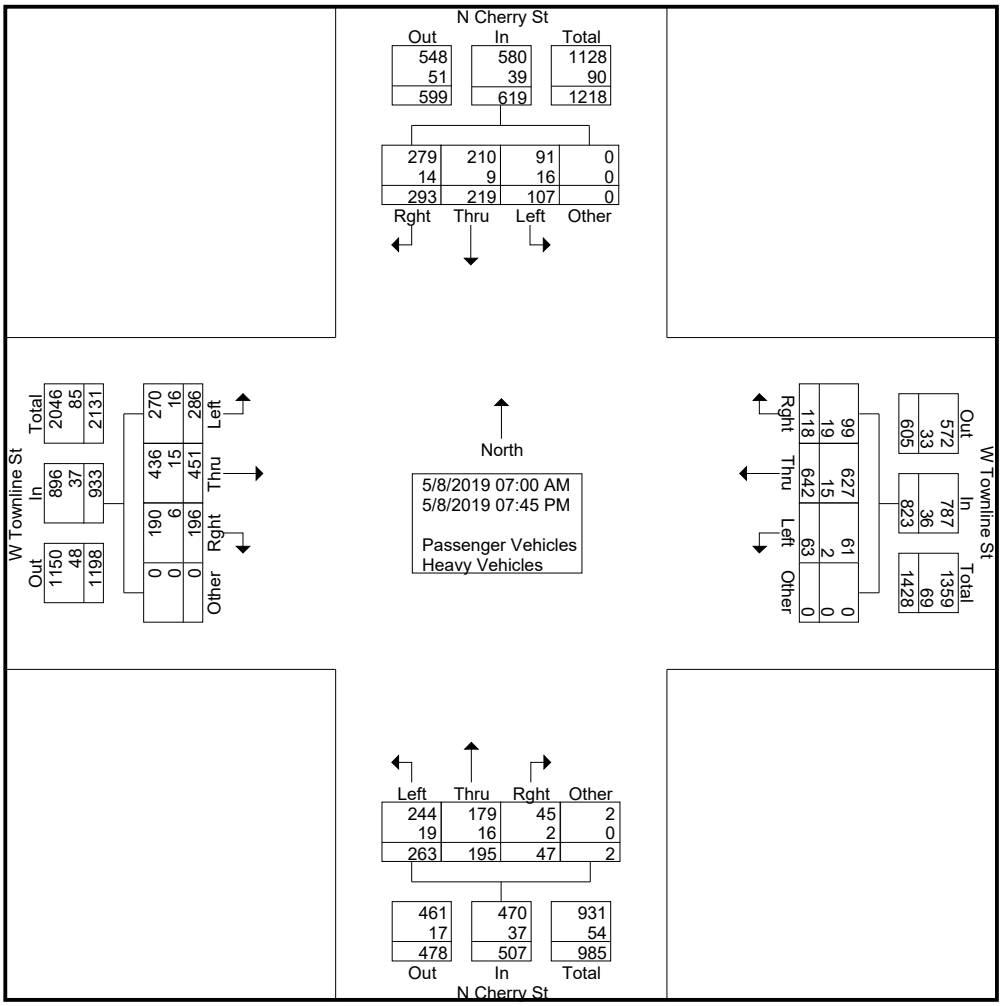
	N Cherry St From North					W Townline St From East					N Cherry St From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	6	10	8	0	24	0	10	1	0	11	2	6	6	0	14	7	19	4	0	30	79
07:15 AM	10	9	10	0	29	2	24	2	0	28	1	4	10	0	15	1	6	7	0	14	86
07:30 AM	19	13	6	0	38	4	42	2	0	48	1	4	12	0	17	7	17	7	0	31	134
07:45 AM	28	18	8	0	54	0	40	3	0	43	2	2	13	0	17	9	23	7	0	39	153
Total	63	50	32	0	145	6	116	8	0	130	6	16	41	0	63	24	65	25	0	114	452
08:00 AM	13	9	4	0	26	4	29	2	0	35	0	2	5	0	7	14	19	10	0	43	111
08:15 AM	13	7	3	0	23	3	14	0	0	17	3	3	4	0	10	6	8	10	0	24	74
08:30 AM	7	4	2	0	13	7	12	1	0	20	0	6	11	0	17	7	10	5	0	22	72
08:45 AM	14	7	1	0	22	8	12	0	0	20	1	9	5	0	15	1	8	8	0	17	74
Total	47	27	10	0	84	22	67	3	0	92	4	20	25	0	49	28	45	33	0	106	331
11:00 AM	16	6	5	0	27	5	11	1	0	17	1	9	9	0	19	13	13	10	0	36	99
11:15 AM	7	8	5	0	20	5	18	4	0	27	1	9	14	0	24	8	13	11	0	32	103
11:30 AM	12	8	6	0	26	4	36	6	0	46	2	8	12	0	22	7	32	6	0	45	139
11:45 AM	8	9	3	0	20	1	28	2	0	31	1	7	11	0	19	9	20	14	0	43	113
Total	43	31	19	0	93	15	93	13	0	121	5	33	46	0	84	37	78	41	0	156	454
12:00 PM	8	10	3	0	21	1	29	3	0	33	1	7	11	0	19	10	20	16	0	46	119
12:15 PM	4	6	6	0	16	5	20	5	0	30	1	7	10	0	18	10	19	14	0	43	107
12:30 PM	7	11	6	0	24	6	25	2	0	33	3	5	7	0	15	10	20	12	0	42	114
12:45 PM	11	17	5	0	33	2	19	0	0	21	2	12	11	0	25	8	9	7	0	24	103
Total	30	44	20	0	94	14	93	10	0	117	7	31	39	0	77	38	68	49	0	155	443
03:00 PM	5	5	1	0	11	4	24	2	0	30	4	11	6	0	21	10	17	11	0	38	100
03:15 PM	9	8	4	0	21	6	21	3	0	30	1	6	8	1	16	10	33	16	0	59	126
03:30 PM	27	12	6	0	45	18	68	7	0	93	4	19	24	0	47	11	23	18	0	52	237
03:45 PM	8	9	0	0	17	8	28	3	0	39	0	11	14	0	25	3	20	22	0	45	126
Total	49	34	11	0	94	36	141	15	0	192	9	47	52	1	109	34	93	67	0	194	589
04:00 PM	15	9	2	0	26	8	28	3	0	39	3	10	12	0	25	6	29	11	0	46	136
04:15 PM	15	7	2	0	24	3	27	2	0	32	2	16	20	0	38	8	24	22	0	54	148
04:30 PM	8	10	4	0	22	8	53	8	0	69	5	11	16	1	33	8	21	19	0	48	172
04:45 PM	23	7	7	0	37	6	24	1	0	31	6	11	12	0	29	13	28	19	0	60	157
Total	61	33	15	0	109	25	132	14	0	171	16	48	60	1	125	35	102	71	0	208	613
Grand Total	293	219	107	0	619	118	642	63	0	823	47	195	263	2	507	196	451	286	0	933	2882
Apprch %	47.3	35.4	17.3	0		14.3	78	7.7	0		9.3	38.5	51.9	0.4		21	48.3	30.7	0		
Total %	10.2	7.6	3.7	0	21.5	4.1	22.3	2.2	0	28.6	1.6	6.8	9.1	0.1	17.6	6.8	15.6	9.9	0	32.4	
Passenger Vehicles	279	210	91	0	580	99	627	61	0	787	45	179	244	2	470	190	436	270	0	896	2733
% Passenger Vehicles	95.2	95.9	85	0	93.7	83.9	97.7	96.8	0	95.6	95.7	91.8	92.8	100	92.7	96.9	96.7	94.4	0	96	94.8
Heavy Vehicles	14	9	16	0	39	19	15	2	0	36	2	16	19	0	37	6	15	16	0	37	149
% Heavy Vehicles	4.8	4.1	15	0	6.3	16.1	2.3	3.2	0	4.4	4.3	8.2	7.2	0	7.3	3.1	3.3	5.6	0	4	5.2

Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Cherry St & W Townline St
Creston, IA
115.1000.01P

File Name : CherrySt_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 2



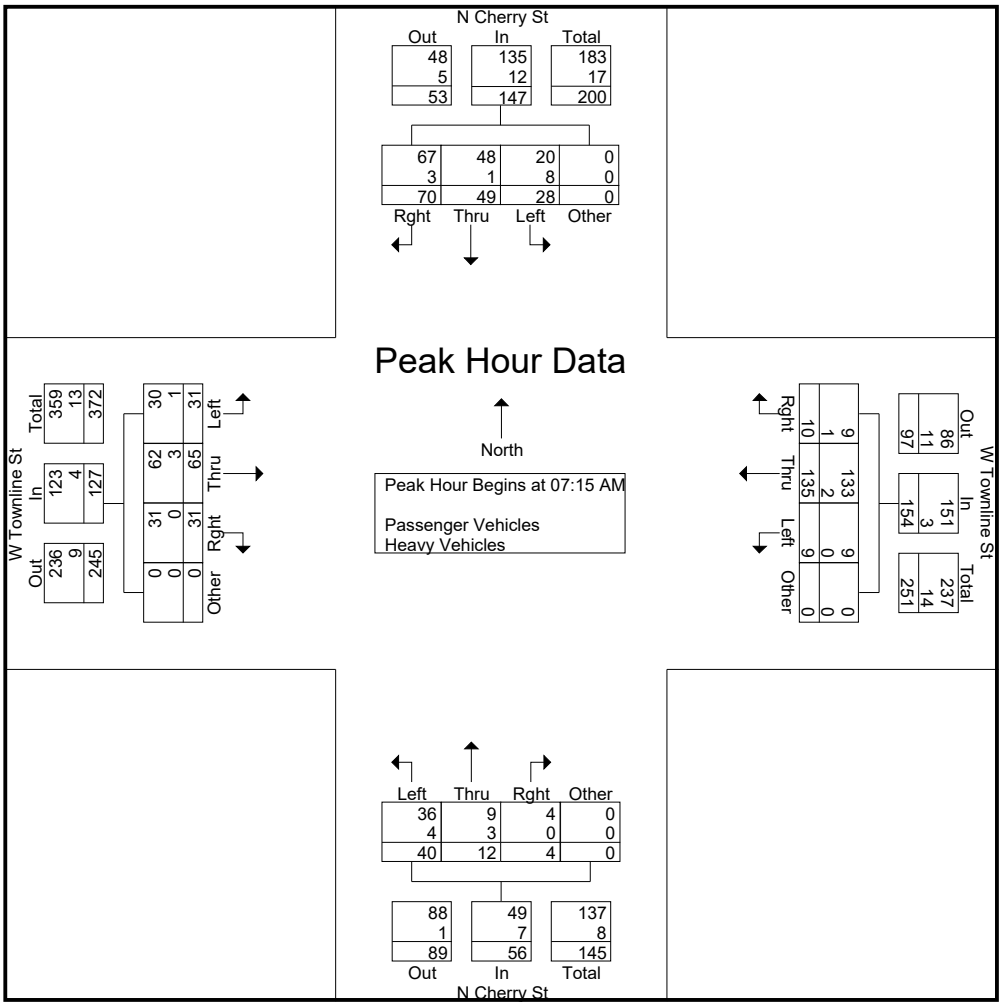
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Cherry St & W Townline St
Creston, IA
115.1000.01P

File Name : CherrySt_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 3

	N Cherry St From North					W Townline St From East					N Cherry St From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	10	9	**10**	0	29	2	24	2	0	28	1	**4**	10	0	15	1	6	7	0	14	86
07:30 AM	19	13	6	0	38	**4**	**42**	2	0	**48**	1	4	12	0	**17**	7	17	7	0	31	134
07:45 AM	**28**	**18**	8	0	**54**	0	40	**3**	0	43	**2**	2	**13**	0	17	9	**23**	7	0	39	**153**
08:00 AM	13	9	4	0	26	4	29	2	0	35	0	2	5	0	7	**14**	19	**10**	0	**43**	111
Total Volume	70	49	28	0	147	10	135	9	0	154	4	12	40	0	56	31	65	31	0	127	484
% App. Total	47.6	33.3	19	0		6.5	87.7	5.8	0		7.1	21.4	71.4	0		24.4	51.2	24.4	0		
PHF	.625	.681	.700	.000	.681	.625	.804	.750	.000	.802	.500	.750	.769	.000	.824	.554	.707	.775	.000	.738	.791
Passenger Vehicles	67	48	20	0	135	9	133	9	0	151	4	9	36	0	49	31	62	30	0	123	458
% Passenger Vehicles	95.7	98.0	71.4	0	91.8	90.0	98.5	100	0	98.1	100	75.0	90.0	0	87.5	100	95.4	96.8	0	96.9	94.6
Heavy Vehicles	3	1	8	0	12	1	2	0	0	3	0	3	4	0	7	0	3	1	0	4	26
% Heavy Vehicles	4.3	2.0	28.6	0	8.2	10.0	1.5	0	0	1.9	0	25.0	10.0	0	12.5	0	4.6	3.2	0	3.1	5.4



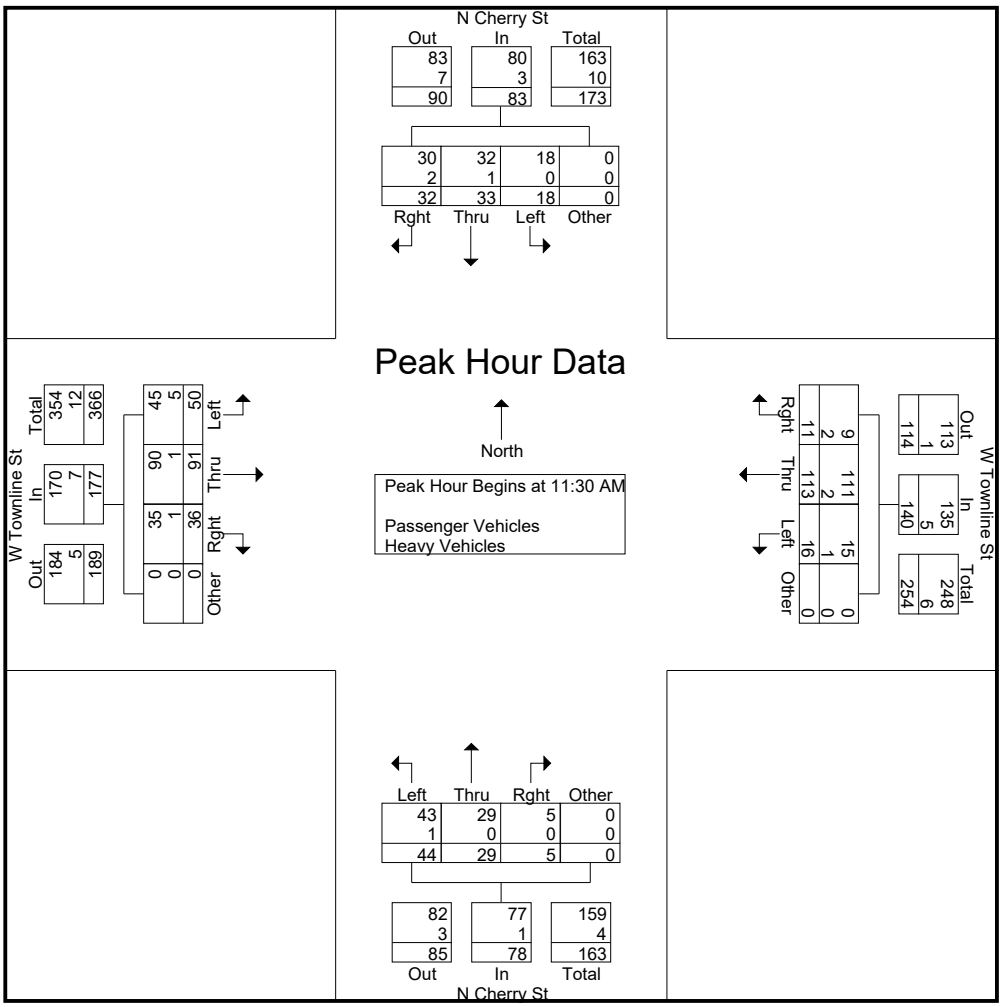
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Cherry St & W Townline St
Creston, IA
115.1000.01P

File Name : CherrySt_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 4

	N Cherry St From North					W Townline St From East					N Cherry St From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	**12**	8	**6**	0	**26**	4	**36**	**6**	0	**46**	**2**	**8**	**12**	0	**22**	7	**32**	6	0	45	**139**
11:45 AM	8	9	3	0	20	1	28	2	0	31	1	7	11	0	19	9	20	14	0	43	113
12:00 PM	8	**10**	3	0	21	1	29	3	0	33	1	7	11	0	19	**10**	20	**16**	0	**46**	119
12:15 PM	4	6	6	0	16	**5**	20	5	0	30	1	7	10	0	18	10	19	14	0	43	107
Total Volume	32	33	18	0	83	11	113	16	0	140	5	29	44	0	78	36	91	50	0	177	478
% App. Total	38.6	39.8	21.7	0		7.9	80.7	11.4	0		6.4	37.2	56.4	0		20.3	51.4	28.2	0		
PHF	.667	.825	.750	.000	.798	.550	.785	.667	.000	.761	.625	.906	.917	.000	.886	.900	.711	.781	.000	.962	.860
Passenger Vehicles	30	32	18	0	80	9	111	15	0	135	5	29	43	0	77	35	90	45	0	170	462
% Passenger Vehicles	93.8	97.0	100	0	96.4	81.8	98.2	93.8	0	96.4	100	100	97.7	0	98.7	97.2	98.9	90.0	0	96.0	96.7
Heavy Vehicles	2	1	0	0	3	2	2	1	0	5	0	0	1	0	1	1	1	5	0	7	16
% Heavy Vehicles	6.3	3.0	0	0	3.6	18.2	1.8	6.3	0	3.6	0	0	2.3	0	1.3	2.8	1.1	10.0	0	4.0	3.3



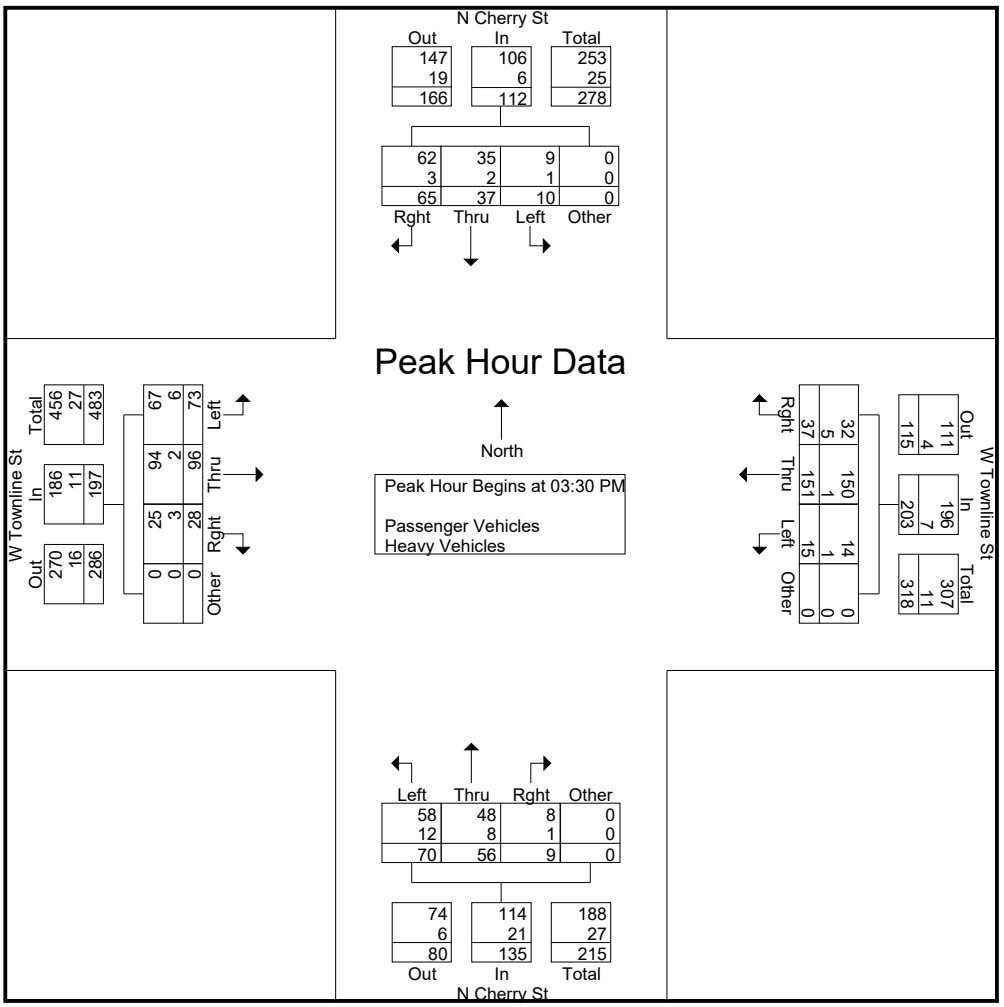
Turning Movement Count

SNYDER & ASSOCIATES

Turning Movement Counts
N Cherry St & W Townline St
Creston, IA
115.1000.01P

File Name : CherrySt_TownlineSt_20190508
Site Code :
Start Date : 5/8/2019
Page No : 5

	N Cherry St From North					W Townline St From East					N Cherry St From South					W Townline St From West					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	**27**	**12**	**6**	0	**45**	**18**	**68**	**7**	0	**93**	**4**	**19**	**24**	0	**47**	**11**	23	18	0	52	**237**
03:45 PM	8	9	0	0	17	8	28	3	0	39	0	11	14	0	25	3	20	**22**	0	45	126
04:00 PM	15	9	2	0	26	8	28	3	0	39	3	10	12	0	25	6	**29**	11	0	46	136
04:15 PM	15	7	2	0	24	3	27	2	0	32	2	16	20	0	38	8	24	22	0	**54**	148
Total Volume	65	37	10	0	112	37	151	15	0	203	9	56	70	0	135	28	96	73	0	197	647
% App. Total	58	33	8.9	0		18.2	74.4	7.4	0		6.7	41.5	51.9	0		14.2	48.7	37.1	0		
PHF	.602	.771	.417	.000	.622	.514	.555	.536	.000	.546	.563	.737	.729	.000	.718	.636	.828	.830	.000	.912	.682
Passenger Vehicles	62	35	9	0	106	32	150	14	0	196	8	48	58	0	114	25	94	67	0	186	602
% Passenger Vehicles	95.4	94.6	90.0	0	94.6	86.5	99.3	93.3	0	96.6	88.9	85.7	82.9	0	84.4	89.3	97.9	91.8	0	94.4	93.0
Heavy Vehicles	3	2	1	0	6	5	1	1	0	7	1	8	12	0	21	3	2	6	0	11	45
% Heavy Vehicles	4.6	5.4	10.0	0	5.4	13.5	0.7	6.7	0	3.4	11.1	14.3	17.1	0	15.6	10.7	2.1	8.2	0	5.6	7.0



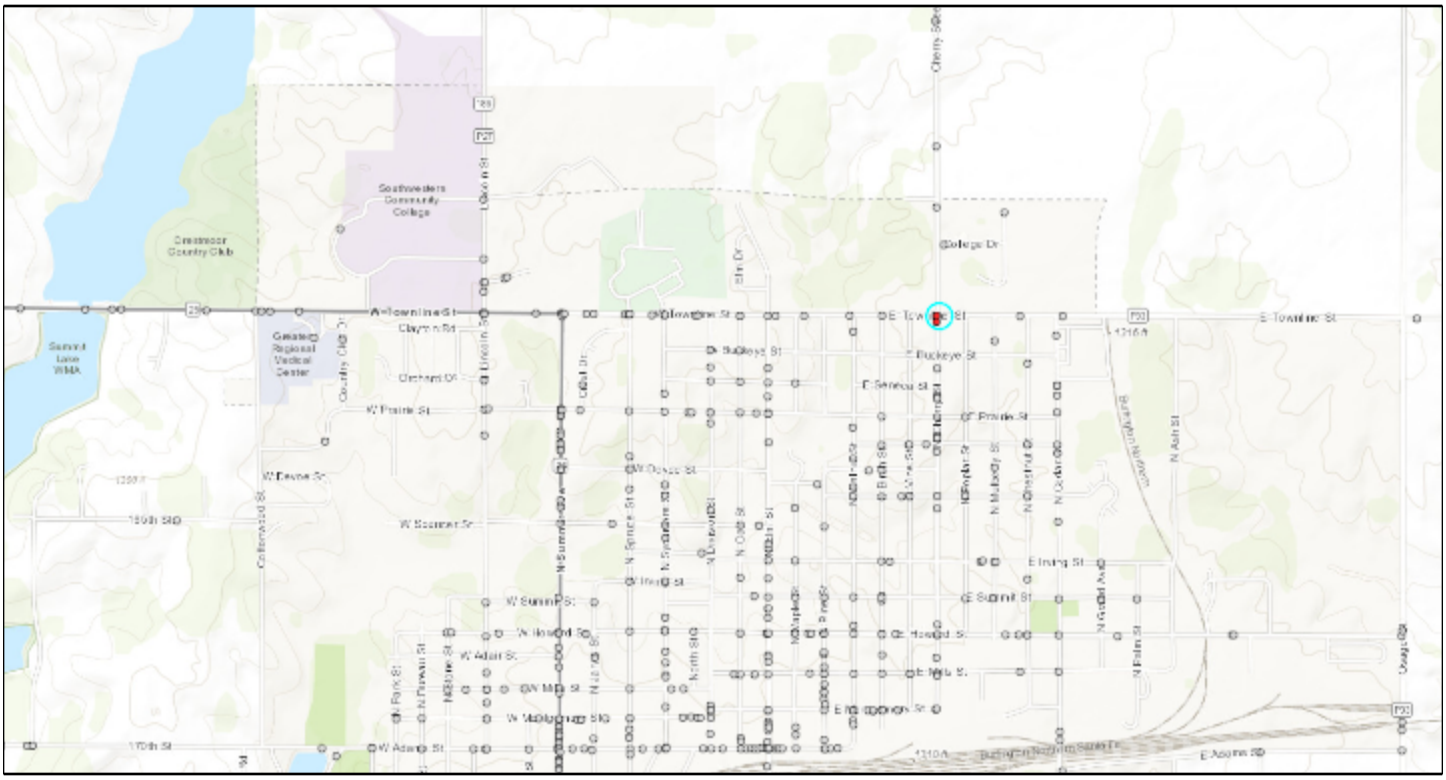
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	2
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	0
Possible/Unknown Injury Crash	1
Property Damage Only	1

Injury Status Summary	1
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	0
Possible (complaint of pain/injury)	1
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	16,000.00
Average (per crash dollars):	8,000.00
Total Vehicles:	4.00
Average (per crash):	2.00
Total Occupants:	4.00
Average (per crash):	2.00

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.50
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.00
Possible/Unknown Injuries/Crash:	0.50



Iowa Crash Analysis Tool
Quick Report
2014-2018

Major Cause			**2**
Animal	0	Ran traffic signal	0
Ran stop sign	1	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	0	FTYROW: From yield sign	0
FTYROW: Making left turn	0	FTYROW: From driveway	1
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	0	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	0	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wednesday	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Thursday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Friday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	0	0	0	0	2

Manner of Crash Collision	**2**
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	0
Angle, oncoming left turn	0
Broadside (front to side)	2
Sideswipe, same direction	0
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**2**
Dry	1
Wet	1
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**4**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	4

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	0	0	0	0	0
= 16	0	0	0	0	0
= 17	0	0	0	0	0
= 18	0	0	0	0	0
= 19	0	0	0	0	0
= 20	0	0	0	0	0
>= 21 and <= 24	0	0	0	0	0
>= 25 and <= 29	0	0	0	0	0
>= 30 and <= 34	0	1	0	0	1
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	1	0	0	0	1
>= 45 and <= 49	0	1	0	0	1
>= 50 and <= 54	0	1	0	0	1
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	0	0	0	0	0
>= 65 and <= 69	0	0	0	0	0
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	0	0	0	0	0
>= 85 and <= 89	0	0	0	0	0
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	1	3	0	0	4

Drug/Alcohol Related	2
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	2

Alcohol Test Given	4
None	4
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

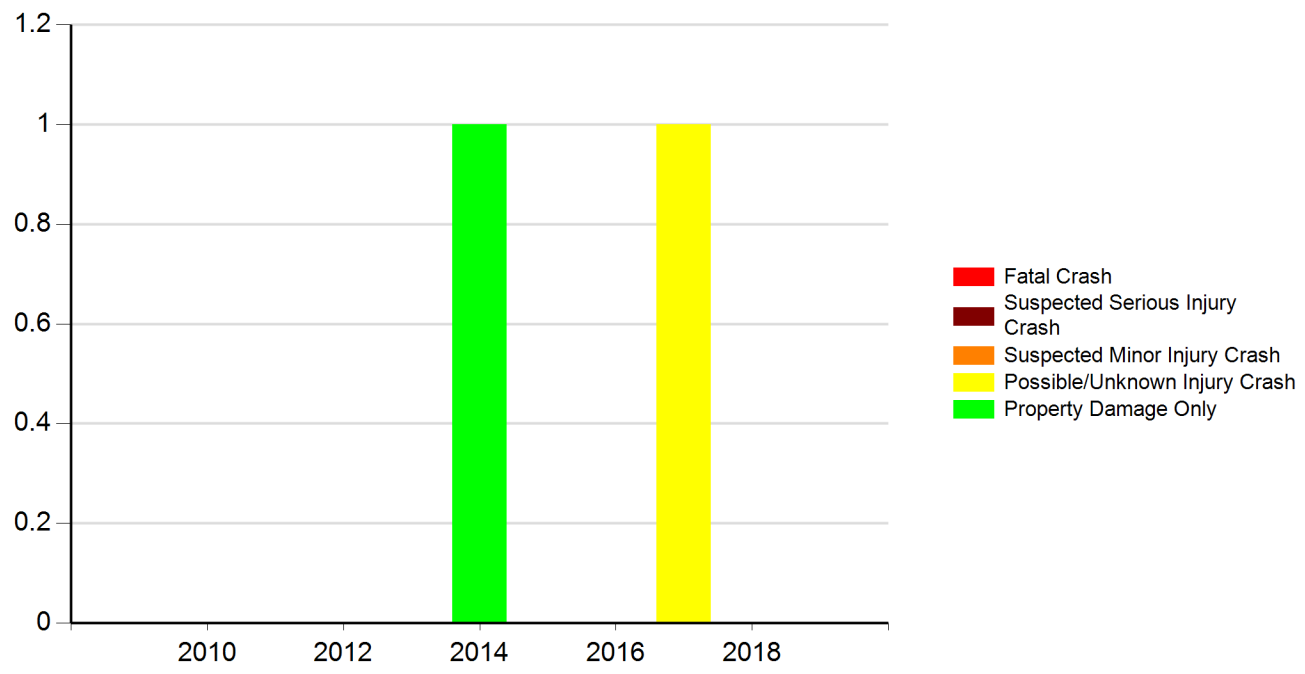
Drug Test Given	4
None	4
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	4
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	4
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	1	1
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	0	1
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
Total	0	0	0	1	1	2

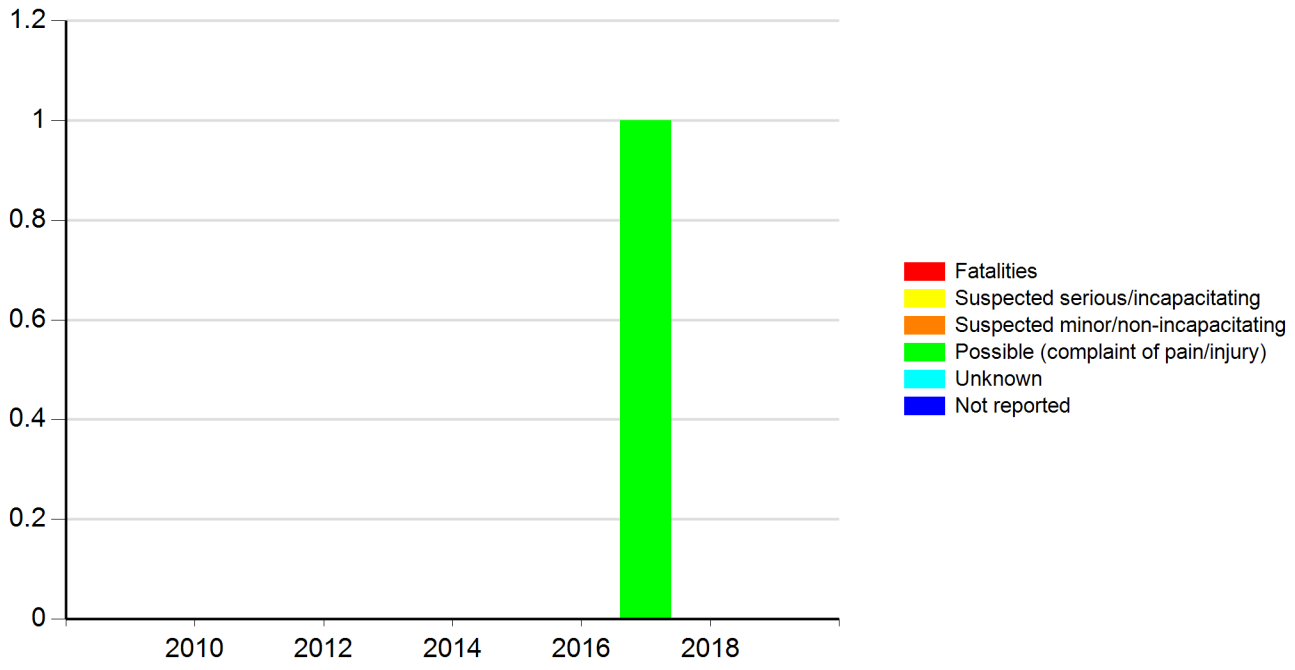
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0
2017	0	0	0	1	0	0	1
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

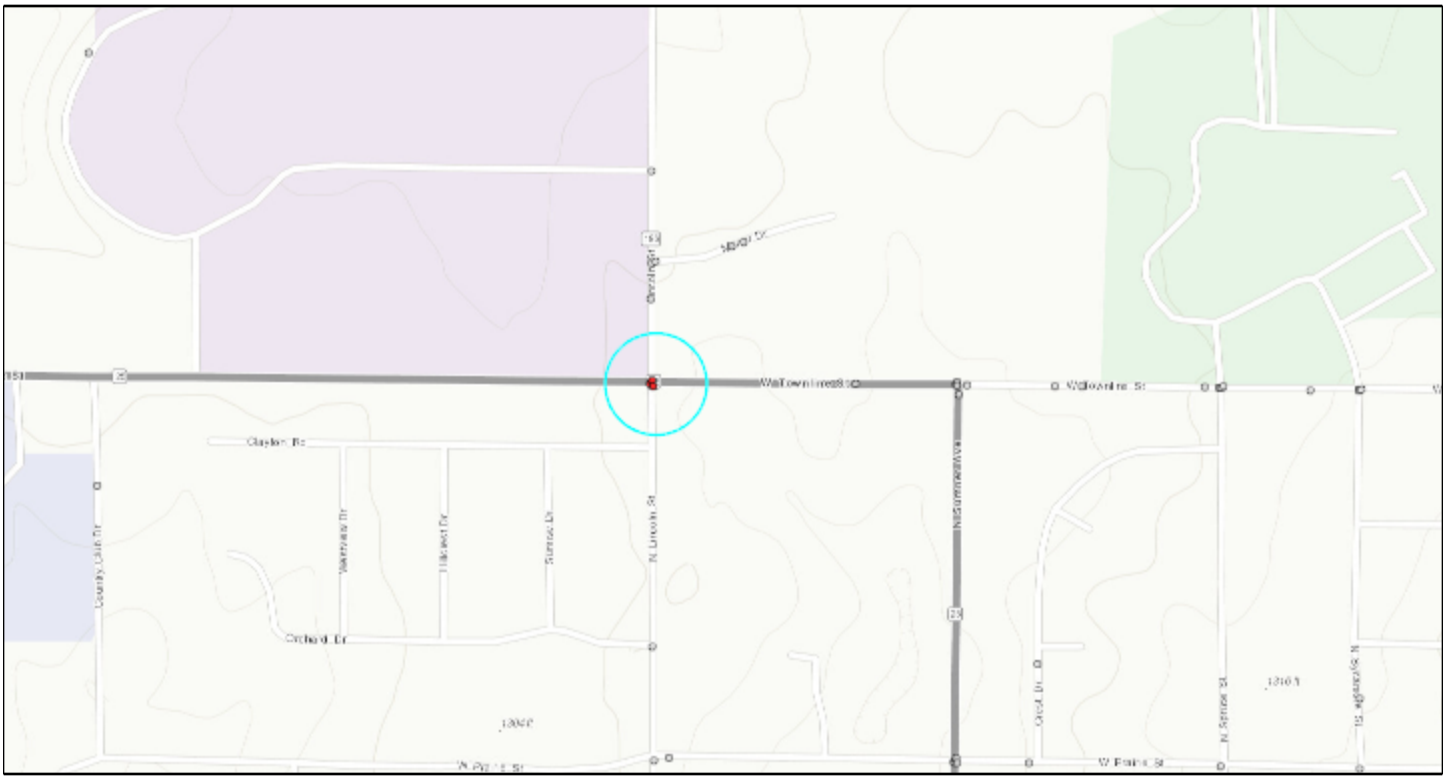
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	12
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	2
Possible/Unknown Injury Crash	2
Property Damage Only	8

Injury Status Summary	4
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	2
Possible (complaint of pain/injury)	2
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	84,900.00
Average (per crash dollars):	7,075.00
Total Vehicles:	23.00
Average (per crash):	1.92
Total Occupants:	40.00
Average (per crash):	3.33

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.33
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.17
Possible/Unknown Injuries/Crash:	0.17



Major Cause			12
Animal	0	Ran traffic signal	6
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	0	FTYROW: From yield sign	0
FTYROW: Making left turn	4	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	1
Ran off road - straight	0	Ran off road - left	0
Lost control	1	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	0	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monday	0	0	0	1	1	1	0	1	0	0	0	0	0	4
Tuesday	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Wednesday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Thursday	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Friday	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Saturday	0	0	0	0	0	0	0	1	2	0	0	0	0	3
Total	0	0	0	1	2	3	1	3	2	0	0	0	0	12

Manner of Crash Collision	**12**
Non-collision (single vehicle)	1
Head-on (front to front)	0
Rear-end (front to rear)	0
Angle, oncoming left turn	4
Broadside (front to side)	6
Sideswipe, same direction	0
Sideswipe, opposite direction	1
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**12**
Dry	9
Wet	2
Ice/frost	0
Snow	0
Slush	1
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**23**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	23

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	1	0	0	1
= 15	0	0	0	0	0
= 16	0	0	0	0	0
= 17	0	1	0	0	1
= 18	0	0	0	0	0
= 19	2	0	0	0	2
= 20	0	0	0	0	0
>= 21 and <= 24	0	1	0	0	1
>= 25 and <= 29	1	0	0	0	1
>= 30 and <= 34	0	0	0	0	0
>= 35 and <= 39	0	2	0	0	2
>= 40 and <= 44	2	0	0	0	2
>= 45 and <= 49	0	1	0	0	1
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	3	0	0	0	3
>= 60 and <= 64	1	2	0	0	3
>= 65 and <= 69	1	0	0	0	1
>= 70 and <= 74	0	1	0	0	1
>= 75 and <= 79	0	1	0	0	1
>= 80 and <= 84	0	1	0	0	1
>= 85 and <= 89	1	1	0	0	2
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	11	12	0	0	23

Drug/Alcohol Related	12
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	12

Alcohol Test Given	23
None	23
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

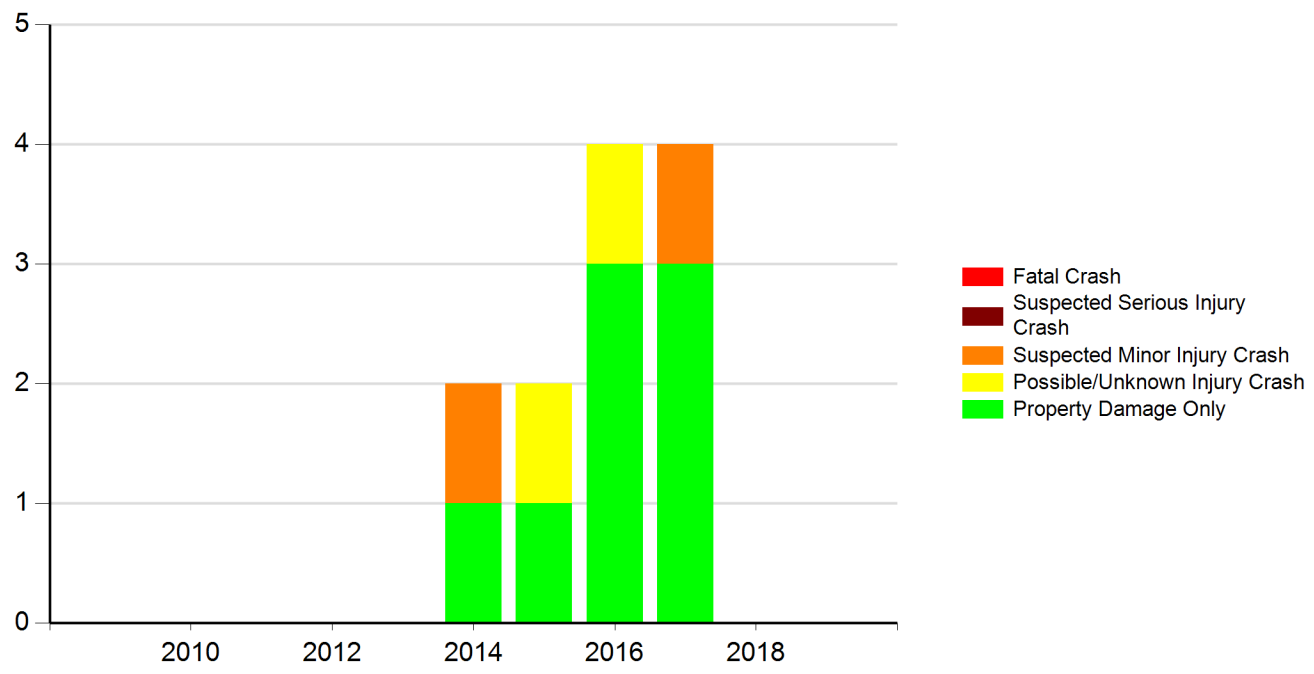
Drug Test Given	23
None	23
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	23
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	23
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	1	0	1	2
2015	0	0	0	1	1	2
2016	0	0	0	1	3	4
2017	0	0	1	0	3	4
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
Total	0	0	2	2	8	12

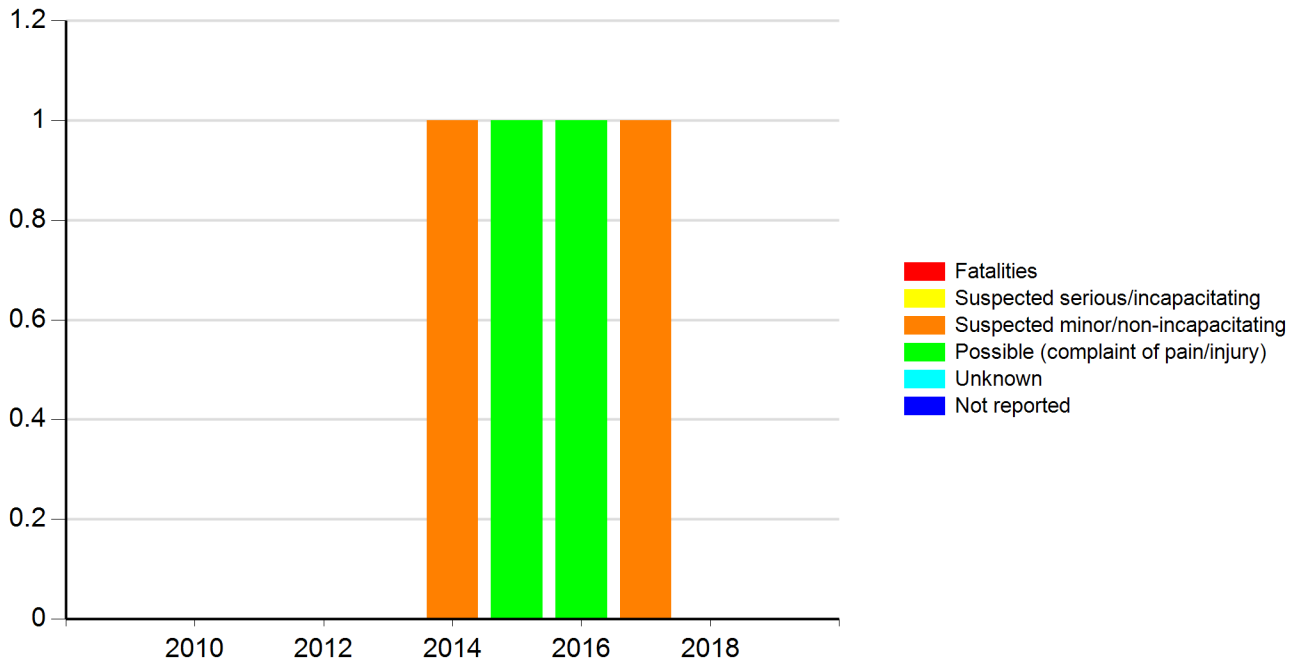
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	1	0	0	0	1
2015	0	0	0	1	0	0	1
2016	0	0	0	1	0	0	1
2017	0	0	1	0	0	0	1
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	4

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

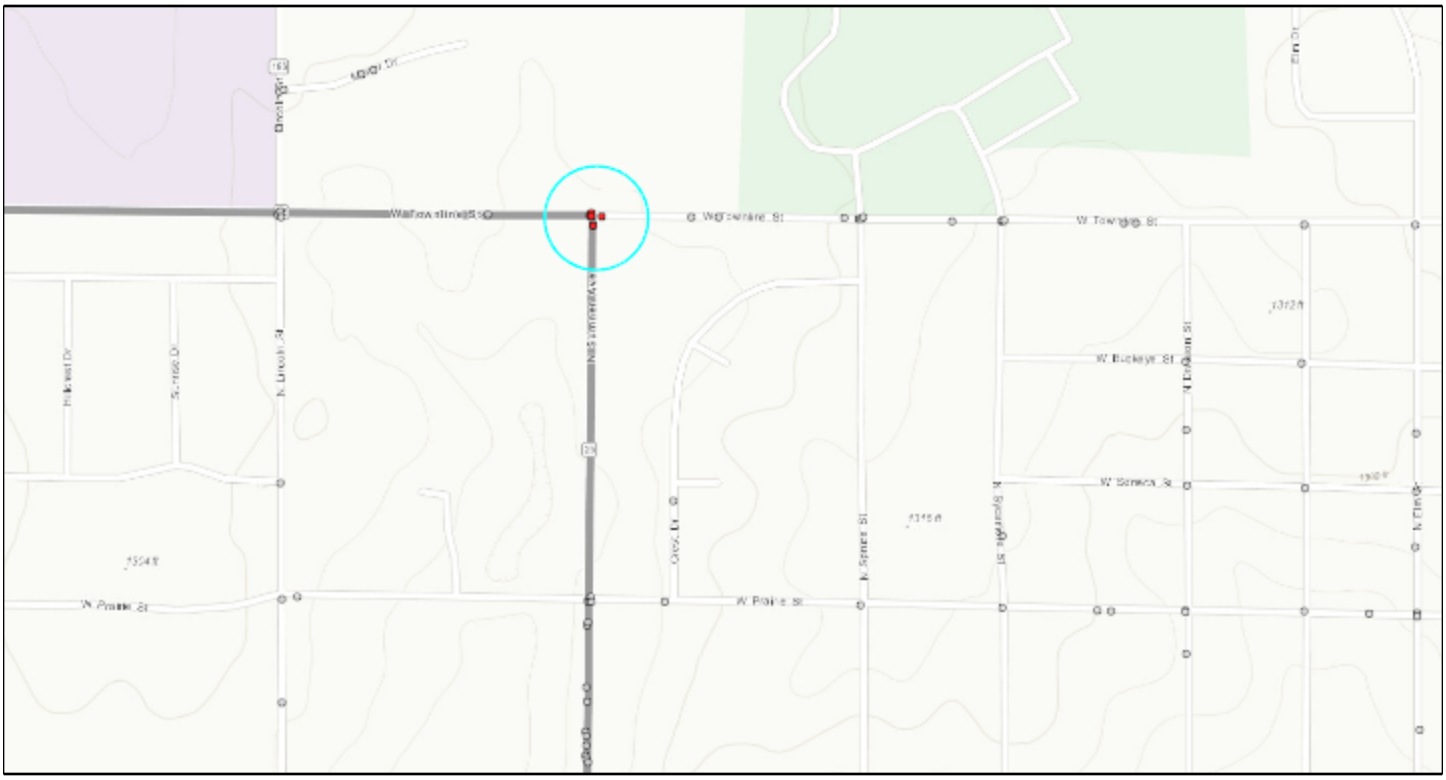
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	10
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	2
Possible/Unknown Injury Crash	0
Property Damage Only	8

Injury Status Summary	2
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	2
Possible (complaint of pain/injury)	0
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	38,000.00
Average (per crash dollars):	3,800.00
Total Vehicles:	20.00
Average (per crash):	2.00
Total Occupants:	26.00
Average (per crash):	2.60

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.20
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.20
Possible/Unknown Injuries/Crash:	0.00



Major Cause			10
Animal	0	Ran traffic signal	0
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	1
FTYROW: From stop sign	1	FTYROW: From yield sign	0
FTYROW: Making left turn	3	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	2	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	1
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	0	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	2	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monday	0	0	0	0	2	0	0	2	0	0	0	0	0	4
Tuesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wednesday	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Thursday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Friday	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Saturday	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	3	1	2	2	1	1	0	0	0	10

Manner of Crash Collision	**10**
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	0
Angle, oncoming left turn	1
Broadside (front to side)	4
Sideswipe, same direction	4
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	1
Unknown	0

Surface Conditions	**10**
Dry	10
Wet	0
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**20**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	20

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	0	0	0	0	0
= 16	1	0	0	0	1
= 17	1	0	0	0	1
= 18	0	0	0	0	0
= 19	0	1	0	0	1
= 20	0	1	0	0	1
>= 21 and <= 24	1	0	0	0	1
>= 25 and <= 29	0	1	0	0	1
>= 30 and <= 34	0	0	0	0	0
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	1	0	0	0	1
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	1	2	0	0	3
>= 60 and <= 64	0	1	0	0	1
>= 65 and <= 69	0	0	0	0	0
>= 70 and <= 74	0	2	1	0	3
>= 75 and <= 79	1	0	0	0	1
>= 80 and <= 84	2	1	0	0	3
>= 85 and <= 89	0	2	0	0	2
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	8	11	1	0	20

Drug/Alcohol Related	10
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	10

Alcohol Test Given	20
None	20
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

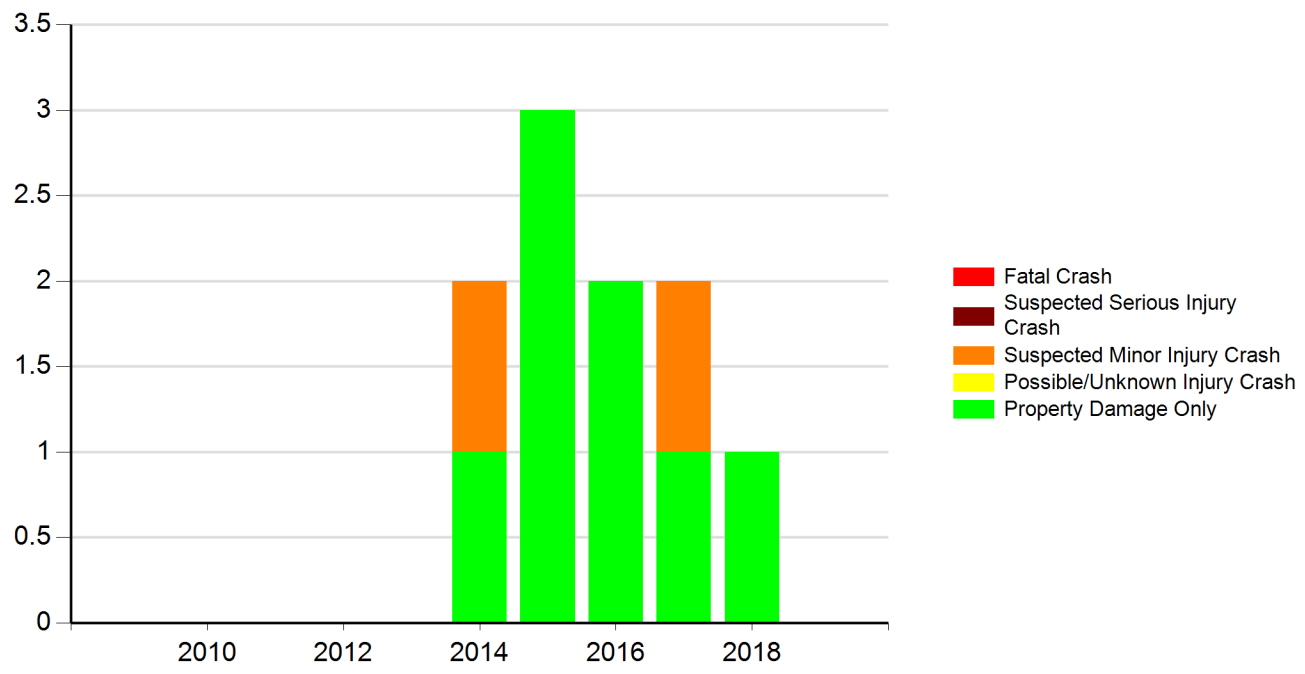
Drug Test Given	20
None	20
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	20
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	20
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	1	0	1	2
2015	0	0	0	0	3	3
2016	0	0	0	0	2	2
2017	0	0	1	0	1	2
2018	0	0	0	0	1	1
2019	0	0	0	0	0	0
Total	0	0	2	0	8	10

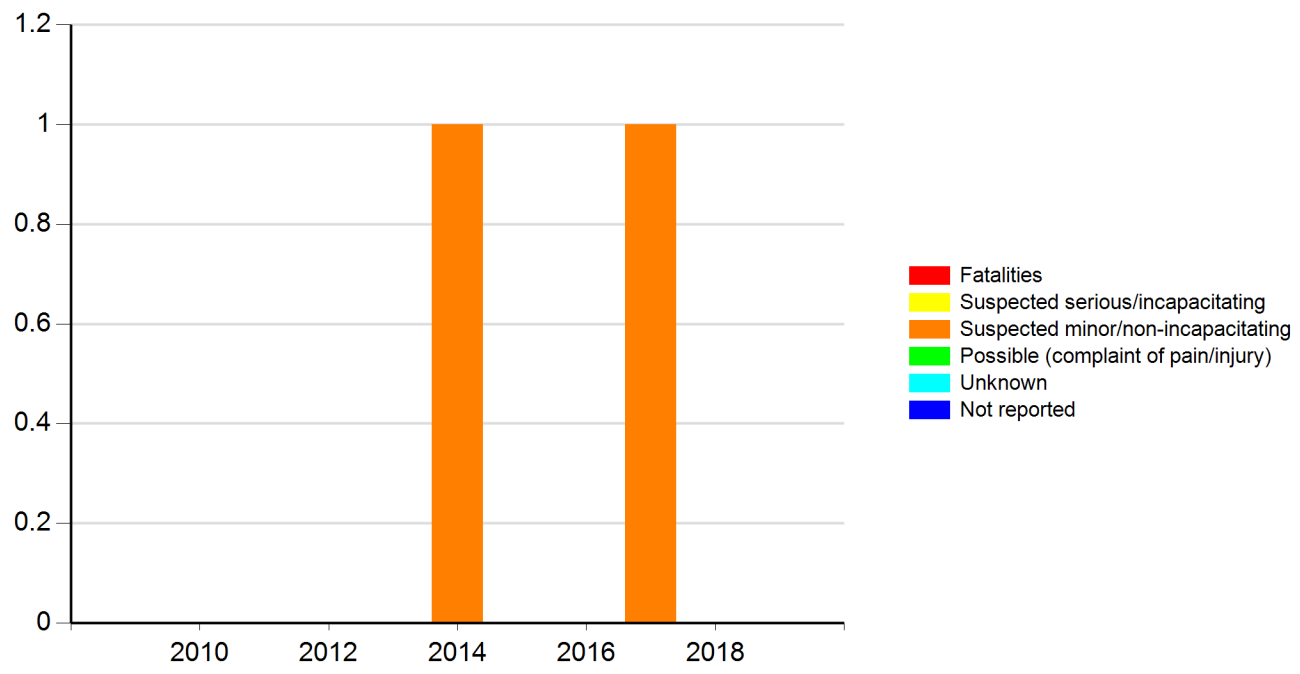
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	1	0	0	0	1
2015	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0
2017	0	0	1	0	0	0	1
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
Total	0	0	2	0	0	0	2

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

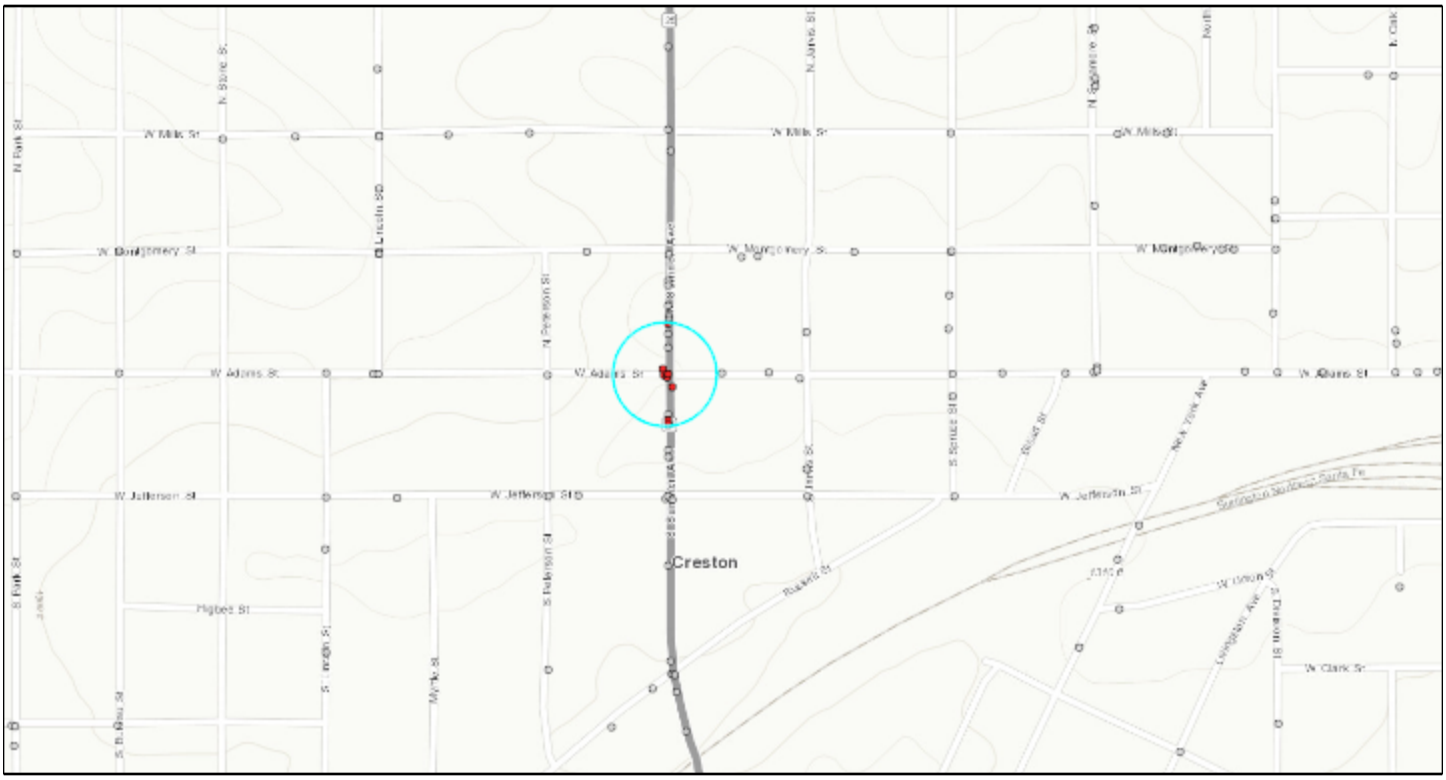
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	31
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	4
Possible/Unknown Injury Crash	3
Property Damage Only	24

Injury Status Summary	9
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	6
Possible (complaint of pain/injury)	3
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	133,100.00
Average (per crash dollars):	4,293.55
Total Vehicles:	62.00
Average (per crash):	2.00
Total Occupants:	81.00
Average (per crash):	2.61

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.29
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.19
Possible/Unknown Injuries/Crash:	0.10



Major Cause			31
Animal	0	Ran traffic signal	2
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	1
FTYROW: From stop sign	0	FTYROW: From yield sign	0
FTYROW: Making left turn	12	FTYROW: From driveway	1
FTYROW: From parked position	0	FTYROW: To pedestrian	1
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	1	Followed too close	6
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	1	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	1
Lost control	0	Swerving/Evasive Action	2
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	1
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	2
Unknown	0	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	1	0	0	0	1	0	0	0	0	2
Monday	0	0	0	1	0	0	0	0	1	1	0	0	0	3
Tuesday	0	0	0	0	0	0	3	0	3	1	0	0	0	7
Wednesday	0	0	0	0	1	0	2	1	0	0	0	0	0	4
Thursday	0	0	0	1	1	0	1	2	0	0	1	0	0	6
Friday	0	0	0	0	1	0	2	1	1	1	0	0	0	6
Saturday	0	0	0	1	0	0	1	1	0	0	0	0	0	3
Total	0	0	0	3	4	0	9	5	6	3	1	0	0	31

Manner of Crash Collision	**31**
Non-collision (single vehicle)	3
Head-on (front to front)	2
Rear-end (front to rear)	9
Angle, oncoming left turn	11
Broadside (front to side)	5
Sideswipe, same direction	1
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**31**
Dry	26
Wet	3
Ice/frost	1
Snow	1
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**62**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	1	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	61

Driver Age/Driver Gender

Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	Total
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	0	0	0	0	0
= 16	0	6	0	0	6
= 17	3	2	0	0	5
= 18	1	3	0	0	4
= 19	2	3	0	0	5
= 20	0	2	0	0	2
>= 21 and <= 24	2	2	0	0	4
>= 25 and <= 29	1	3	0	0	4
>= 30 and <= 34	1	3	0	0	4
>= 35 and <= 39	3	2	0	0	5
>= 40 and <= 44	1	0	0	0	1
>= 45 and <= 49	0	4	0	0	4
>= 50 and <= 54	2	1	0	0	3
>= 55 and <= 59	1	0	0	0	1
>= 60 and <= 64	2	3	0	0	5
>= 65 and <= 69	2	1	0	0	3
>= 70 and <= 74	1	1	0	0	2
>= 75 and <= 79	2	1	0	0	3
>= 80 and <= 84	0	0	0	0	0
>= 85 and <= 89	0	0	0	0	0
>= 90 and <= 94	0	0	0	0	0
>= 95	1	0	0	0	1
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	25	37	0	0	62

Drug/Alcohol Related	**31**
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	31

Alcohol Test Given	**62**
None	60
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	2

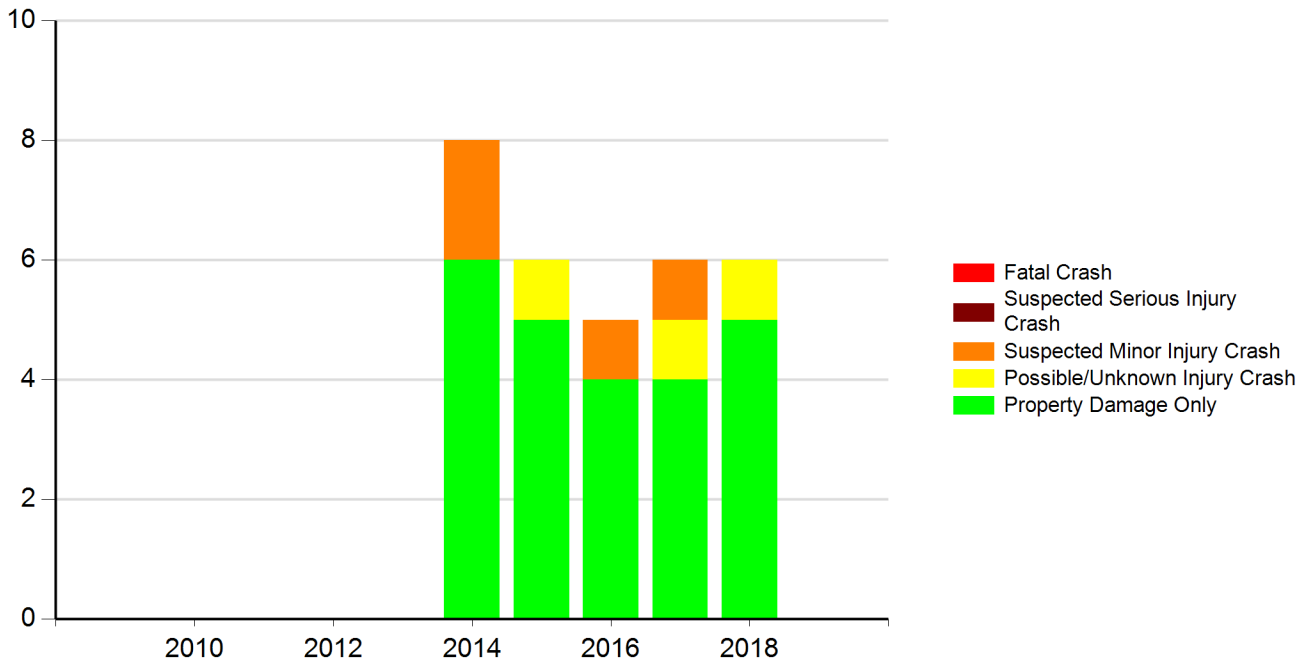
Drug Test Given	**62**
None	60
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	2

Drug Test Result	**62**
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	62
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	2	0	6	8
2015	0	0	0	1	5	6
2016	0	0	1	0	4	5
2017	0	0	1	1	4	6
2018	0	0	0	1	5	6
2019	0	0	0	0	0	0
Total	0	0	4	3	24	31

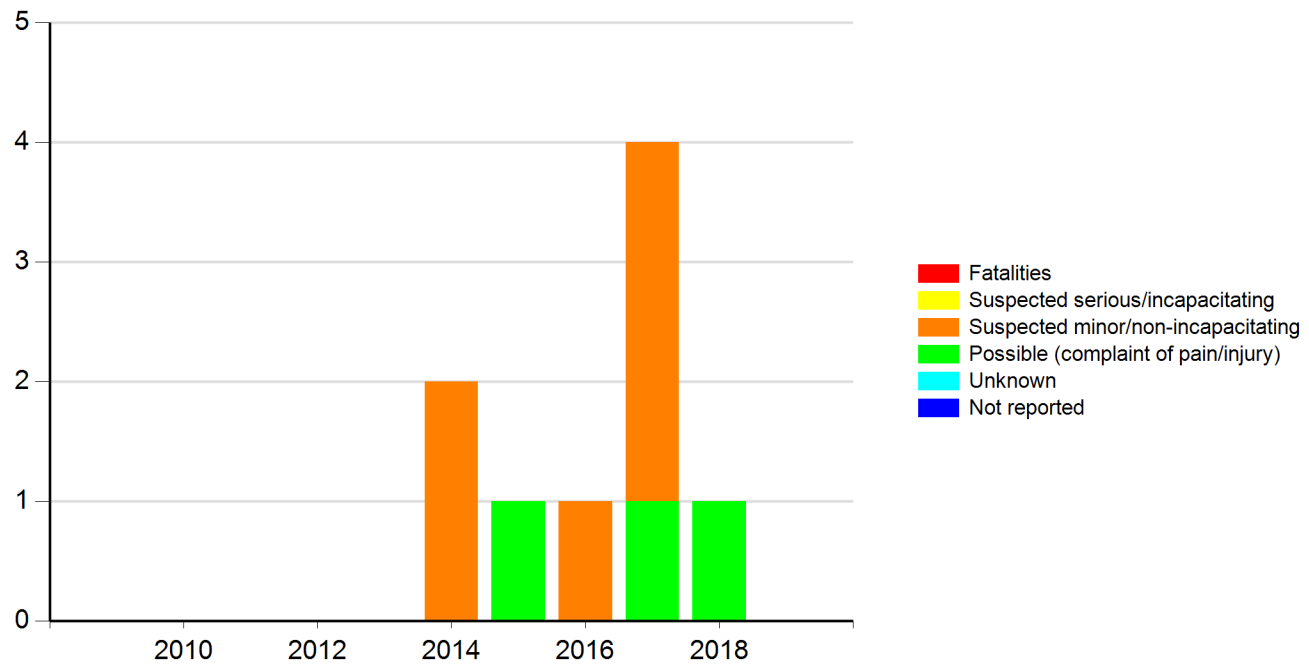
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	2	0	0	0	2
2015	0	0	0	1	0	0	1
2016	0	0	1	0	0	0	1
2017	0	0	3	1	0	0	4
2018	0	0	0	1	0	0	1
2019	0	0	0	0	0	0	0
Total	0	0	6	3	0	0	9

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

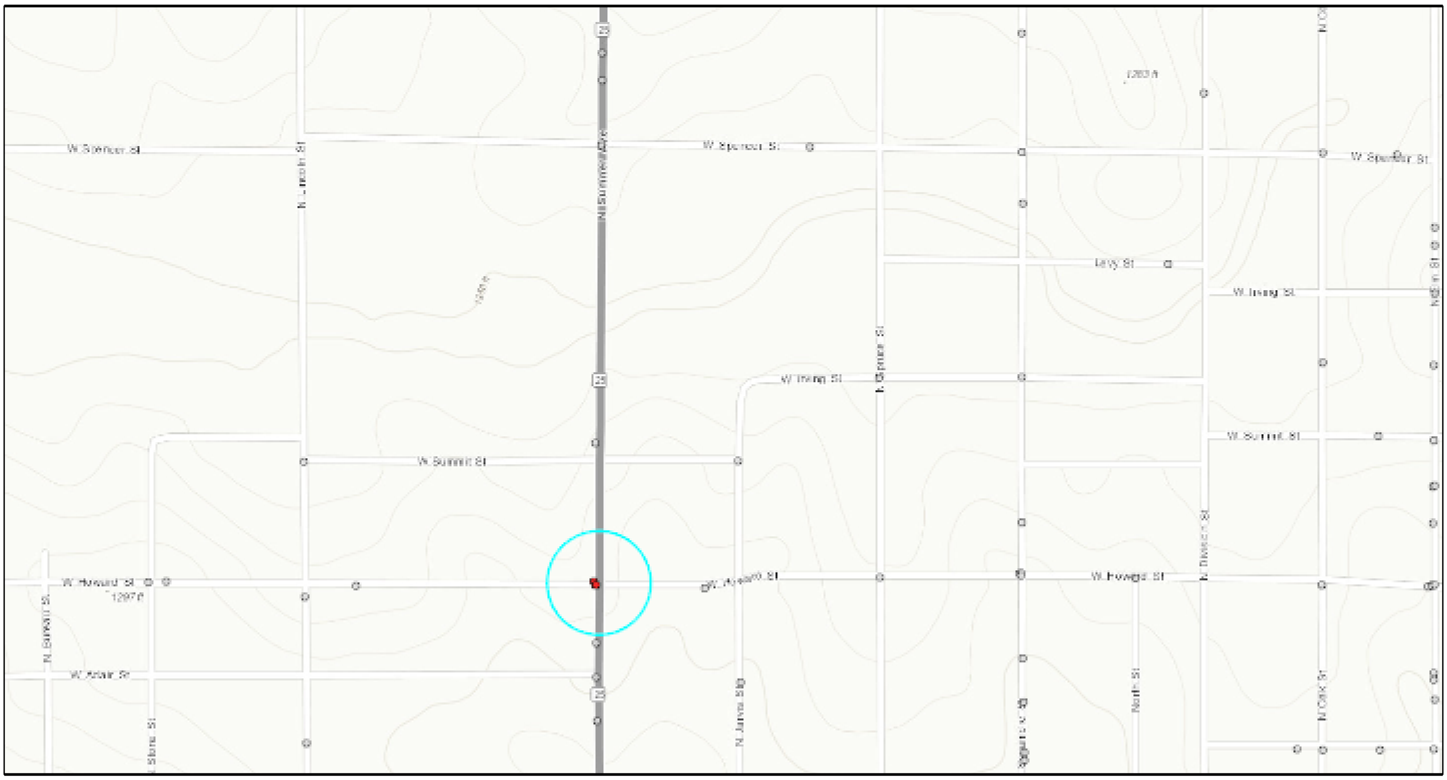
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	3
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	0
Possible/Unknown Injury Crash	2
Property Damage Only	1

Injury Status Summary	3
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	0
Possible (complaint of pain/injury)	3
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	23,000.00
Average (per crash dollars):	7,666.67
Total Vehicles:	7.00
Average (per crash):	2.33
Total Occupants:	15.00
Average (per crash):	5.00

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	1.00
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.00
Possible/Unknown Injuries/Crash:	1.00



Major Cause			3
Animal	0	Ran traffic signal	0
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	2	FTYROW: From yield sign	0
FTYROW: Making left turn	0	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	1	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	0	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	0	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wednesday	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Thursday	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Friday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	1	0	0	0	0	0	3

Manner of Crash Collision	**3**
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	1
Angle, oncoming left turn	0
Broadside (front to side)	2
Sideswipe, same direction	0
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**3**
Dry	3
Wet	0
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**7**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	7

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	0	0	0	0	0
= 16	0	0	0	0	0
= 17	0	0	0	0	0
= 18	0	0	0	0	0
= 19	0	0	0	0	0
= 20	0	0	0	0	0
>= 21 and <= 24	0	0	0	0	0
>= 25 and <= 29	0	1	0	0	1
>= 30 and <= 34	0	1	0	0	1
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	0	2	0	0	2
>= 50 and <= 54	0	1	0	0	1
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	0	0	0	0	0
>= 65 and <= 69	1	0	0	0	1
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	0	0	0	0	0
>= 85 and <= 89	0	0	0	0	0
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	1	0	1
Total	1	5	1	0	7

Drug/Alcohol Related	3
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	3

Alcohol Test Given	7
None	6
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

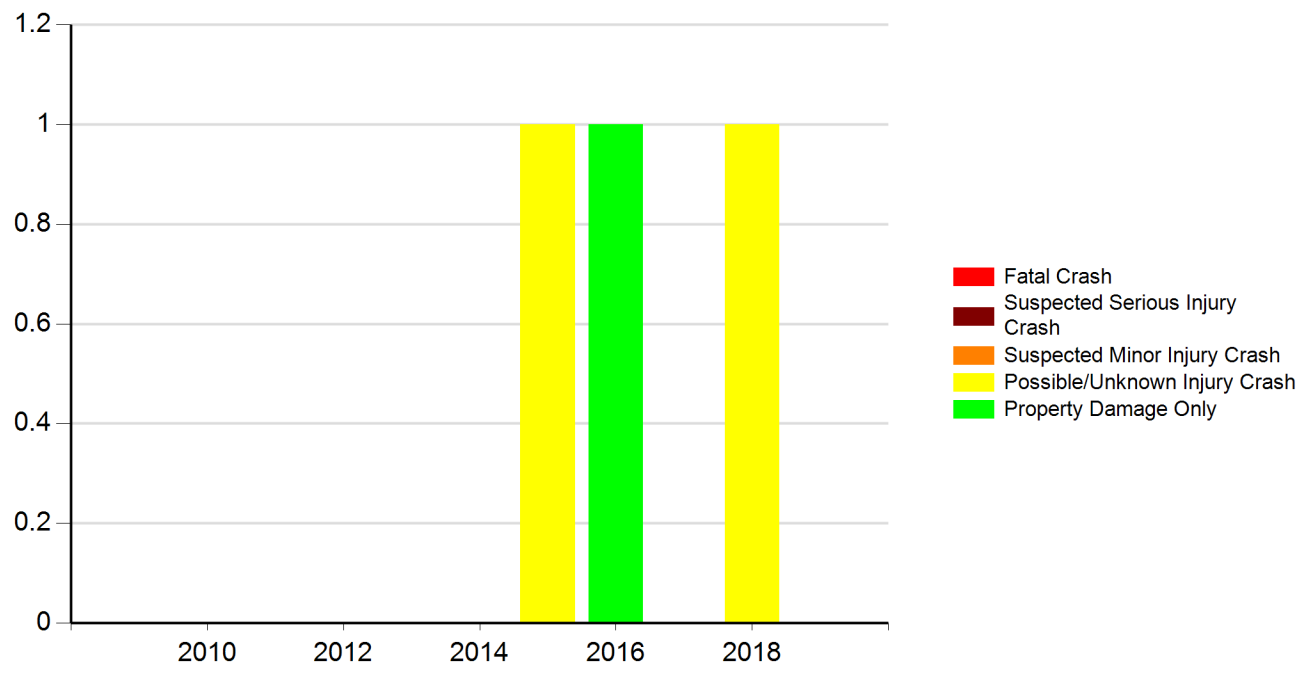
Drug Test Given	7
None	6
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

Drug Test Result	7
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	7
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	1	0	1
2016	0	0	0	0	1	1
2017	0	0	0	0	0	0
2018	0	0	0	1	0	1
2019	0	0	0	0	0	0
Total	0	0	0	2	1	3

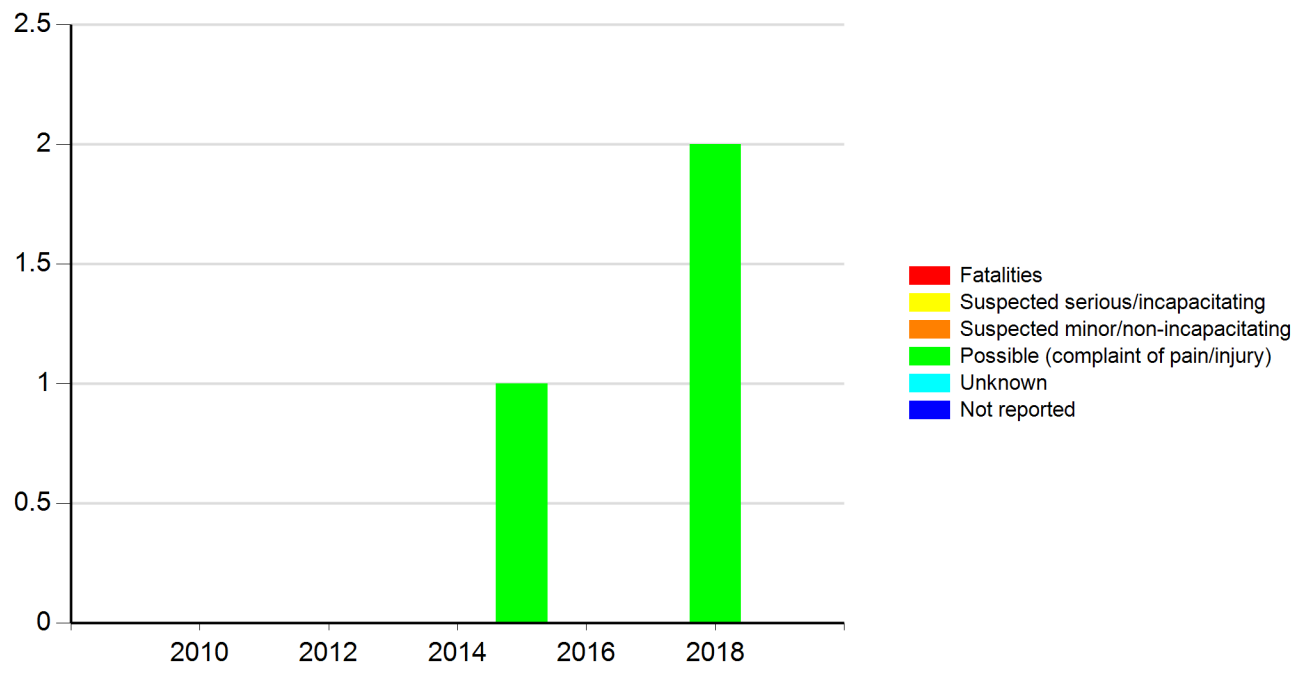
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	1	0	0	1
2016	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0
2018	0	0	0	2	0	0	2
2019	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	3

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

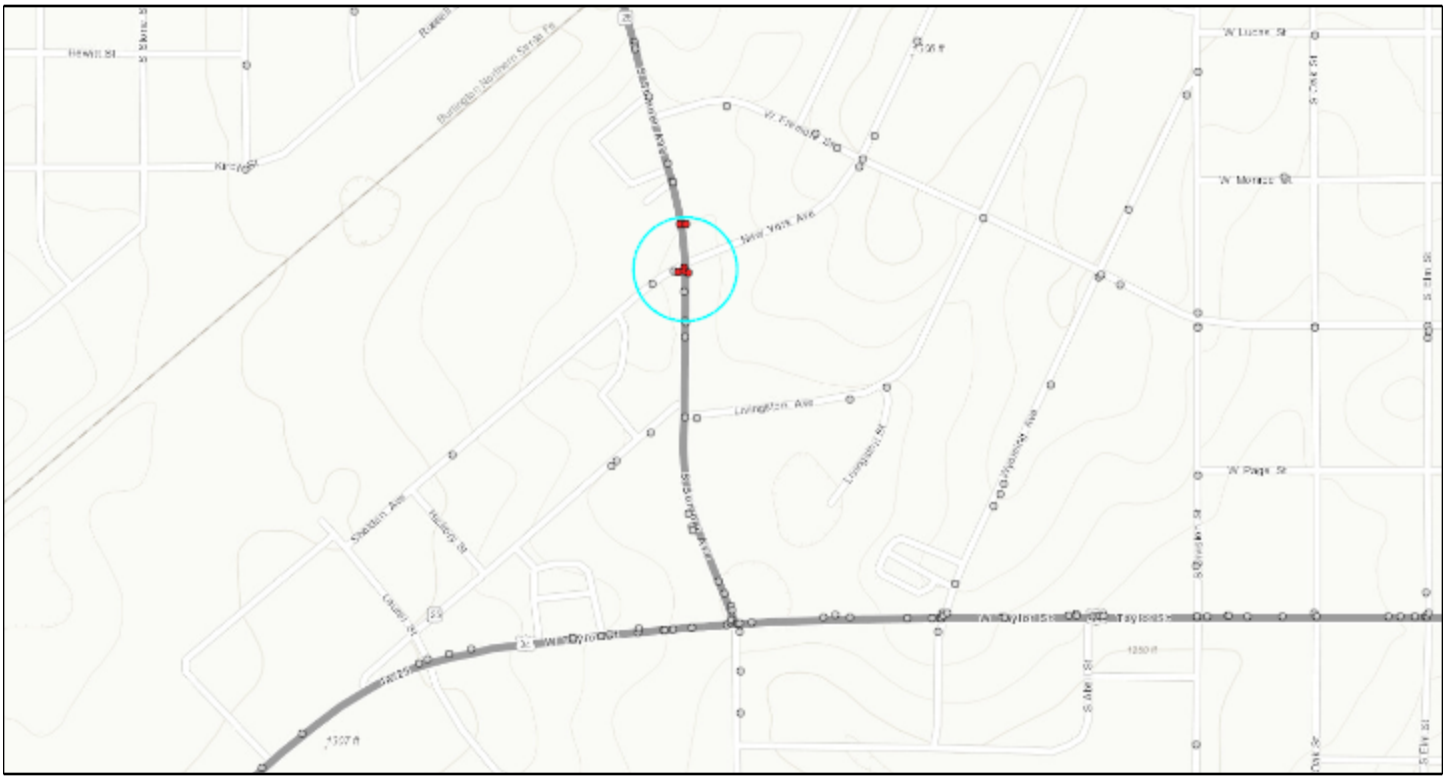
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	11
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	2
Possible/Unknown Injury Crash	1
Property Damage Only	8

Injury Status Summary	6
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	2
Possible (complaint of pain/injury)	4
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	34,710.00
Average (per crash dollars):	3,155.45
Total Vehicles:	27.00
Average (per crash):	2.45
Total Occupants:	45.00
Average (per crash):	4.09

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.55
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.18
Possible/Unknown Injuries/Crash:	0.36



Major Cause			11
Animal	0	Ran traffic signal	0
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	0	FTYROW: From yield sign	0
FTYROW: Making left turn	0	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	1
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	5
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	1
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	0	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	1
Unknown	3	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Monday	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Tuesday	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Wednesday	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Thursday	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Friday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Saturday	0	0	0	0	1	1	0	0	0	0	0	0	0	2
Total	0	0	0	0	1	3	0	3	4	0	0	0	0	11

Manner of Crash Collision	**11**
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	8
Angle, oncoming left turn	1
Broadside (front to side)	2
Sideswipe, same direction	0
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**11**
Dry	8
Wet	3
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**27**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	27

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	0	1	0	0	1
= 16	0	0	0	0	0
= 17	0	2	0	0	2
= 18	0	0	0	0	0
= 19	2	0	0	0	2
= 20	3	0	0	0	3
>= 21 and <= 24	1	1	0	0	2
>= 25 and <= 29	1	2	0	0	3
>= 30 and <= 34	0	1	0	0	1
>= 35 and <= 39	1	1	0	0	2
>= 40 and <= 44	0	1	0	0	1
>= 45 and <= 49	1	0	0	0	1
>= 50 and <= 54	1	0	0	0	1
>= 55 and <= 59	3	0	0	0	3
>= 60 and <= 64	0	1	0	0	1
>= 65 and <= 69	0	2	0	0	2
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	0	0	0	0	0
>= 85 and <= 89	1	1	0	0	2
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	14	13	0	0	27

Drug/Alcohol Related	**11**
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	11

Alcohol Test Given	**27**
None	27
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

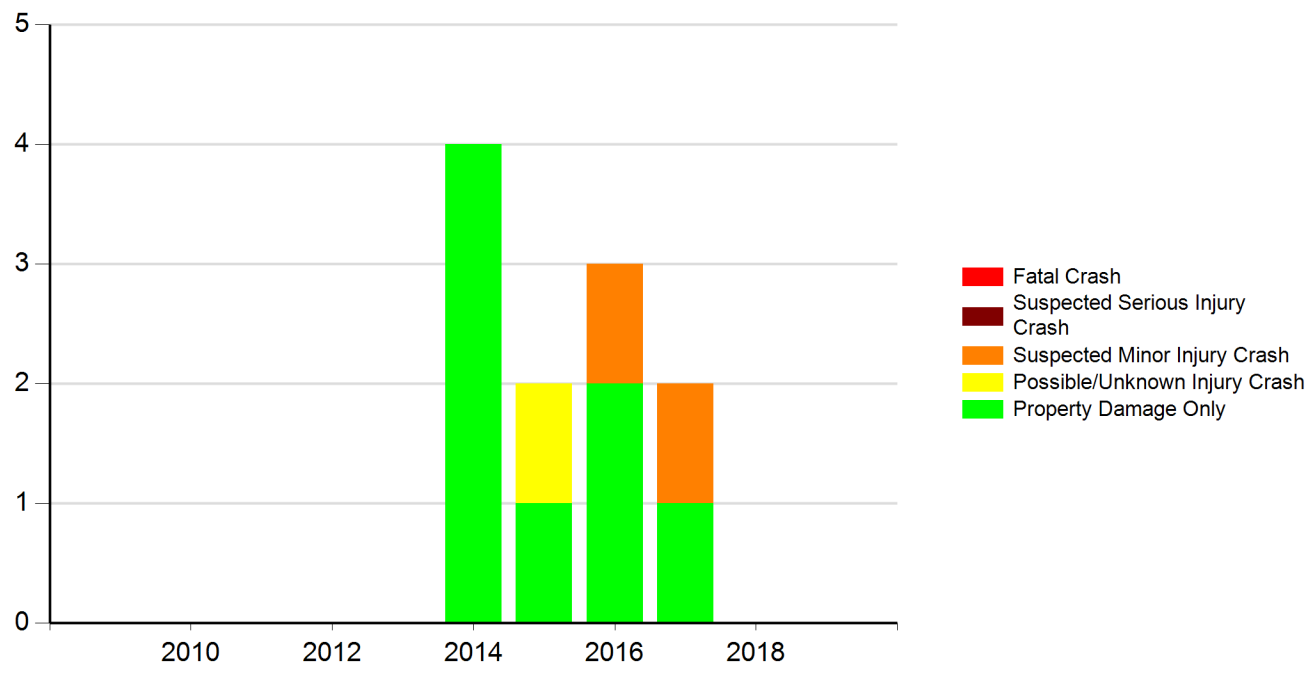
Drug Test Given	**27**
None	27
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	**27**
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	27
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	4	4
2015	0	0	0	1	1	2
2016	0	0	1	0	2	3
2017	0	0	1	0	1	2
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
Total	0	0	2	1	8	11

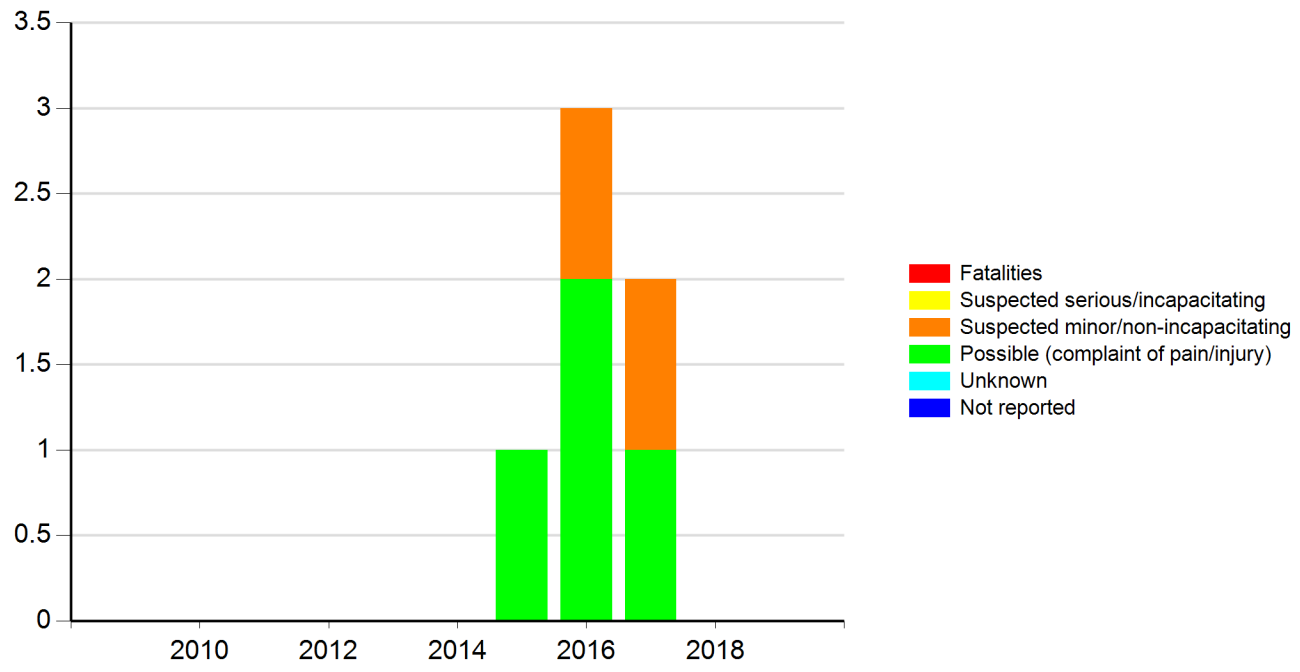
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	1	0	0	1
2016	0	0	1	2	0	0	3
2017	0	0	1	1	0	0	2
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
Total	0	0	2	4	0	0	6

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

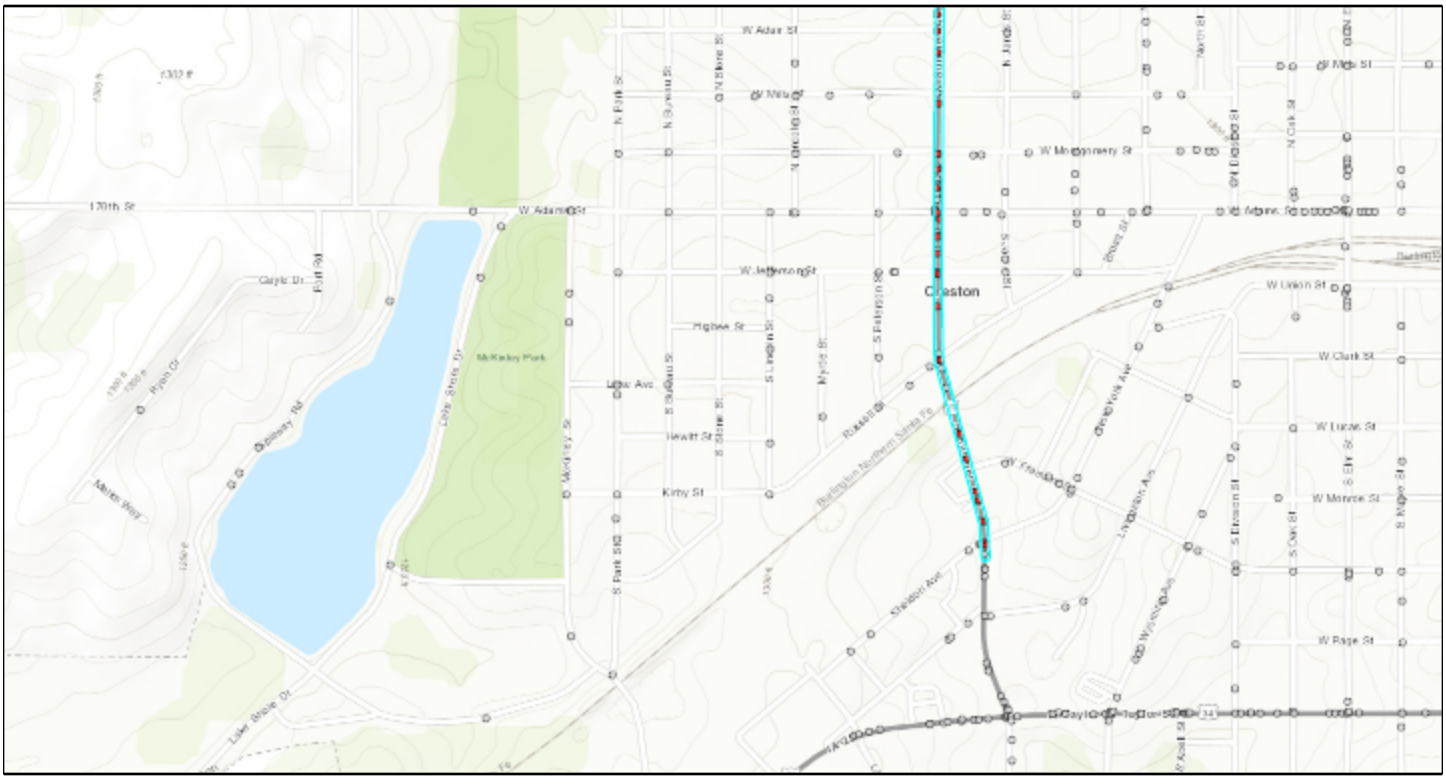
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	105
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	16
Possible/Unknown Injury Crash	14
Property Damage Only	75

Injury Status Summary	43
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	22
Possible (complaint of pain/injury)	21
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	495,210.00
Average (per crash dollars):	4,716.29
Total Vehicles:	217.00
Average (per crash):	2.07
Total Occupants:	324.00
Average (per crash):	3.09

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.41
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.21
Possible/Unknown Injuries/Crash:	0.20



Major Cause			105
Animal	0	Ran traffic signal	8
Ran stop sign	3	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	1	FTYROW: Making right turn on red signal	2
FTYROW: From stop sign	9	FTYROW: From yield sign	0
FTYROW: Making left turn	23	FTYROW: From driveway	2
FTYROW: From parked position	0	FTYROW: To pedestrian	1
FTYROW: Other	3	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	2
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	1
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	2	Followed too close	18
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	1	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	2
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	2	Driver Distraction: Other interior distracti...	3
Driver Distraction: Exterior distraction	0	Ran off road - right	1
Ran off road - straight	0	Ran off road - left	3
Lost control	2	Swerving/Evasive Action	3
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	1
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	1	Other	4
Unknown	7	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	1	0	0	0	2	1	0	0	0	4
Monday	0	0	0	3	3	2	1	5	2	2	0	0	0	18
Tuesday	0	0	0	0	2	2	3	1	3	1	1	0	0	13
Wednesday	0	0	0	0	2	3	4	6	1	1	1	0	0	18
Thursday	0	0	0	1	2	5	1	5	6	0	1	0	0	21
Friday	0	0	0	0	2	1	4	5	6	1	0	0	0	19
Saturday	0	0	0	1	1	1	3	3	2	1	0	0	0	12
Total	0	0	0	5	13	14	16	25	22	7	3	0	0	105

Manner of Crash Collision	**105**
Non-collision (single vehicle)	6
Head-on (front to front)	2
Rear-end (front to rear)	34
Angle, oncoming left turn	20
Broadside (front to side)	31
Sideswipe, same direction	8
Sideswipe, opposite direction	2
Rear to rear	0
Rear to side	0
Not reported	0
Other	2
Unknown	0

Surface Conditions	**105**
Dry	90
Wet	10
Ice/frost	2
Snow	1
Slush	1
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	1
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**217**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	1
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	1	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	3
Other fixed object	0	None (no fixed object struck)	212

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	1	1	0	0	2
= 15	1	2	0	0	3
= 16	4	7	0	0	11
= 17	6	5	0	0	11
= 18	3	3	0	0	6
= 19	7	4	0	0	11
= 20	4	3	0	0	7
>= 21 and <= 24	11	11	0	0	22
>= 25 and <= 29	8	8	0	0	16
>= 30 and <= 34	3	9	0	0	12
>= 35 and <= 39	5	8	0	0	13
>= 40 and <= 44	6	2	0	0	8
>= 45 and <= 49	5	10	0	0	15
>= 50 and <= 54	6	5	0	0	11
>= 55 and <= 59	10	3	0	0	13
>= 60 and <= 64	4	8	0	0	12
>= 65 and <= 69	5	3	0	0	8
>= 70 and <= 74	1	6	1	0	8
>= 75 and <= 79	6	4	0	0	10
>= 80 and <= 84	3	3	0	0	6
>= 85 and <= 89	2	6	0	0	8
>= 90 and <= 94	1	0	0	0	1
>= 95	1	0	0	0	1
Not reported	0	0	0	0	0
Unknown	0	0	1	0	1
Total	103	111	2	0	216

Drug/Alcohol Related	105
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	105

Alcohol Test Given	217
None	214
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	3

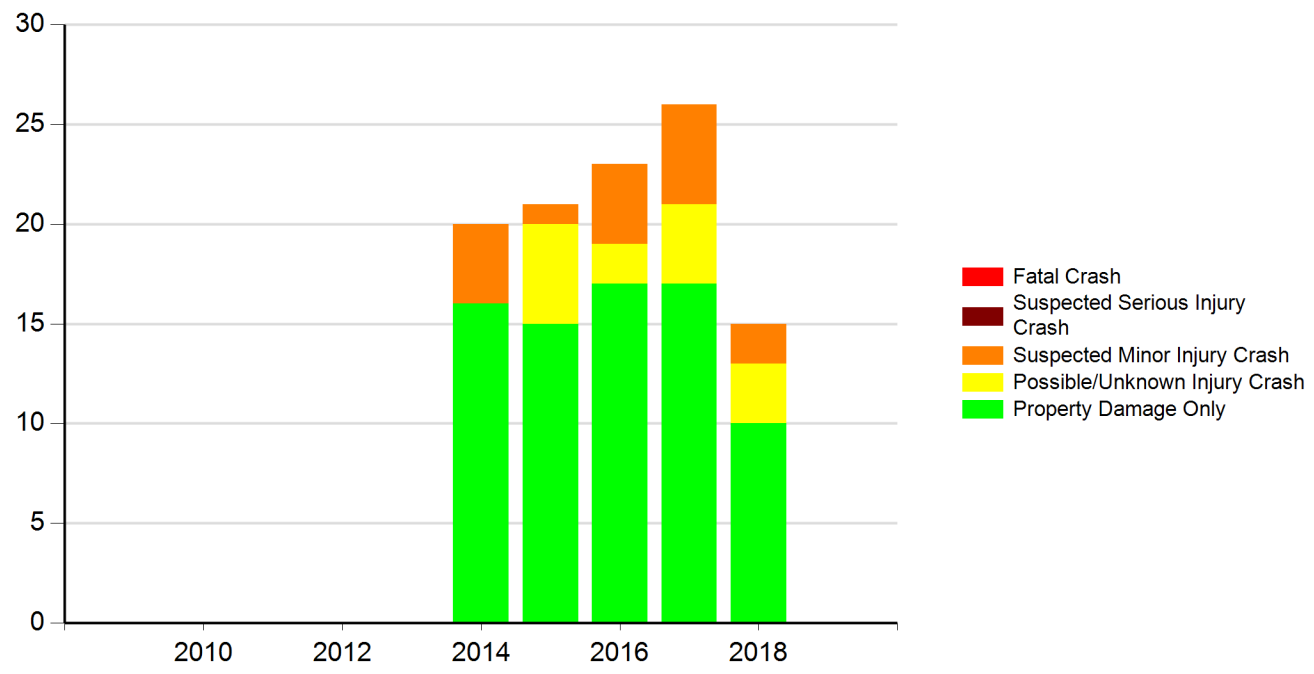
Drug Test Given	217
None	214
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	3

Drug Test Result	217
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	217
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	4	0	16	20
2015	0	0	1	5	15	21
2016	0	0	4	2	17	23
2017	0	0	5	4	17	26
2018	0	0	2	3	10	15
2019	0	0	0	0	0	0
Total	0	0	16	14	75	105

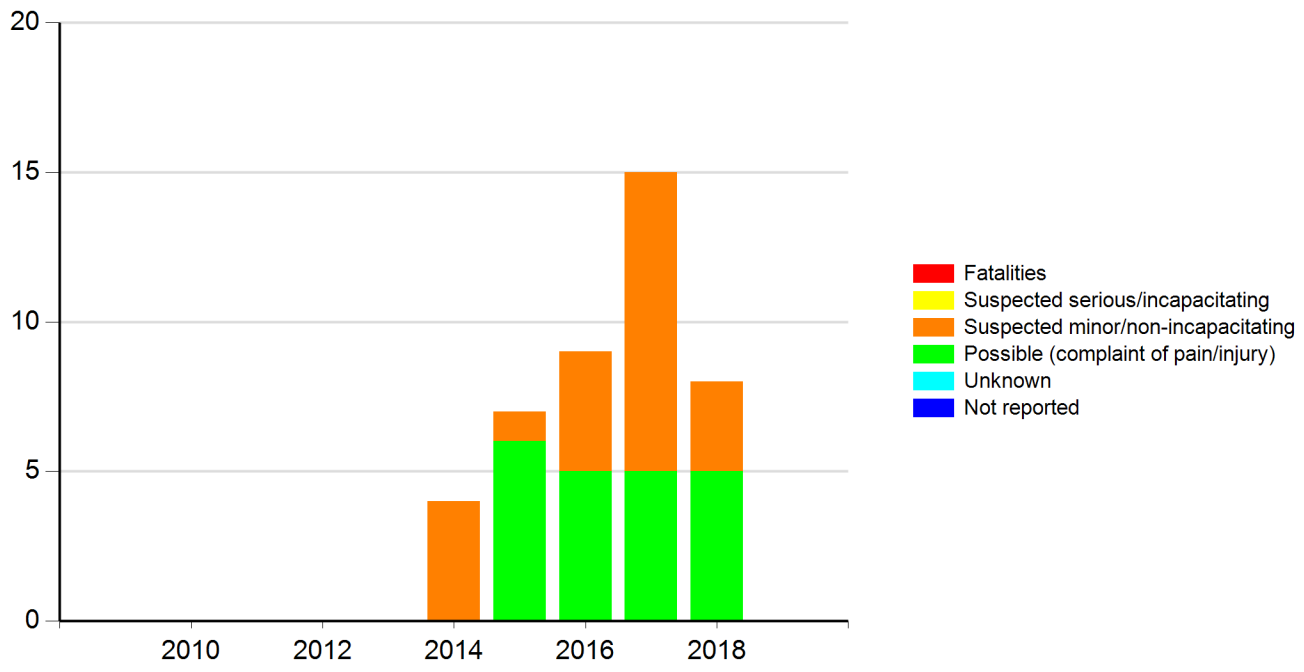
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	4	0	0	0	4
2015	0	0	1	6	0	0	7
2016	0	0	4	5	0	0	9
2017	0	0	10	5	0	0	15
2018	0	0	3	5	0	0	8
2019	0	0	0	0	0	0	0
Total	0	0	22	21	0	0	43

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

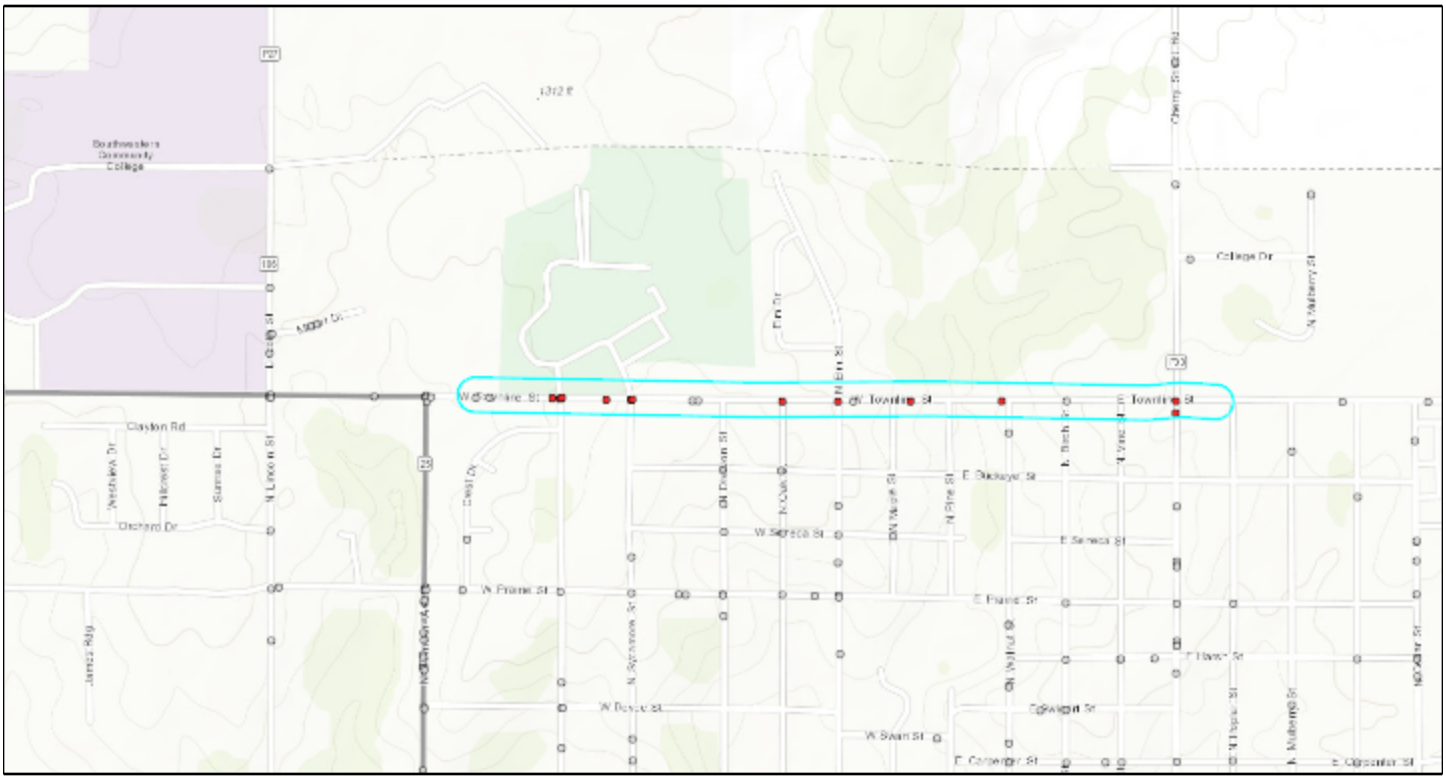
Iowa Crash Analysis Tool
Quick Report
2014-2018

Crash Severity	14
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	0
Possible/Unknown Injury Crash	3
Property Damage Only	11

Injury Status Summary	5
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	0
Possible (complaint of pain/injury)	5
Unknown	0
Not reported	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	71,100.00
Average (per crash dollars):	5,078.57
Total Vehicles:	27.00
Average (per crash):	1.93
Total Occupants:	32.00
Average (per crash):	2.29

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.36
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.00
Possible/Unknown Injuries/Crash:	0.36



Major Cause			14
Animal	0	Ran traffic signal	0
Ran stop sign	2	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	4	FTYROW: From yield sign	0
FTYROW: Making left turn	2	FTYROW: From driveway	1
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	1	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	1
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	1	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	2
Unknown	0	Not reported	0
Other: No improper action	0		

Iowa Crash Analysis Tool
Quick Report
2014-2018

Time of Day/Day of Week

Day of Week	12 AM to 2 AM	2 AM to 4 AM	4 AM to 6 AM	6 AM to 8 AM	8 AM to 10 AM	10 AM to Noon	Noon to 2 PM	2 PM to 4 PM	4 PM to 6 PM	6 PM to 8 PM	8 PM to 10 PM	10 PM to 12 AM	Not reported	**Total**
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monday	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Tuesday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Wednesday	0	0	0	0	0	1	0	1	0	1	0	0	0	3
Thursday	0	0	0	0	1	0	0	3	1	1	0	0	0	6
Friday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Saturday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	3	1	1	5	2	2	0	0	0	14

Manner of Crash Collision	**14**
Non-collision (single vehicle)	1
Head-on (front to front)	0
Rear-end (front to rear)	1
Angle, oncoming left turn	1
Broadside (front to side)	9
Sideswipe, same direction	1
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	1
Not reported	0
Other	0
Unknown	0

Surface Conditions	**14**
Dry	9
Wet	2
Ice/frost	2
Snow	1
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**27**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	1
Other fixed object	0	None (no fixed object struck)	26

Driver Age/Driver Gender					
Driver Age - 5 year Bins	Female	Male	Not reported	Unknown	**Total**
< 14	0	0	0	0	0
= 14	0	0	0	0	0
= 15	1	0	0	0	1
= 16	1	3	0	0	4
= 17	1	0	0	0	1
= 18	0	0	0	0	0
= 19	0	1	0	0	1
= 20	1	0	0	0	1
>= 21 and <= 24	0	1	0	0	1
>= 25 and <= 29	0	0	0	0	0
>= 30 and <= 34	3	1	0	0	4
>= 35 and <= 39	0	1	0	0	1
>= 40 and <= 44	3	0	0	0	3
>= 45 and <= 49	1	1	0	0	2
>= 50 and <= 54	0	1	0	0	1
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	1	4	0	0	5
>= 65 and <= 69	0	1	0	0	1
>= 70 and <= 74	1	0	0	0	1
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	0	0	0	0	0
>= 85 and <= 89	0	0	0	0	0
>= 90 and <= 94	0	0	0	0	0
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	13	14	0	0	27

Drug/Alcohol Related	14
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug/Alcohol (< Statutory)	0
Drug/Alcohol (Statutory)	0
Refused	1
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	13

Alcohol Test Given	27
None	25
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	1
Not reported	1

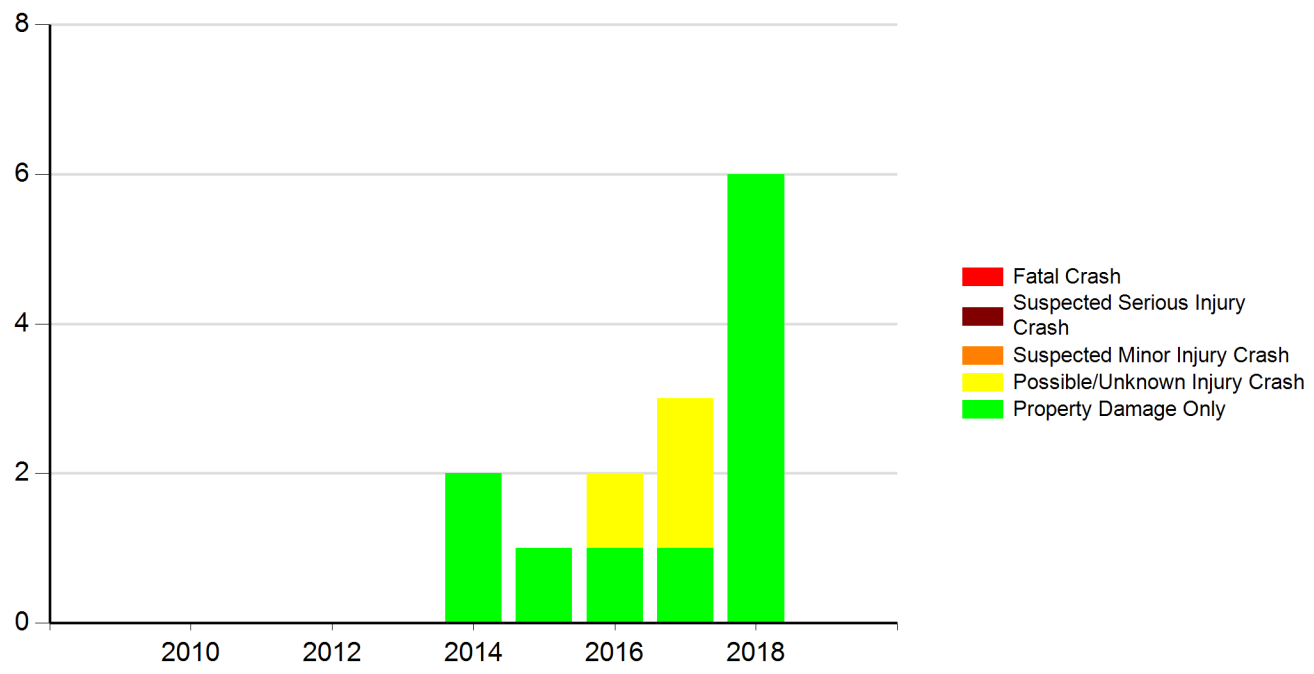
Drug Test Given	27
None	25
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	1
Not reported	1

Drug Test Result	27
Negative	0
Cannabis	0
Central Nervous System depressants	0
Central Nervous System stimulants	0
Hallucinogens	0
Inhalants	0
Narcotic Analgesics	0
Dissociative Anesthetic (PCP)	0
Prescription Drug	0
Not reported	27
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	2	2
2015	0	0	0	0	1	1
2016	0	0	0	1	1	2
2017	0	0	0	2	1	3
2018	0	0	0	0	6	6
2019	0	0	0	0	0	0
Total	0	0	0	3	11	14

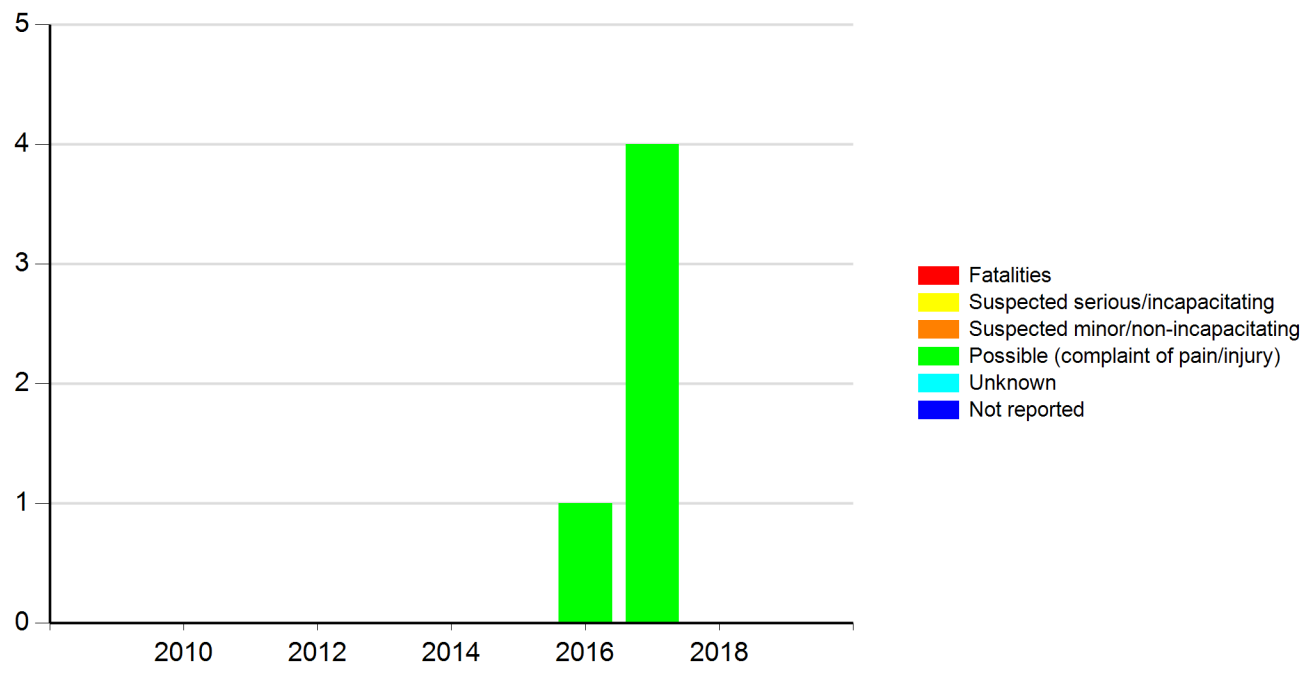
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Not reported	**Total**
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0
2016	0	0	0	1	0	0	1
2017	0	0	0	4	0	0	4
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
Total	0	0	0	5	0	0	5

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2014, 2015, 2016, 2017, 2018
Map Selection: Yes
Filter: None

Analyst Information

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Signal Warrants - Summary

Major Street Approaches

Northbound: IA 25
Number of Lanes : 2+

Total Approach Volume: 2,399

Southbound: IA 25
Number of Lanes :2+

Total Approach Volume: 2,034

Minor Street Approaches

Eastbound: Adams St
Number of Lanes :1

Total Approach Volume: 779

Westbound: Adams St
Number of Lanes :1

Total Approach Volume: 1,375

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... **Not Satisfied**

Warrant 1A - Minimum Vehicular Volume..... **Not Satisfied**
Required volumes reached for 6 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... **Not Satisfied**
Required volumes reached for 5 hours, 8 are needed

Warrant 1C - Combination of Warrants..... **Not Satisfied**
Required 1A volumes reached for 7 hours, 8 are needed
Required 1B volumes reached for 5 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... **Satisfied**
Number of hours (5) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... **Satisfied**

Warrant 3A - Peak Hour Delay..... **Satisfied**
Number of one hour periods (15) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... **Satisfied**
Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... **Not Evaluated**

Warrant 5 - School Crossing..... **Not Evaluated**

Warrant 6 - Coordinated Signal System..... **Not Evaluated**

Warrant 7 - Crash Experience..... **Not Satisfied**
Number of accidents (6) meet minimum (5) but volumes do not.

Warrant 8 - Roadway Network..... **Not Evaluated**

Warrant 9 - Intersection Near a Grade Crossing..... **Not Evaluated**

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

Only 6 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

	Major Road IA 25					Minor Road Adams St		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
15:45 - 16:45	401	+	317	=	718	132	252	Yes
11:45 - 12:45	376	+	329	=	705	108	229	Yes
16:45 - 17:45	366	+	303	=	669	135	211	Yes
14:45 - 15:45	282	+	248	=	530	88	174	Yes
07:15 - 08:15	269	+	215	=	484	95	113	Yes
10:45 - 11:45	250	+	229	=	479	76	148	Yes
07:00 - 08:00	269	+	216	=	485	91	99	No
08:15 - 09:15	204	+	172	=	376	66	117	No
06:45 - 07:45	202	+	163	=	365	65	74	No
14:30 - 15:30	185	+	164	=	349	57	114	No
10:30 - 11:30	163	+	154	=	317	51	98	No
08:30 - 09:30	142	+	115	=	257	41	77	No
06:30 - 07:30	134	+	113	=	247	41	49	No
12:45 - 13:45	96	+	87	=	183	27	57	No
14:15 - 15:15	90	+	79	=	169	26	57	No
17:45 - 18:45	88	+	76	=	164	32	49	No
10:15 - 11:15	82	+	79	=	161	26	49	No
08:45 - 09:45	72	+	58	=	130	18	38	No
06:15 - 07:15	67	+	58	=	125	20	25	No
22:30 - 23:30	0	+	0	=	0	0	0	No
23:15 - 00:15	0	+	0	=	0	0	0	No
22:45 - 23:45	0	+	0	=	0	0	0	No
22:15 - 23:15	0	+	0	=	0	0	0	No
23:00 - 00:00	0	+	0	=	0	0	0	No
13:15 - 14:15	0		0		0	0	0	No

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

Only 5 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **52**

	Major Road IA 25					Minor Road Adams St		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
12:00 - 13:00	387	+	341	=	728	107	235	Yes
16:00 - 17:00	408	+	310	=	718	141	257	Yes
15:00 - 16:00	372	+	326	=	698	114	233	Yes
17:00 - 18:00	357	+	308	=	665	132	196	Yes
11:00 - 12:00	335	+	304	=	639	104	199	Yes
14:45 - 15:45	282	+	248	=	530	88	174	No
08:00 - 09:00	271	+	229	=	500	90	156	No
07:45 - 08:45	266	+	224	=	490	98	143	No
07:00 - 08:00	269	+	216	=	485	91	99	No
07:15 - 08:15	269	+	215	=	484	95	113	No
07:30 - 08:30	264	+	217	=	481	99	129	No
10:45 - 11:45	250	+	229	=	479	76	148	No
08:15 - 09:15	204	+	172	=	376	66	117	No
06:45 - 07:45	202	+	163	=	365	65	74	No
14:30 - 15:30	185	+	164	=	349	57	114	No
10:30 - 11:30	163	+	154	=	317	51	98	No
08:30 - 09:30	142	+	115	=	257	41	77	No
06:30 - 07:30	134	+	113	=	247	41	49	No
14:15 - 15:15	90	+	79	=	169	26	57	No
10:15 - 11:15	82	+	79	=	161	26	49	No
08:45 - 09:45	72	+	58	=	130	18	38	No
06:15 - 07:15	67	+	58	=	125	20	25	No
13:45 - 14:45	0	+	0	=	0	0	0	No
13:00 - 14:00	0	+	0	=	0	0	0	No
13:15 - 14:15	0		0		0	0	0	No

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

Only 7 hours meet 1A minimums.
Only 5 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

Volume Requirements

Rural Factor of 70% applied

Warrant	1A	1B
Veh/Hr Major =	**336**	**504**
Veh/Hr Minor =	**84**	**42**

Major Road	Minor Road
IA 25	**Adams St**

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:30 - 16:30	396	+	318	=	714	127	247	Yes
11:45 - 12:45	376	+	329	=	705	108	229	Yes
16:30 - 17:30	378	+	308	=	686	137	228	Yes
08:00 - 09:00	271	+	229	=	500	90	156	Yes
07:00 - 08:00	269	+	216	=	485	91	99	Yes
10:45 - 11:45	250	+	229	=	479	76	148	Yes
14:30 - 15:30	185	+	164	=	349	57	114	Yes
06:45 - 07:45	202	+	163	=	365	65	74	No
17:30 - 18:30	178	+	154	=	332	66	97	No
10:30 - 11:30	163	+	154	=	317	51	98	No
06:30 - 07:30	134	+	113	=	247	41	49	No
12:45 - 13:45	96		87		183	27	57	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
12:00 - 13:00	387	+	341	=	728	107	235	Yes
15:45 - 16:45	401	+	317	=	718	132	252	Yes
16:45 - 17:45	366	+	303	=	669	135	211	Yes
11:00 - 12:00	335	+	304	=	639	104	199	Yes
14:45 - 15:45	282	+	248	=	530	88	174	Yes
08:00 - 09:00	271	+	229	=	500	90	156	No
07:45 - 08:45	266	+	224	=	490	98	143	No
07:00 - 08:00	269	+	216	=	485	91	99	No
07:15 - 08:15	269	+	215	=	484	95	113	No
07:30 - 08:30	264	+	217	=	481	99	129	No
10:45 - 11:45	250	+	229	=	479	76	148	No
08:15 - 09:15	204		172		376	66	117	No

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

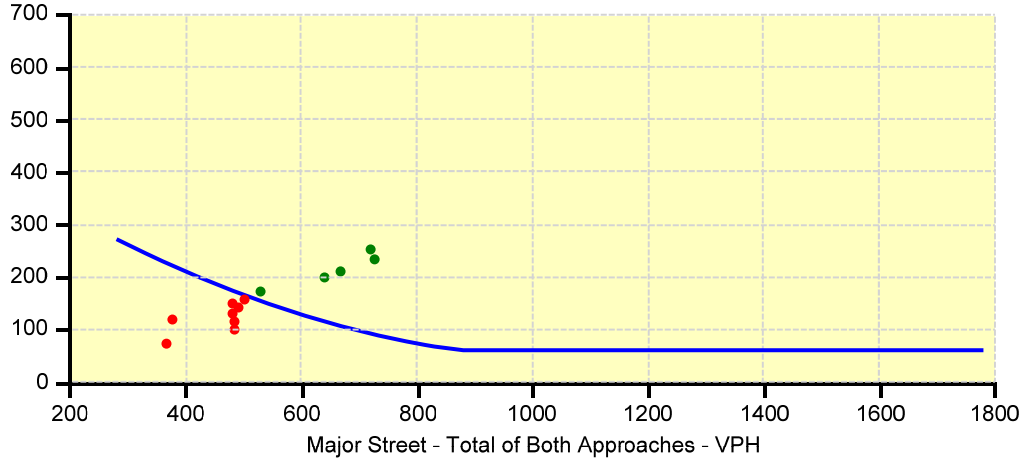
Summary

5 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

	Major Road IA 25					Minor Road Adams St		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
12:00 - 13:00	387	+	341	=	728	107	235	Yes
15:45 - 16:45	401	+	317	=	718	132	252	Yes
16:45 - 17:45	366	+	303	=	669	135	211	Yes
11:00 - 12:00	335	+	304	=	639	104	199	Yes
14:45 - 15:45	282	+	248	=	530	88	174	Yes
08:00 - 09:00	271	+	229	=	500	90	156	No
07:45 - 08:45	266	+	224	=	490	98	143	No
07:00 - 08:00	269	+	216	=	485	91	99	No
07:15 - 08:15	269	+	215	=	484	95	113	No
07:30 - 08:30	264	+	217	=	481	99	129	No
10:45 - 11:45	250	+	229	=	479	76	148	No
							117	No



Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =**1**

Volume and Delay Requirements

Veh/Hr All Approaches = **800**
Veh/Hr Minor = **100**
Total Delay (Veh-Hrs) = **4**

	Major Road			Minor Road					
	IA 25			Adams St					
Time	Total of All Approaches	Met?	Minor EB	Delay EB	Met?	Minor WB	Delay WB	Met?	Warrant Met?
16:00 - 17:00	1116	Yes	141	-	---	257	-	Yes	Yes
15:45 - 16:45	1102	Yes	132	-	---	252	-	Yes	Yes
15:30 - 16:30	1088	Yes	127	-	---	247	-	Yes	Yes
16:15 - 17:15	1086	Yes	139	-	---	243	-	Yes	Yes
12:00 - 13:00	1070	Yes	107	-	---	235	-	Yes	Yes
15:15 - 16:15	1069	Yes	122	-	---	239	-	Yes	Yes
16:30 - 17:30	1051	Yes	137	-	---	228	-	Yes	Yes
15:00 - 16:00	1045	Yes	114	-	---	233	-	Yes	Yes
11:45 - 12:45	1042	Yes	108	-	---	229	-	Yes	Yes
16:45 - 17:45	1015	Yes	135	-	---	211	-	Yes	Yes
11:30 - 12:30	1013	Yes	106	-	---	222	-	Yes	Yes
17:00 - 18:00	993	Yes	132	-	---	196	-	Yes	Yes
11:15 - 12:15	974	Yes	104	-	---	211	-	Yes	Yes
11:00 - 12:00	942	Yes	104	-	---	199	-	Yes	Yes
12:15 - 13:15	802	Yes	81	-	---	174	-	Yes	Yes
14:45 - 15:45	792	No	88	-	---	174	-	Yes	No
17:15 - 18:15	747	No	100	-	---	147	-	Yes	No
08:00 - 09:00	746	No	90	-	---	156	-	Yes	No
07:45 - 08:45	731	No	98	-	---	143	-	Yes	No
07:30 - 08:30	709	No	99	-	---	129	-	Yes	No
10:45 - 11:45	703	No	76	-	---	148	-	Yes	No
07:15 - 08:15	692	No	95	-	---	113	-	Yes	No
07:00 - 08:00	675	No	91	-	---	99	-	No	No
08:15 - 09:15	559	No	66	-	---	117	-	Yes	No
12:30 - 13:30	533	No	54	-	---	114	-	Yes	No

Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

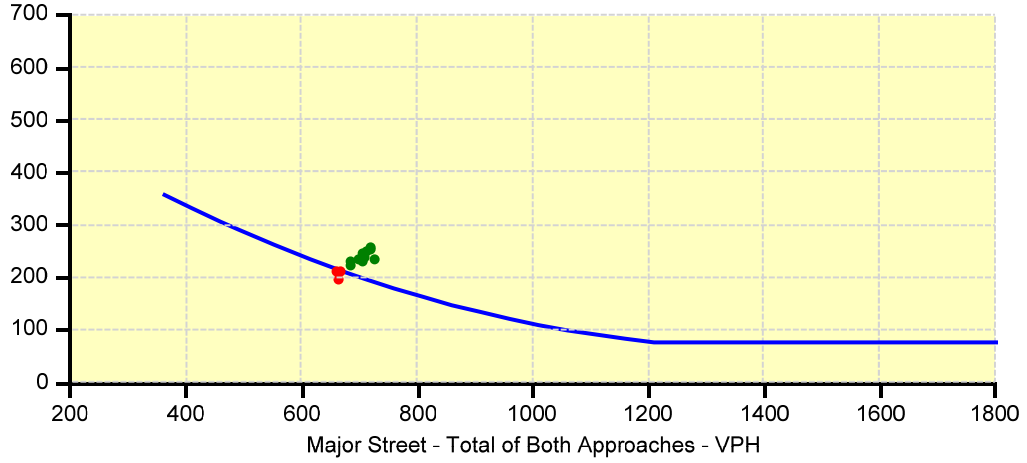
Summary

10 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

	Major Road IA 25					Minor Road Adams St		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met?
12:00 - 13:00	387	+	341	=	728	107	235	Yes
16:00 - 17:00	408	+	310	=	718	141	257	Yes
15:45 - 16:45	401	+	317	=	718	132	252	Yes
15:30 - 16:30	396	+	318	=	714	127	247	Yes
15:15 - 16:15	386	+	322	=	708	122	239	Yes
11:45 - 12:45	376	+	329	=	705	108	229	Yes
16:15 - 17:15	392	+	312	=	704	139	243	Yes
15:00 - 16:00	372	+	326	=	698	114	233	Yes
16:30 - 17:30	378	+	308	=	686	137	228	Yes
11:30 - 12:30	366	+	319	=	685	106	222	Yes
16:45 - 17:45	366	+	303	=	669	135	211	No
							196	No



Study Name: Signalwarrant_IA 25 & Adams_20191009

Study Date : 10/9/2019

Warrant 7 - Crash Experience

Description

Intended for sites where the frequency of correctible crashes in the past 12 months is the primary motivation for installing a traffic signal.

Summary

Number of crashes meet minimum.
Pedestrian volumes do not meet the 80% criteria.
War 1A or 1B volumes do not meet the 80% criteria.
Warrant is NOT met.

Site Data Required

Number of crashes in last 12 months = **6**

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Crash and Volume Requirements

Minimum number of crashes = **5**

Rural Factor of 70 % applied

Veh/Hr Major: War 1A = **336** War 1B = **504**

Veh/Hr Minor: War 1A = **84** War 1B = **42**

Volume and Pedestrian Data

Hours data meets 80% requirements of Warrant 1A (8 needed) **7** Met? **No**
Hours data meets 80% requirements of Warrant 1B (8 needed) **5** Met? **No**
Hours data meets 80% requirements of Warrant 4 (4,1 needed) **0** **0** Met? **No**

Major Road	Minor Road
IA 25	Adams St

Warrant 1A Details

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
15:30 - 16:30	396	+	318	=	714	127	247	Yes
11:45 - 12:45	376	+	329	=	705	108	229	Yes
16:30 - 17:30	378	+	308	=	686	137	228	Yes
08:00 - 09:00	271	+	229	=	500	90	156	Yes
07:00 - 08:00	269	+	216	=	485	91	99	Yes
10:45 - 11:45	250	+	229	=	479	76	148	Yes
14:30 - 15:30	185	+	164	=	349	57	114	Yes
06:45 - 07:45	202	+	163	=	365	65	74	No
17:30 - 18:30	178	+	154	=	332	66	97	No
10:30 - 11:30	163	+	154	=	317	51	98	No
06:30 - 07:30	134	+	113	=	247	41	49	No
12:45 - 13:45	96		87		183	27	57	No

Warrant 1B Details

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
12:00 - 13:00	387	+	341	=	728	107	235	Yes
15:45 - 16:45	401	+	317	=	718	132	252	Yes
16:45 - 17:45	366	+	303	=	669	135	211	Yes
11:00 - 12:00	335	+	304	=	639	104	199	Yes
14:45 - 15:45	282	+	248	=	530	88	174	Yes
08:00 - 09:00	271	+	229	=	500	90	156	No
07:45 - 08:45	266	+	224	=	490	98	143	No
07:00 - 08:00	269	+	216	=	485	91	99	No
07:15 - 08:15	269	+	215	=	484	95	113	No
07:30 - 08:30	264	+	217	=	481	99	129	No
10:45 - 11:45	250	+	229	=	479	76	148	No
08:15 - 09:15	204		172		376	66	117	No

Study Name: Signalwarrant_IA 25 & Adams_20191009

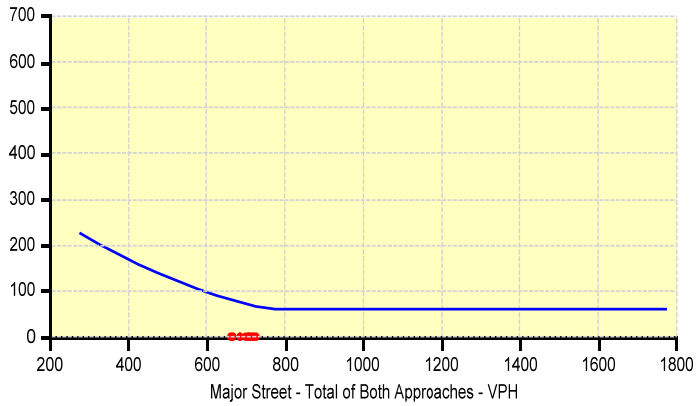
Study Date : 10/9/2019

Warrant 7 - Crash Experience

Major Road
IA 25

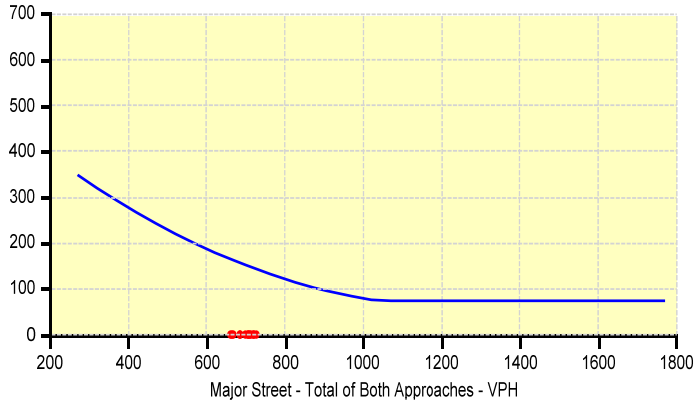
80% of Warrant 4 - 4 Hr Pedestrian Data

Time	NB Vehs	+	SB Vehs	=	Total Vehs	NB Peds	+	SB Peds	=	Ped Total	Met?
12:00 - 13:00	387	+	341	=	728	0	+	0	=	0	No
15:45 - 16:45	401	+	317	=	718	0	+	0	=	0	No
16:00 - 17:00	408	+	310	=	718	0	+	0	=	0	No
15:30 - 16:30	396	+	318	=	714	0	+	0	=	0	No
15:15 - 16:15	386	+	322	=	708	0	+	0	=	0	No
11:45 - 12:45	376	+	329	=	705	0	+	0	=	0	No
16:15 - 17:15	392	+	312	=	704	0	+	0	=	0	No
15:00 - 16:00	372	+	326	=	698	0	+	0	=	0	No
16:30 - 17:30	378	+	308	=	686	0	+	0	=	0	No
11:30 - 12:30	366	+	319	=	685	0	+	0	=	0	No
16:45 - 17:45	366	+	303	=	669	0	+	0	=	0	No
17:00 - 18:00	357		308		665	0		0		0	No



80% of Warrant 4 - 1 Hr Pedestrian Data

Time	NB Vehs	+	SB Vehs	=	Total Vehs	NB Peds	+	SB Peds	=	Ped Total	Met?
12:00 - 13:00	387	+	341	=	728	0	+	0	=	0	No
15:45 - 16:45	401	+	317	=	718	0	+	0	=	0	No
16:00 - 17:00	408	+	310	=	718	0	+	0	=	0	No
15:30 - 16:30	396	+	318	=	714	0	+	0	=	0	No
15:15 - 16:15	386	+	322	=	708	0	+	0	=	0	No
11:45 - 12:45	376	+	329	=	705	0	+	0	=	0	No
16:15 - 17:15	392	+	312	=	704	0	+	0	=	0	No
15:00 - 16:00	372	+	326	=	698	0	+	0	=	0	No
16:30 - 17:30	378	+	308	=	686	0	+	0	=	0	No
11:30 - 12:30	366	+	319	=	685	0	+	0	=	0	No
16:45 - 17:45	366	+	303	=	669	0	+	0	=	0	No
17:00 - 18:00	357		308		665	0		0		0	No



Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Signal Warrants - Summary

Major Street Approaches

Eastbound: IA 25
Number of Lanes : 2+

Total Approach Volume: 907

Westbound: IA 25
Number of Lanes :2+

Total Approach Volume: 1,241

Minor Street Approaches

Northbound: Lincoln St
Number of Lanes :1

Total Approach Volume: 196

Southbound: Lincoln St
Number of Lanes :1

Total Approach Volume: 525

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... **Not Satisfied**

Warrant 1A - Minimum Vehicular Volume..... **Not Satisfied**
Required volumes reached for 0 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... **Not Satisfied**
Required volumes reached for 0 hours, 8 are needed

Warrant 1C - Combination of Warrants..... **Not Satisfied**
Required 1A volumes reached for 2 hours, 8 are needed
Required 1B volumes reached for 0 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... **Not Satisfied**
Number of hours (0) volumes exceed minimum < minimum required (4).

Warrant 3 - Peak Hour..... **Not Satisfied**

Warrant 3A - Peak Hour Delay..... **Not Satisfied**
Approach volumes on minor street don't exceed minimums for any one hour period. Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... **Not Satisfied**
Volumes do not exceed minimums for any one hour period.

Warrant 4 - Pedestrian Volumes..... **Not Evaluated**

Warrant 5 - School Crossing..... **Not Evaluated**

Warrant 6 - Coordinated Signal System..... **Not Evaluated**

Warrant 7 - Crash Experience..... **Not Satisfied**
Number of accidents (0) is less than minimum (5). Volume minimums are not met.

Warrant 8 - Roadway Network..... **Not Evaluated**

Warrant 9 - Intersection Near a Grade Crossing..... **Not Evaluated**

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

	Major Road IA 25					Minor Road Lincoln St		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141	+	173	=	314	22	66	No
17:00 - 18:00	116	+	189	=	305	30	54	No
15:00 - 16:00	134	+	165	=	299	21	62	No
08:00 - 09:00	108	+	155	=	263	25	66	No
12:15 - 13:15	103	+	160	=	263	28	89	No
07:45 - 08:45	106	+	153	=	259	26	58	No
07:30 - 08:30	103	+	150	=	253	27	52	No
07:15 - 08:15	99	+	154	=	253	29	49	No
07:00 - 08:00	95	+	156	=	251	30	50	No
10:45 - 11:45	118	+	111	=	229	16	65	No
17:15 - 18:15	87	+	138	=	225	21	42	No
14:45 - 15:45	101	+	123	=	224	17	47	No
08:15 - 09:15	81	+	118	=	199	18	54	No
06:45 - 07:45	70		117		187	23	38	No

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **52**

	Major Road IA 25					Minor Road Lincoln St		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141	+	173	=	314	22	66	No
17:00 - 18:00	116	+	189	=	305	30	54	No
15:00 - 16:00	134	+	165	=	299	21	62	No
08:00 - 09:00	108	+	155	=	263	25	66	No
12:15 - 13:15	103	+	160	=	263	28	89	No
07:45 - 08:45	106	+	153	=	259	26	58	No
07:30 - 08:30	103	+	150	=	253	27	52	No
07:15 - 08:15	99	+	154	=	253	29	49	No
07:00 - 08:00	95	+	156	=	251	30	50	No
10:45 - 11:45	118	+	111	=	229	16	65	No
17:15 - 18:15	87	+	138	=	225	21	42	No
14:45 - 15:45	101	+	123	=	224	17	47	No
08:15 - 09:15	81	+	118	=	199	18	54	No
06:45 - 07:45	70		117		187	23	38	No

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

Only 2 hours meet 1A minimums.
Only 0 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

Volume Requirements

Rural Factor of 70% applied

Warrant	1A	1B
Veh/Hr Major =	**336**	**504**
Veh/Hr Minor =	**84**	**42**

Major Road
IA 25

Minor Road
Lincoln St

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:00 - 17:00	155	+	223	=	378	31	87	Yes
11:30 - 12:30	163	+	176	=	339	28	105	Yes
15:45 - 16:45	148	+	205	=	353	28	78	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141	+	173	=	314	22	66	No
17:00 - 18:00	116	+	189	=	305	30	54	No
15:00 - 16:00	134	+	165	=	299	21	62	No
08:00 - 09:00	108	+	155	=	263	25	66	No
07:45 - 08:45	106	+	153	=	259	26	58	No
07:15 - 08:15	99		154		253	29	49	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141		173		314	22	66	No

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

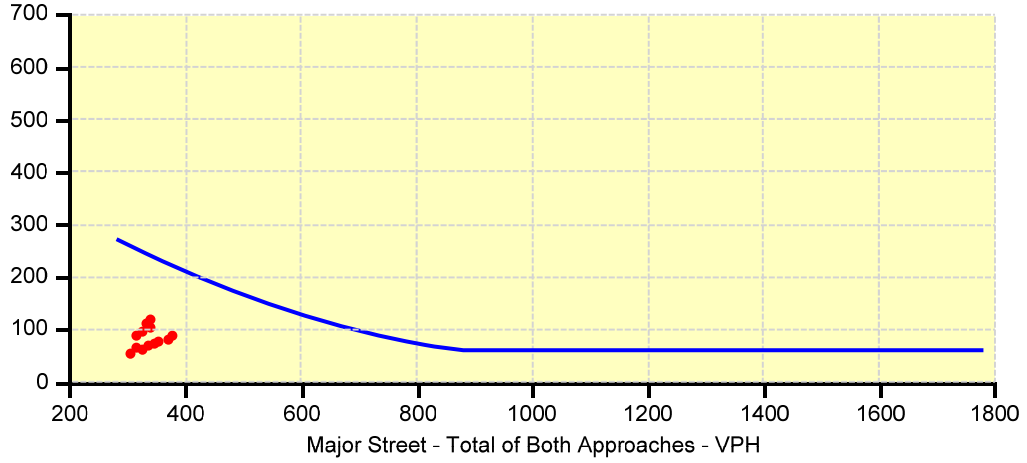
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

	Major Road IA 25					Minor Road Lincoln St		
Time	**Major EB**	**+**	**Major WB**	**=**	**Total**	**Minor NB**	**Minor SB**	**Met?**
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
							66	No



Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Number of Minor Lanes =**1**

Volume and Delay Requirements

Veh/Hr All Approaches = **800**
Veh/Hr Minor = **100**
Total Delay (Veh-Hrs) = **4**

Major Road	Minor Road
IA 25	Lincoln St

Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
16:00 - 17:00	496	No	31	-	---	87	-	No	No
12:00 - 13:00	492	No	35	-	---	119	-	Yes	No
16:15 - 17:15	481	No	32	-	---	79	-	No	No
11:45 - 12:45	474	No	33	-	---	111	-	Yes	No
11:30 - 12:30	472	No	28	-	---	105	-	Yes	No
15:45 - 16:45	459	No	28	-	---	78	-	No	No
16:30 - 17:30	450	No	31	-	---	72	-	No	No
11:15 - 12:15	447	No	26	-	---	97	-	No	No
15:30 - 16:30	431	No	25	-	---	70	-	No	No
11:00 - 12:00	425	No	24	-	---	87	-	No	No
16:45 - 17:45	421	No	32	-	---	63	-	No	No
15:15 - 16:15	402	No	22	-	---	66	-	No	No
17:00 - 18:00	389	No	30	-	---	54	-	No	No
15:00 - 16:00	382	No	21	-	---	62	-	No	No
12:15 - 13:15	380	No	28	-	---	89	-	No	No
08:00 - 09:00	354	No	25	-	---	66	-	No	No
07:45 - 08:45	343	No	26	-	---	58	-	No	No
07:30 - 08:30	332	No	27	-	---	52	-	No	No
07:15 - 08:15	331	No	29	-	---	49	-	No	No
07:00 - 08:00	331	No	30	-	---	50	-	No	No
10:45 - 11:45	310	No	16	-	---	65	-	No	No
14:45 - 15:45	288	No	17	-	---	47	-	No	No
17:15 - 18:15	288	No	21	-	---	42	-	No	No
08:15 - 09:15	271	No	18	-	---	54	-	No	No
12:30 - 13:30	254	No	21	-	---	59	-	No	No

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

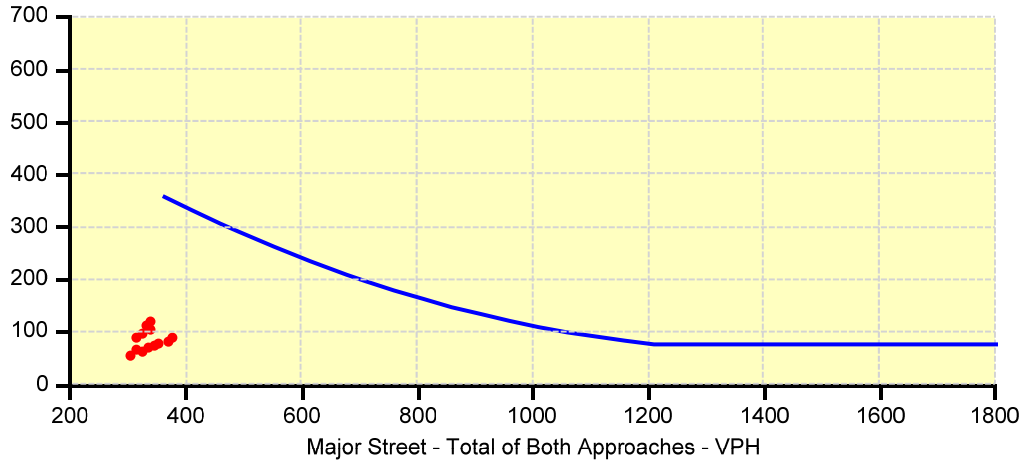
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply =	**True**
Number of Major Lanes =	**2 or more**
Number of Minor Lanes =	**1**

	Major Road IA 25					Minor Road Lincoln St		
Time	**Major EB**	**+**	**Major WB**	**=**	**Total**	**Minor NB**	**Minor SB**	**Met?**
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
							66	No



Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

Study Date : 10/14/2019

Warrant 7 - Crash Experience

Description

Intended for sites where the frequency of correctible crashes in the past 12 months is the primary motivation for installing a traffic signal.

Summary

Number of crashes does not meet minimum.
Pedestrian volumes do not meet the 80% criteria.
War 1A or 1B volumes do not meet the 80% criteria.
Warrant is NOT met.

Site Data Required

Number of crashes in last 12 months = **0**

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Crash and Volume Requirements

Minimum number of crashes = **5**

Rural Factor of 70 % applied

Veh/Hr Major: War 1A = **336** War 1B = **504**

Veh/Hr Minor: War 1A = **84** War 1B = **42**

Volume and Pedestrian Data

Hours data meets 80% requirements of Warrant 1A (8 needed) **2** Met? **No**
Hours data meets 80% requirements of Warrant 1B (8 needed) **0** Met? **No**
Hours data meets 80% requirements of Warrant 4 (4,1 needed) **0** **0** Met? **No**

Major Road	Minor Road
IA 25	Lincoln St

Warrant 1A Details

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:00 - 17:00	155	+	223	=	378	31	87	Yes
11:30 - 12:30	163	+	176	=	339	28	105	Yes
15:45 - 16:45	148	+	205	=	353	28	78	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141	+	173	=	314	22	66	No
17:00 - 18:00	116	+	189	=	305	30	54	No
15:00 - 16:00	134	+	165	=	299	21	62	No
08:00 - 09:00	108	+	155	=	263	25	66	No
07:45 - 08:45	106	+	153	=	259	26	58	No
07:15 - 08:15	99		154		253	29	49	No

Warrant 1B Details

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:00 - 17:00	155	+	223	=	378	31	87	No
16:15 - 17:15	145	+	225	=	370	32	79	No
15:45 - 16:45	148	+	205	=	353	28	78	No
16:30 - 17:30	135	+	212	=	347	31	72	No
11:30 - 12:30	163	+	176	=	339	28	105	No
12:00 - 13:00	136	+	202	=	338	35	119	No
15:30 - 16:30	148	+	188	=	336	25	70	No
11:45 - 12:45	148	+	182	=	330	33	111	No
16:45 - 17:45	126	+	200	=	326	32	63	No
11:15 - 12:15	165	+	159	=	324	26	97	No
11:00 - 12:00	163	+	151	=	314	24	87	No
15:15 - 16:15	141		173		314	22	66	No

Study Name: Signalwarrant_IA 25 & Lincoln St_20191009

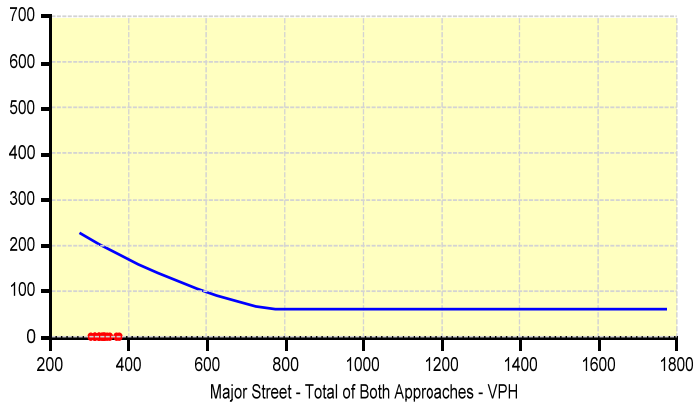
Study Date : 10/14/2019

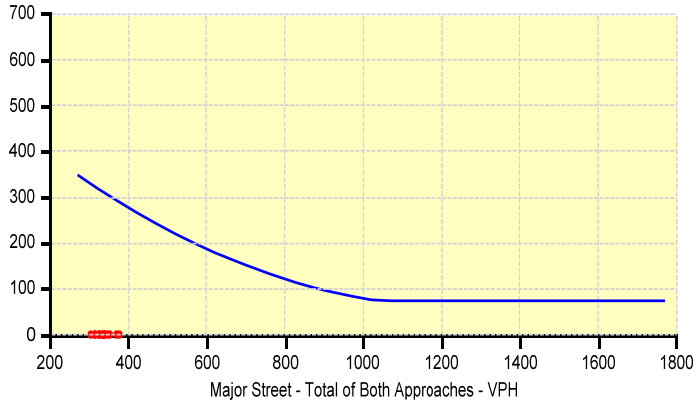
Warrant 7 - Crash Experience

Major Road
IA 25

80% of Warrant 4 - 4 Hr Pedestrian Data

Time	EB Vehs	+	WB Vehs	=	Total Vehs	EB Peds	+	WB Peds	=	Ped Total	Met?
16:00 - 17:00	155	+	223	=	378	0	+	0	=	0	No
16:15 - 17:15	145	+	225	=	370	0	+	0	=	0	No
15:45 - 16:45	148	+	205	=	353	0	+	0	=	0	No
16:30 - 17:30	135	+	212	=	347	0	+	0	=	0	No
11:30 - 12:30	163	+	176	=	339	0	+	0	=	0	No
12:00 - 13:00	136	+	202	=	338	0	+	0	=	0	No
15:30 - 16:30	148	+	188	=	336	0	+	0	=	0	No
11:45 - 12:45	148	+	182	=	330	0	+	0	=	0	No
16:45 - 17:45	126	+	200	=	326	0	+	0	=	0	No
11:15 - 12:15	165	+	159	=	324	0	+	0	=	0	No
15:15 - 16:15	141	+	173	=	314	0	+	0	=	0	No
11:00 - 12:00	163		151		314	0		0		0	No



80% of Warrant 4 - 1 Hr Pedestrian Data

Time	EB Vehs	+	WB Vehs	=	Total Vehs	EB Peds	+	WB Peds	=	Ped Total	Met?
16:00 - 17:00	155	+	223	=	378	0	+	0	=	0	No
16:15 - 17:15	145	+	225	=	370	0	+	0	=	0	No
15:45 - 16:45	148	+	205	=	353	0	+	0	=	0	No
16:30 - 17:30	135	+	212	=	347	0	+	0	=	0	No
11:30 - 12:30	163	+	176	=	339	0	+	0	=	0	No
12:00 - 13:00	136	+	202	=	338	0	+	0	=	0	No
15:30 - 16:30	148	+	188	=	336	0	+	0	=	0	No
11:45 - 12:45	148	+	182	=	330	0	+	0	=	0	No
16:45 - 17:45	126	+	200	=	326	0	+	0	=	0	No
11:15 - 12:15	165	+	159	=	324	0	+	0	=	0	No
15:15 - 16:15	141	+	173	=	314	0	+	0	=	0	No
11:00 - 12:00	163		151		314	0		0		0	No