

Appendix B - Crash Data



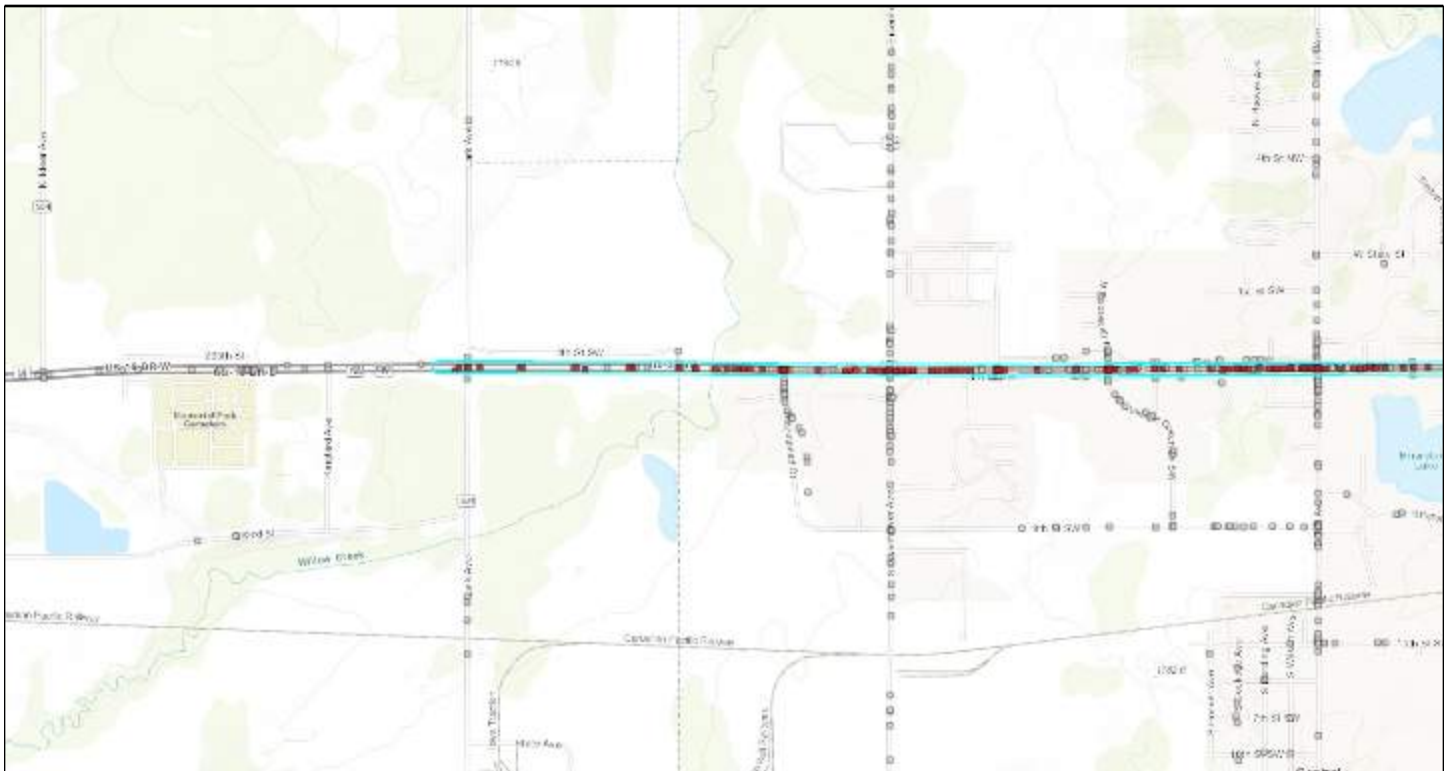
**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Crash Severity	281
Fatal Crash	2
Suspected Serious Injury Crash	3
Suspected Minor Injury Crash	14
Possible/Unknown Injury Crash	61
Property Damage Only	201

Injury Status Summary	104
Fatalities	2
Suspected serious/incapacitating	3
Suspected minor/non-incapacitating	18
Possible (complaint of pain/injury)	80
Unknown	1

Property/Vehicles/Occupants	
Property Damage Total (dollars):	1,626,263.00
Average (per crash dollars):	5,787.41
Total Vehicles:	569.00
Average (per crash):	2.02
Total Occupants:	821.00
Average (per crash):	2.92

Average Severity	
Fatalities/Fatal Crash:	1.00
Fatalities/Crash:	0.01
Injuries/Crash:	0.36
Major Injuries/Crash:	0.01
Minor Injuries/Crash:	0.06
Possible/Unknown Injuries/Crash:	0.28





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		269
Animal	13	21
Ran stop sign	2	0
FTYROW: At uncontrolled intersection	5	6
FTYROW: From stop sign	10	1
FTYROW: Making left turn	21	0
FTYROW: From parked position	0	1
FTYROW: Other	7	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	1
Aggressive driving/road rage	0	3
Exceeded authorized speed	0	12
Operating vehicle in an reckless, erratic, ca...	4	55
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	4
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	2
Driver Distraction: Other electronic device ...	0	2
Driver Distraction: Unrestrained animal	0	3
Driver Distraction: Inattentive/lost in thou...	5	1
Driver Distraction: Exterior distraction	3	2
Ran off road - straight	1	1
Lost control	18	3
Over correcting/over steering	0	1
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	2
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	1	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	48
Unknown	8	0
Other: No improper action	2	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	4	2	7	2	1	2	2	0	21
Monday	0	0	0	1	2	8	7	9	8	4	1	2	0	42
Tuesday	0	0	1	0	1	11	5	7	6	6	0	0	0	37
Wednesday	1	0	2	0	1	4	9	7	1	1	4	3	0	33
Thursday	0	0	0	1	6	7	9	8	13	4	3	1	0	52
Friday	0	0	1	3	3	5	12	8	11	8	1	1	0	53
Saturday	0	0	0	0	1	6	13	8	8	5	1	1	0	43
Total	1	0	4	6	14	45	57	54	49	29	12	10	0	281

Manner of Crash Collision	281	Surface Conditions	281
Non-collision (single vehicle)	22	Dry	205
Head-on (front to front)	4	Wet	46
Rear-end (front to rear)	137	Ice/frost	6
Angle, oncoming left turn	15	Snow	12
Broadside (front to side)	48	Slush	3
Sideswipe, same direction	38	Mud, dirt	0
Sideswipe, opposite direction	5	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	1	Oil	0
Not reported	6	Gravel	0
Other	4	Not reported	8
Unknown	1	Other	1
		Unknown	0

Fixed Object Struck	569
Bridge overhead structure	1
Bridge/bridge rail parapet	0
Ditch	1
Ground	1
Guardrail - face	1
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	1
Traffic signal support	1
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	3
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	1
Building	0
None (no fixed object struck)	559



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	6	3	0	0	9
= 17	7	3	0	0	10
= 18	9	9	0	0	18
= 19	9	5	0	0	14
= 20	8	8	0	0	16
>= 21 and <= 24	14	20	1	0	35
>= 25 and <= 29	22	18	2	0	42
>= 30 and <= 34	25	24	0	0	49
>= 35 and <= 39	21	22	0	0	43
>= 40 and <= 44	11	24	1	0	36
>= 45 and <= 49	14	8	1	0	23
>= 50 and <= 54	22	20	1	0	43
>= 55 and <= 59	24	25	0	0	49
>= 60 and <= 64	31	19	0	0	50
>= 65 and <= 69	23	18	0	0	41
>= 70 and <= 74	20	15	0	0	35
>= 75 and <= 79	6	10	0	0	16
>= 80 and <= 84	10	6	0	0	16
>= 85 and <= 89	3	9	0	0	12
>= 90 and <= 94	1	4	0	0	5
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	286	271	6	0	563

Alcohol Test Given	569
None	553
Blood	1
Urine	0
Breath	4
Vitreous	0
Refused	3
Not reported	8

Drug Test Given	569
None	561
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	8

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	281
Drug	0
Alcohol (< Statutory)	1
Alcohol (Statutory)	3
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	3
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	274

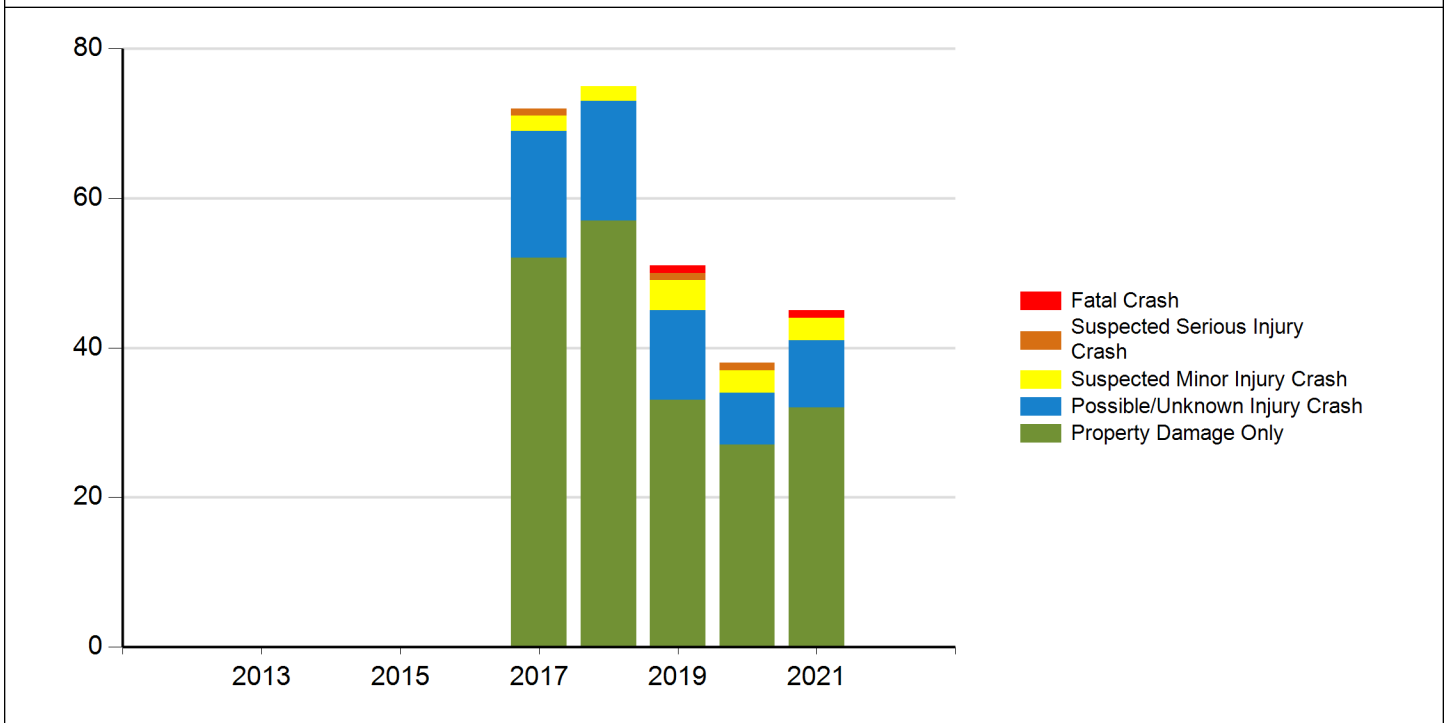


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	1	2	17	52	72
2018	0	0	2	16	57	75
2019	1	1	4	12	33	51
2020	0	1	3	7	27	38
2021	1	0	3	9	32	45
2022	0	0	0	0	0	0
Total	2	3	14	61	201	281

Severity/Year



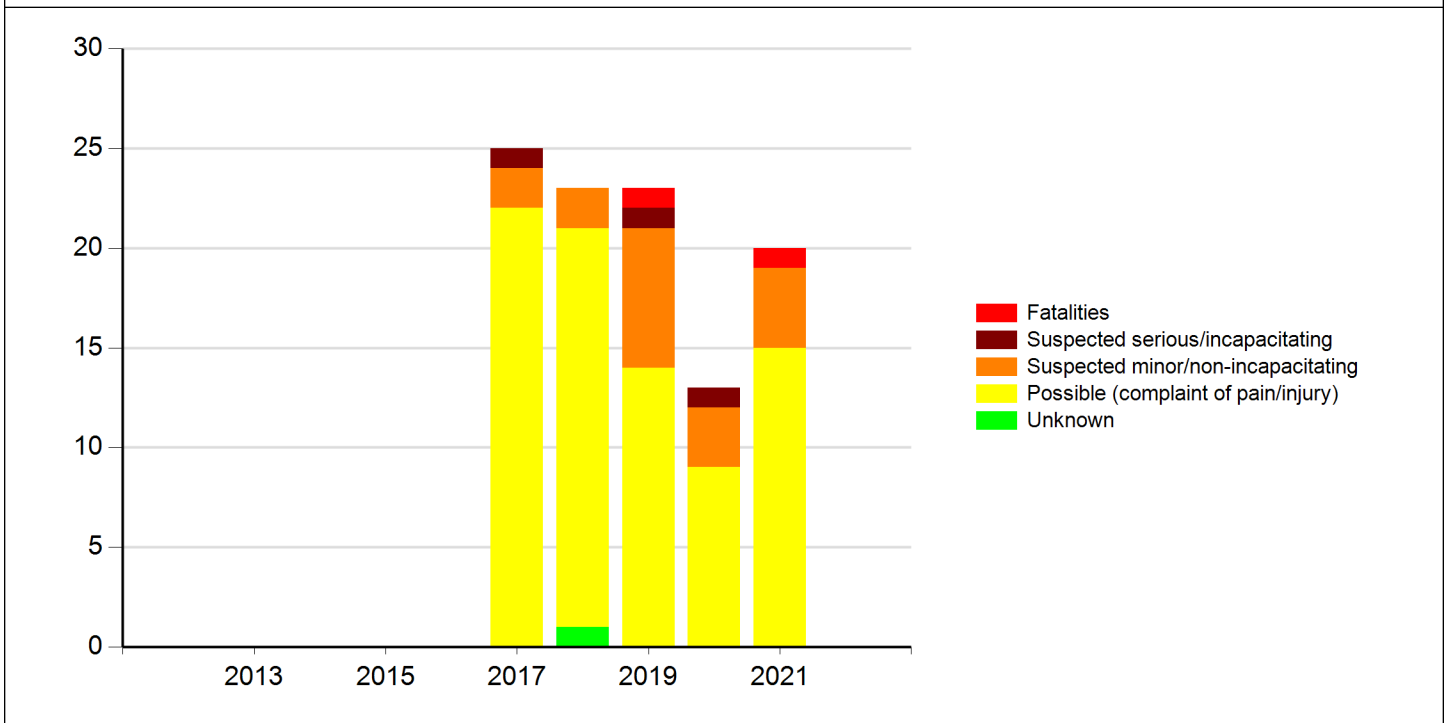


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	1	2	22	0	25
2018	0	0	2	20	1	23
2019	1	1	7	14	0	23
2020	0	1	3	9	0	13
2021	1	0	4	15	0	20
2022	0	0	0	0	0	0
Total	2	3	18	80	1	104

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

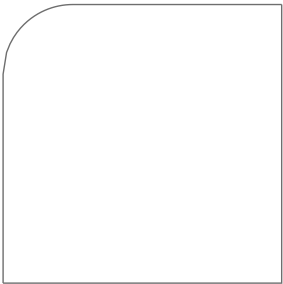
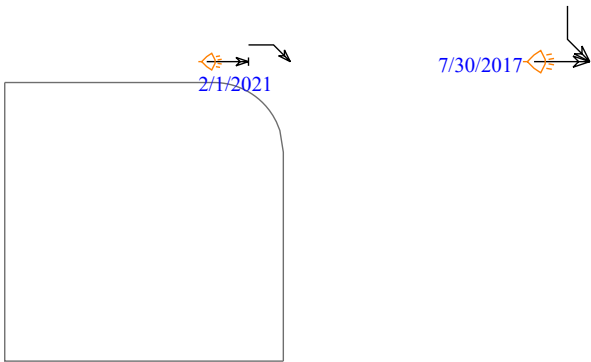
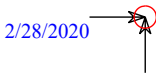
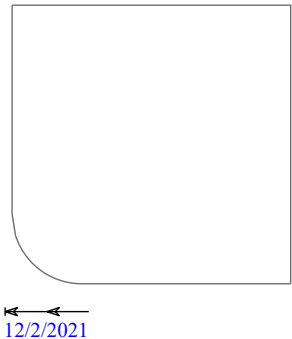
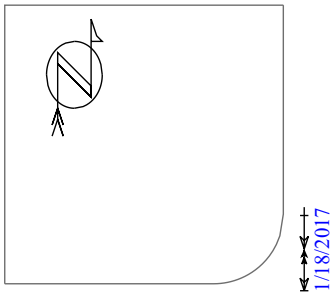
Analyst Information

IA 122 Corridor in Mason City
From Lark Avenue to Winnebago/Cerro Gordo Way
2017-2021 Crash History
Used Line selection tool applied to roadway centerline with 75-foot buffer. The buffer area was "tight" to reflect short functional areas on the sideroad approaches due to closely-spaced frontage road connections and sideroad accesses typical in the corridor.

Lark Avenue and IA 122, 2017-2021 Collision Diagram

5 Crashes

Clear



- ← Straight
- ←+ Stopped
- ← Unknown
- ↔ Backing
- ↔↔ Overtaking
- ↔↔ Sideswipe

- ▭ Parked
- ↗ Erratic
- ↘ Out of control
- ↘ Right turn
- ↙ Left turn
- ↪ U-turn

- × Pedestrian
- ⊗ Bicycle
- Injury
- Fatality
- ⚡ Nighttime
- ⚡ DUI

- Fixed objects:
- General
 - ⊞ Signal
 - ⊞ Tree
 - ⊞ Pole
 - ⊞ Curb
 - ⊞ Animal
 - ◀ 3rd vehicle
 - * Extra data

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 22, 2022
Intersection: Lark Avenue and IA 122

Improvement

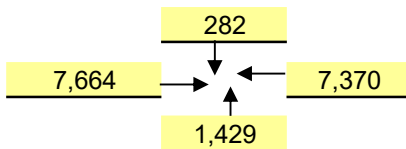
Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Iowa DOT Turning Movements 2005 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



6,111,925 Current Annual Entering Veh., **AEV** = DEV * 365

16,745 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

16,745 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

0	Fatal Crashes	→	Fatalities @	\$4,500,000	\$	-
			Major Injuries @	\$325,000	\$	-
1	Injury Crashes	→	Minor Injuries @	\$65,000	\$	-
			1 Possible Injuries @	\$35,000	\$	35,000
4	Property Damage Only		(assumed cost per crash)	\$7,400	\$	-
			-OR- enter all Property Costs of all crashes:	\$	63,600	
5	Total Crashes, TA		Total \$ Loss, LOSS	\$	98,600	

1.00 Current Crashes / Year, **AA** = TA / T
\$ 19,720 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, AAR x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

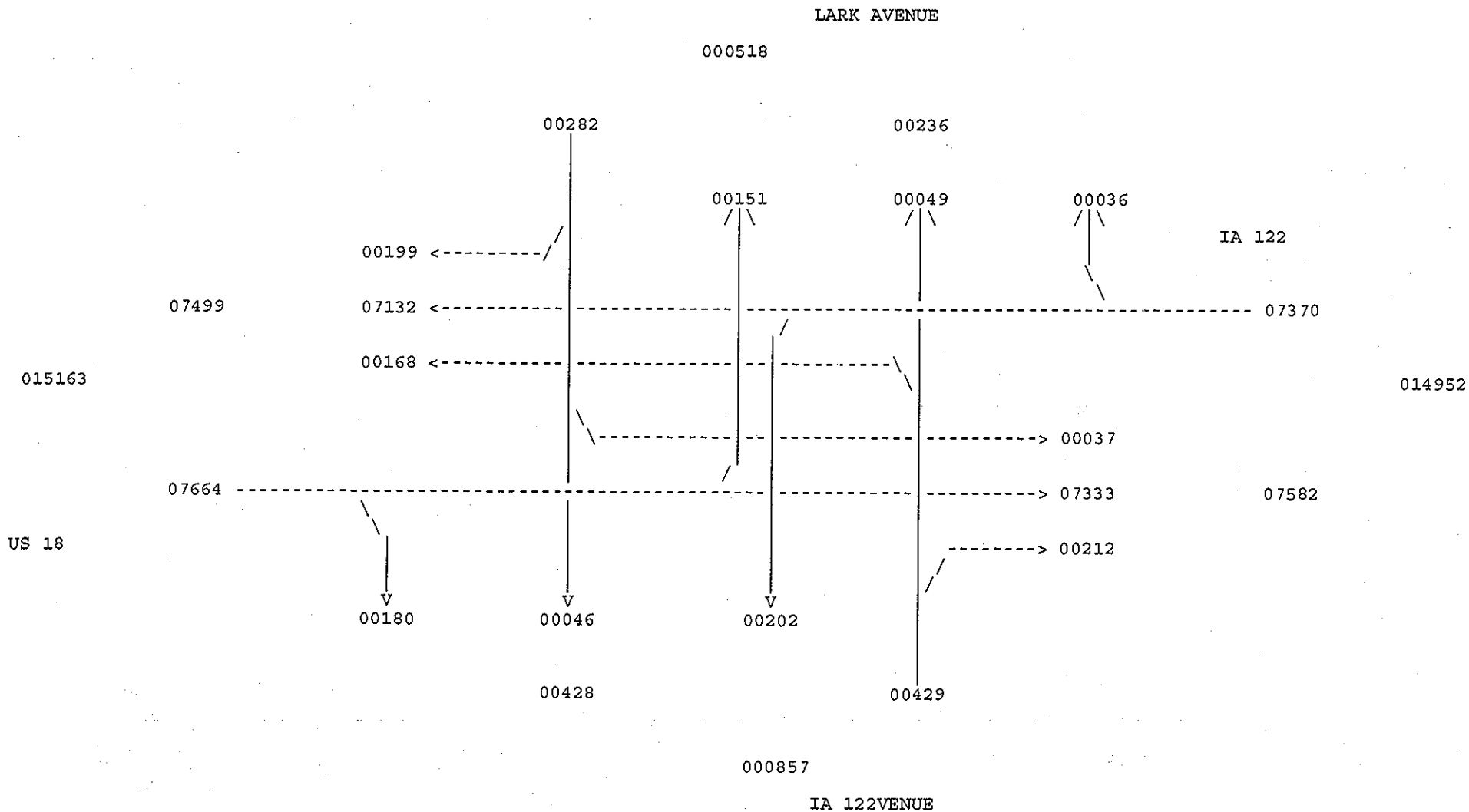
Benefit : Cost = \$0 : \$0 = - : 1

DATE: 10-14-2010

IOWA DEPARTMENT OF TRANSPORTATION
VEHICULAR TURNING MOVEMENTS
ANNUAL AVERAGE DAILY TRAFFIC - YEAR 2005
IN MASON CITY

COUNTY: CERRO GORDO
IOWA 122 & LARK AVE

STATION NO. 17 32 7381 0991





Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	5	Injury Status Summary	1
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	0	Suspected minor/non-incapacitating	0
Possible/Unknown Injury Crash	1	Possible (complaint of pain/injury)	1
Property Damage Only	4	Unknown	0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	57,100.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	11,420.00	Fatalities/Crash:	0.00
Total Vehicles:	10.00	Injuries/Crash:	0.20
Average (per crash):	2.00	Major Injuries/Crash:	0.00
Total Occupants:	12.00	Minor Injuries/Crash:	0.00
Average (per crash):	2.40	Possible/Unknown Injuries/Crash:	0.20





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Major Cause		5
Animal	0	0
Ran stop sign	0	0
FTYROW: At uncontrolled intersection	0	0
FTYROW: From stop sign	1	0
FTYROW: Making left turn	0	0
FTYROW: From parked position	0	0
FTYROW: Other	0	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	0
Aggressive driving/road rage	0	0
Exceeded authorized speed	0	0
Operating vehicle in an reckless, erratic, ca...	0	3
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	0
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	0
Driver Distraction: Other electronic device ...	0	0
Driver Distraction: Unrestrained animal	0	0
Driver Distraction: Inattentive/lost in thou...	0	0
Driver Distraction: Exterior distraction	0	0
Ran off road - straight	0	0
Lost control	0	1
Over correcting/over steering	0	0
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	0
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	0	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	0
Unknown	0	0
Other: No improper action	0	0



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	1
Monday	0	0	0	0	0	0	0	0	0	1	0	0	0	1
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	1	0	0	0	1
Friday	0	0	0	0	0	0	0	1	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	0	1	0	1	0	2	1	0	0	5

Manner of Crash Collision	5	Surface Conditions	5
Non-collision (single vehicle)	0	Dry	4
Head-on (front to front)	0	Wet	0
Rear-end (front to rear)	3	Ice/frost	0
Angle, oncoming left turn	1	Snow	0
Broadside (front to side)	1	Slush	0
Sideswipe, same direction	0	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	1
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	10
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	1
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	9



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	1
= 17	0	0	0	0	0
= 18	0	0	0	0	0
= 19	1	0	0	0	1
= 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	3	0	0	3
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	1	0	0	1
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	0	2	0	0	2
>= 55 and <= 59	0	1	0	0	1
>= 60 and <= 64	0	0	0	0	0
>= 65 and <= 69	0	0	0	0	0
>= 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	2	8	0	0	10

Alcohol Test Given	10
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	10
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	5
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	5

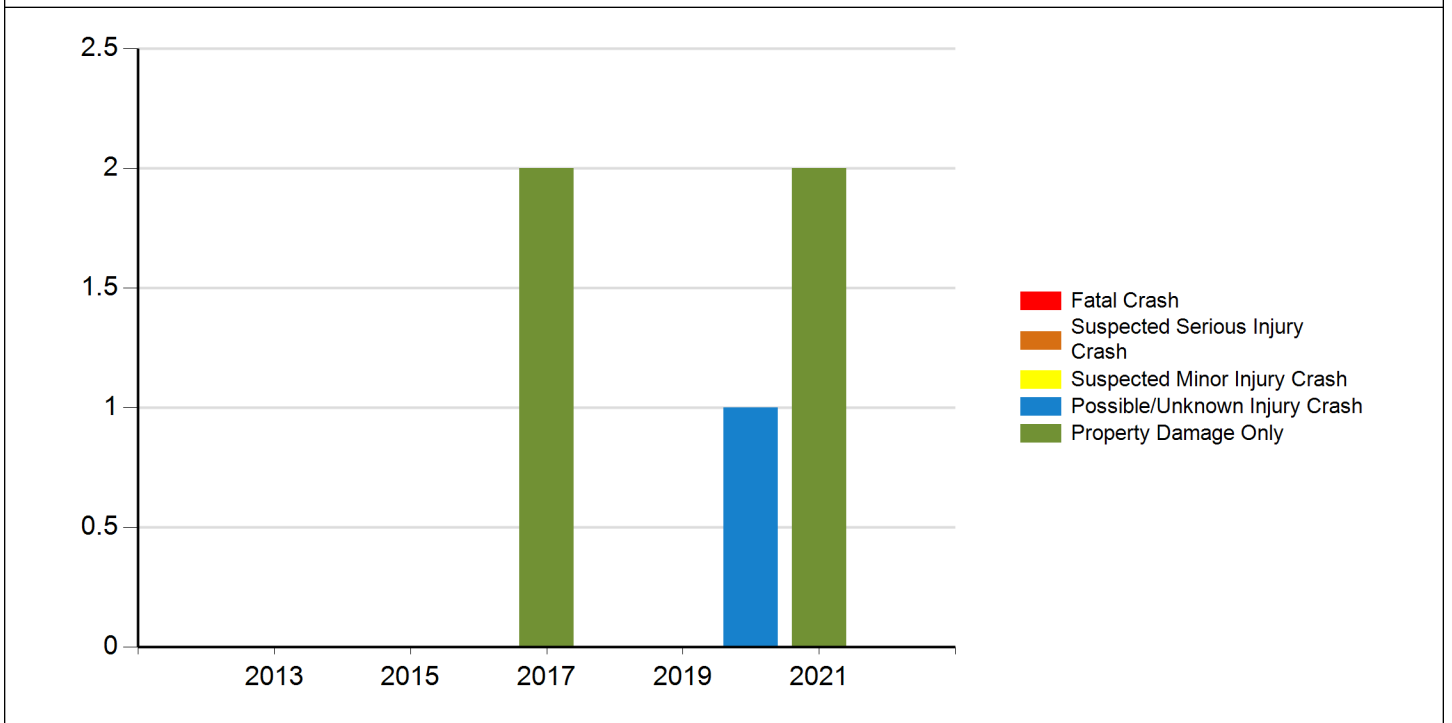


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	2	2
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	1	0	1
2021	0	0	0	0	2	2
2022	0	0	0	0	0	0
Total	0	0	0	1	4	5

Severity/Year



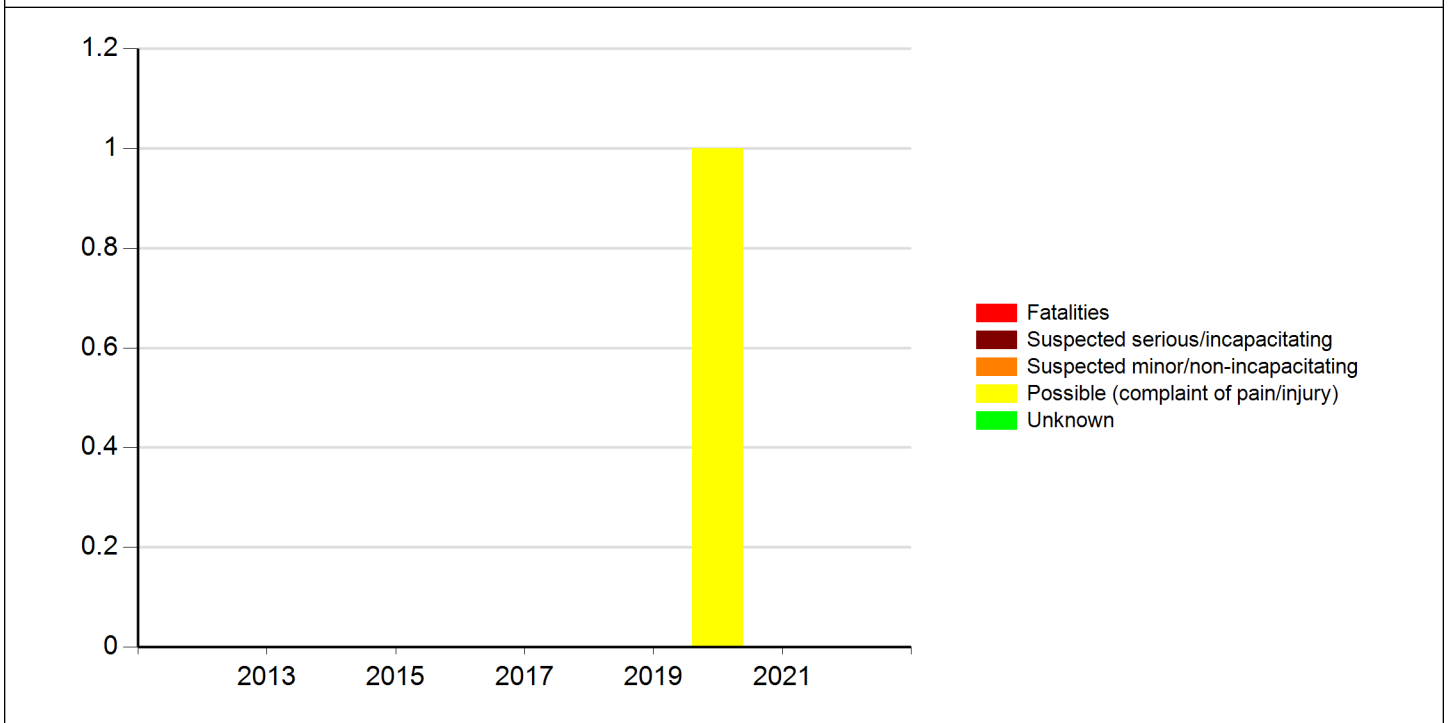


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Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	1	0	1
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	0	0	1	0	1

Injury Status/Year





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Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

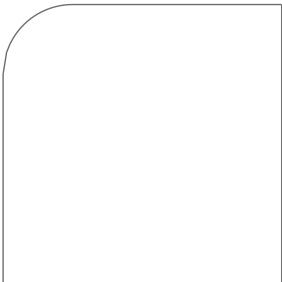
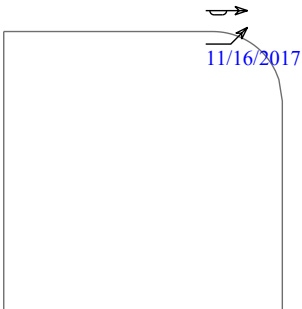
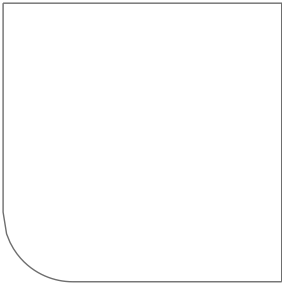
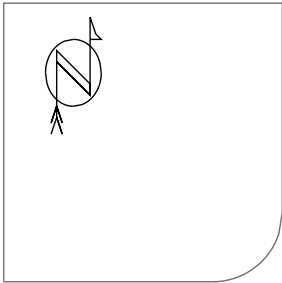
Analyst Information

Lark Avenue and IA 122 in Mason City
2017-2021
Excluding animal-related crashes

Senco Equip. Access, 2017-2021 Collision Diagram

1 Crashes

Clear



- ← Straight
- ←+ Stopped
- ← Unknown
- ↔ Backing
- ↔↔ Overtaking
- ↔↔ Sideswipe

- Parked
- Erratic
- Out of control
- Right turn
- Left turn
- U-turn

- Pedestrian
- Bicycle
- Injury
- Fatality
- Nighttime
- DUI

- Fixed objects:
- General
 - Signal
 - Tree
 - Pole
 - Curb
 - Animal
 - 3rd vehicle
 - Extra data

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 22, 2022
 Intersection: Senco Equipment (effectively a frontage road on the south) access

Improvement

Proposed Improvement(s):

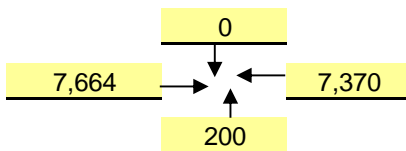
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Assumed based on Lark Ave Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



5,560,410 Current Annual Entering Veh., **AEV** = DEV * 365

15,234 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

15,234 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

<u>0</u> Fatal Crashes	→	<u></u> Fatalities @	\$4,500,000	\$	-
<u>0</u> Injury Crashes	→	<u></u> Major Injuries @	\$325,000	\$	-
<u>1</u> Property Damage Only		<u></u> Minor Injuries @	\$65,000	\$	-
<u>1</u> Total Crashes, TA		<u>0</u> Possible Injuries @	\$35,000	\$	-
		(assumed cost per crash)	\$7,400	\$	-
		-OR- enter all Property Costs of all crashes:	\$	6,000	
		Total \$ Loss, LOSS	\$	6,000	

0.20 Current Crashes / Year, **AA** = TA / T 0.04 Crashes / MEV, Crash Rate, **CR**
 \$ 6,000 Cost per Crash, **AVC** = LOSS / TA CR = TA x 10⁶ / (DEV x 365 x T)
 - Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided
 - Crashes Avoided First Year **AAR** = AA x CRF / 100 Crashes, **BENEFIT**
 \$ - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100

$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity		1	Injury Status Summary		0
Fatal Crash		0	Fatalities		0
Suspected Serious Injury Crash		0	Suspected serious/incapacitating		0
Suspected Minor Injury Crash		0	Suspected minor/non-incapacitating		0
Possible/Unknown Injury Crash		0	Possible (complaint of pain/injury)		0
Property Damage Only		1	Unknown		0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	6,000.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	6,000.00	Fatalities/Crash:	0.00
Total Vehicles:	2.00	Injuries/Crash:	0.00
Average (per crash):	2.00	Major Injuries/Crash:	0.00
Total Occupants:	2.00	Minor Injuries/Crash:	0.00
Average (per crash):	2.00	Possible/Unknown Injuries/Crash:	0.00





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		1
Animal	0	0
Ran stop sign	0	0
FTYROW: At uncontrolled intersection	0	0
FTYROW: From stop sign	0	0
FTYROW: Making left turn	0	0
FTYROW: From parked position	0	0
FTYROW: Other	0	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	0
Aggressive driving/road rage	0	0
Exceeded authorized speed	0	0
Operating vehicle in an reckless, erratic, ca...	0	0
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	1
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	0
Driver Distraction: Other electronic device ...	0	0
Driver Distraction: Unrestrained animal	0	0
Driver Distraction: Inattentive/lost in thou...	0	0
Driver Distraction: Exterior distraction	0	0
Ran off road - straight	0	0
Lost control	0	0
Over correcting/over steering	0	0
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	0
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	0	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	0
Unknown	0	0
Other: No improper action	0	0



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	0	0	0	0	0	0	0	0
Thursday	0	0	0	0	0	0	0	1	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	0	0	1	0	0	0	0	0	1

Manner of Crash Collision	1	Surface Conditions	1
Non-collision (single vehicle)	0	Dry	1
Head-on (front to front)	0	Wet	0
Rear-end (front to rear)	0	Ice/frost	0
Angle, oncoming left turn	0	Snow	0
Broadside (front to side)	0	Slush	0
Sideswipe, same direction	1	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	2
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	2



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	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	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	1	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	1	1	0	0	2

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

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

Drug Test Result	0
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	0
Other	0

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

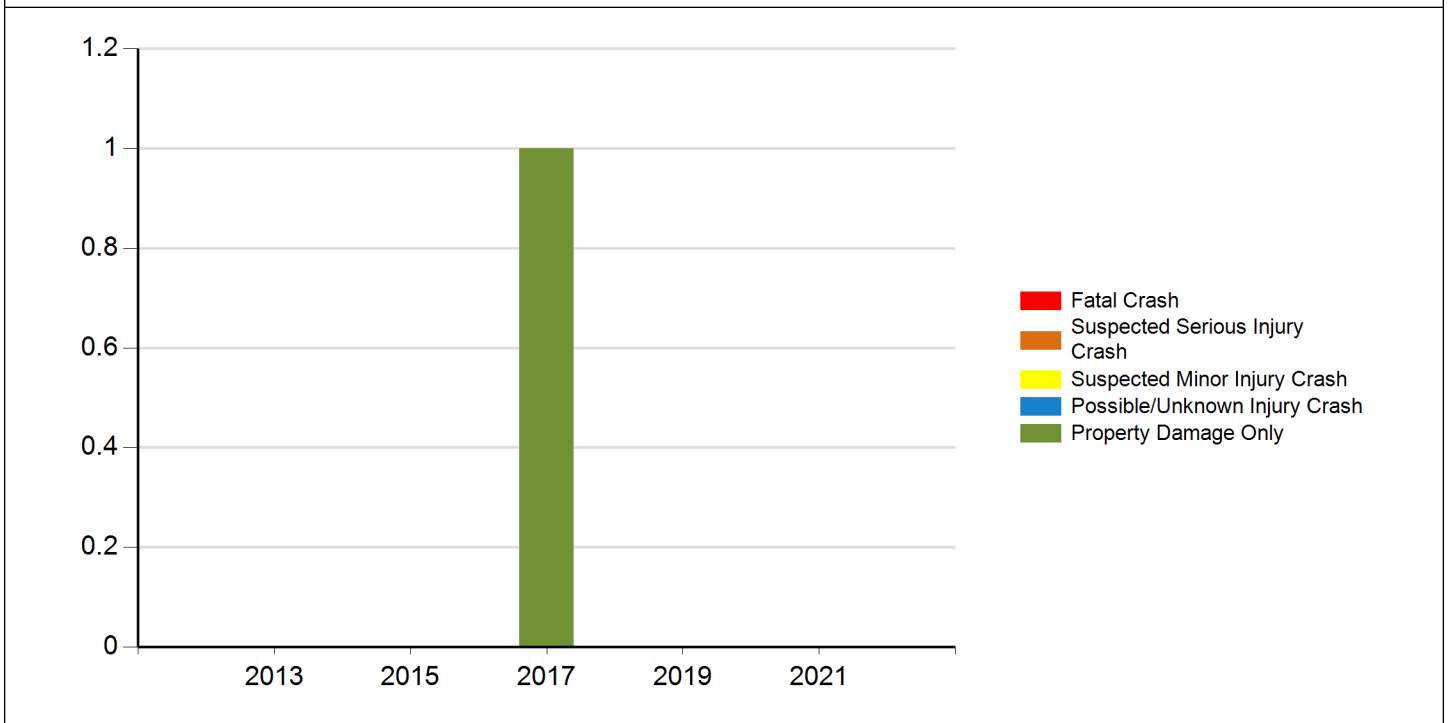


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	1	1
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	0	0	0	1	1

Severity/Year



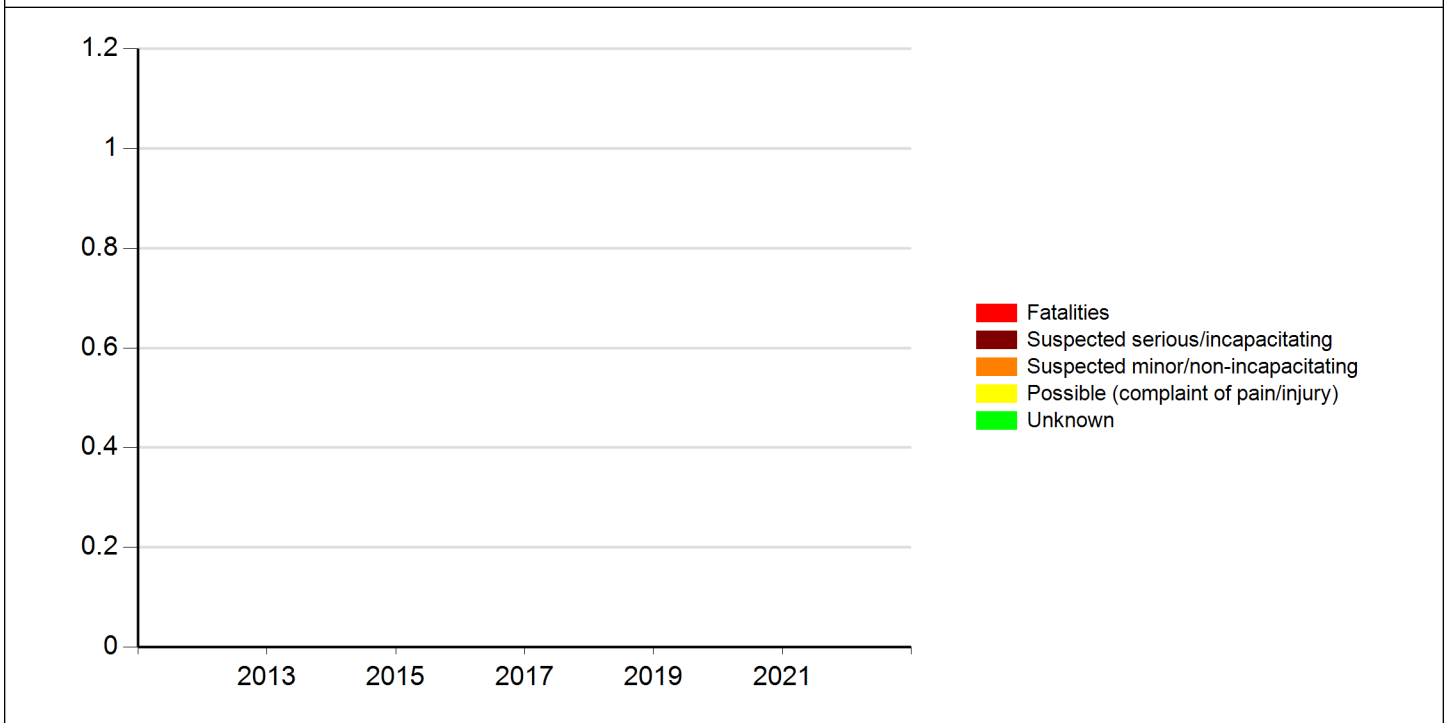


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	0	0	0	0	0

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

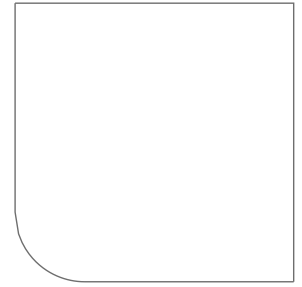
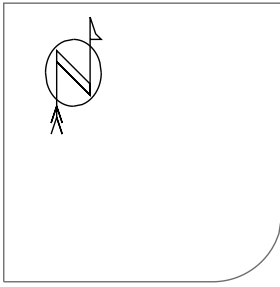
Analyst Information

Senco Equip. Access,
2017-2021
Excluding Animal-related

Sedars Drive, 2017-2021 Collision Diagram

7 Crashes

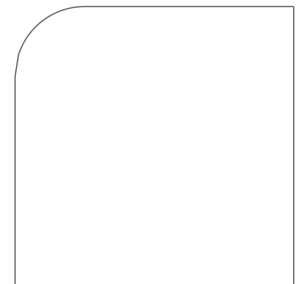
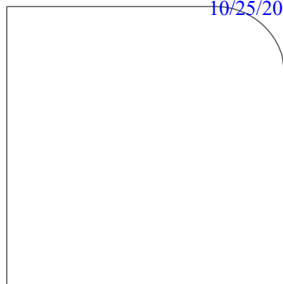
Clear



1/29/2017
11/24/2017

8/26/2021
11/29/2019

9/12/2021
6/15/2018
10/25/2017



← Straight
←+ Stopped
← Unknown
↔ Backing
↔↔ Overtaking
↔↔ Sideswipe

▬ Parked
↔ Erratic
↔ Out of control
↘ Right turn
↙ Left turn
↺ U-turn

× Pedestrian
⌗ Bicycle
○ Injury
● Fatality
⚡ Nighttime
⚡ DUI

Fixed objects:

□ General □ Pole
▣ Signal ▣ Curb
▣ Tree ⌘ Animal

◁ 3rd vehicle
* Extra data

Crash Magic Online 6/6/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 22, 2022
 Intersection: Sedars Dr and IA 122, excluding animal-related crashes

Improvement

Proposed Improvement(s):

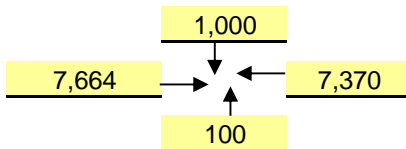
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Assumed based on Lark Ave Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



5,888,910 Current Annual Entering Veh., **AEV** = DEV * 365

16,134 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

16,134 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**
 Additional months
 0 Fatal Crashes → Fatalities @ \$4,500,000 \$ -
 4 Injury Crashes → Major Injuries @ \$325,000 \$ -
 Minor Injuries @ \$65,000 \$ -
 5 Possible Injuries @ \$35,000 \$ 175,000
 (assumed cost per crash) \$7,400 \$ -
 3 Property Damage Only -OR- enter all Property Costs of all crashes: \$ 147,795
 7 Total Crashes, **TA** Total \$ Loss, **LOSS** \$ 322,795

1.40 Current Crashes / Year, **AA** = TA / T
 \$ 46,114 Cost per Crash, **AVC** = LOSS / TA
 - Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
 - Crashes Avoided First Year **AAR** = AA x CRF / 100
 - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100

$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	7	Injury Status Summary	5
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	0	Suspected minor/non-incapacitating	0
Possible/Unknown Injury Crash	4	Possible (complaint of pain/injury)	5
Property Damage Only	3	Unknown	0
Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	147,795.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	21,113.57	Fatalities/Crash:	0.00
Total Vehicles:	15.00	Injuries/Crash:	0.71
Average (per crash):	2.14	Major Injuries/Crash:	0.00
Total Occupants:	20.00	Minor Injuries/Crash:	0.00
Average (per crash):	2.86	Possible/Unknown Injuries/Crash:	0.71





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		7
Animal	0	0
Ran stop sign	0	0
FTYROW: At uncontrolled intersection	0	0
FTYROW: From stop sign	2	0
FTYROW: Making left turn	0	0
FTYROW: From parked position	0	0
FTYROW: Other	0	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	0
Aggressive driving/road rage	0	0
Exceeded authorized speed	0	1
Operating vehicle in an reckless, erratic, ca...	0	1
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	0
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	0
Driver Distraction: Other electronic device ...	0	0
Driver Distraction: Unrestrained animal	0	0
Driver Distraction: Inattentive/lost in thou...	1	0
Driver Distraction: Exterior distraction	0	0
Ran off road - straight	0	0
Lost control	1	0
Over correcting/over steering	0	0
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	0
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	0	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	1
Unknown	0	0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	1	0	0	0	0	0	2
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	0	1	0	0	0	0	0	1
Thursday	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Friday	0	0	0	0	0	0	2	0	0	1	0	0	0	3
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	3	2	0	1	0	0	0	7

Manner of Crash Collision	7	Surface Conditions	7
Non-collision (single vehicle)	1	Dry	4
Head-on (front to front)	0	Wet	3
Rear-end (front to rear)	3	Ice/frost	0
Angle, oncoming left turn	0	Snow	0
Broadside (front to side)	2	Slush	0
Sideswipe, same direction	1	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	15
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	1
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	14



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	0	1
= 19	0	0	0	0	0
= 20	1	0	0	0	1
>= 21 and <= 24	0	0	0	0	0
>= 25 and <= 29	1	1	0	0	2
>= 30 and <= 34	0	1	0	0	1
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	1	0	0	1
>= 45 and <= 49	1	0	0	0	1
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	0	2	0	0	2
>= 60 and <= 64	0	1	0	0	1
>= 65 and <= 69	1	0	0	0	1
>= 70 and <= 74	0	1	0	0	1
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	1	1	0	0	2
>= 85 and <= 89	0	1	0	0	1
>= 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	6	9	0	0	15

Alcohol Test Given	15
None	15
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	15
None	15
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	7
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	7

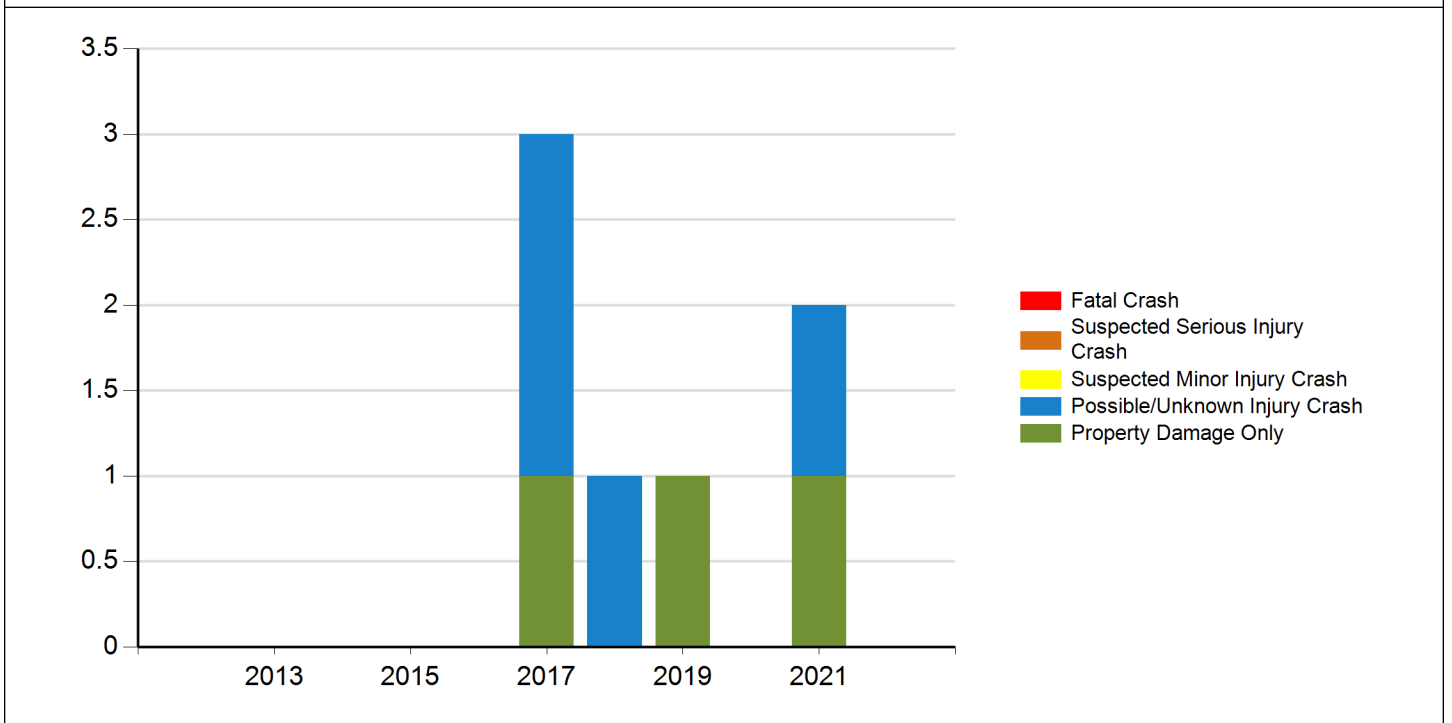


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	2	1	3
2018	0	0	0	1	0	1
2019	0	0	0	0	1	1
2020	0	0	0	0	0	0
2021	0	0	0	1	1	2
2022	0	0	0	0	0	0
Total	0	0	0	4	3	7

Severity/Year



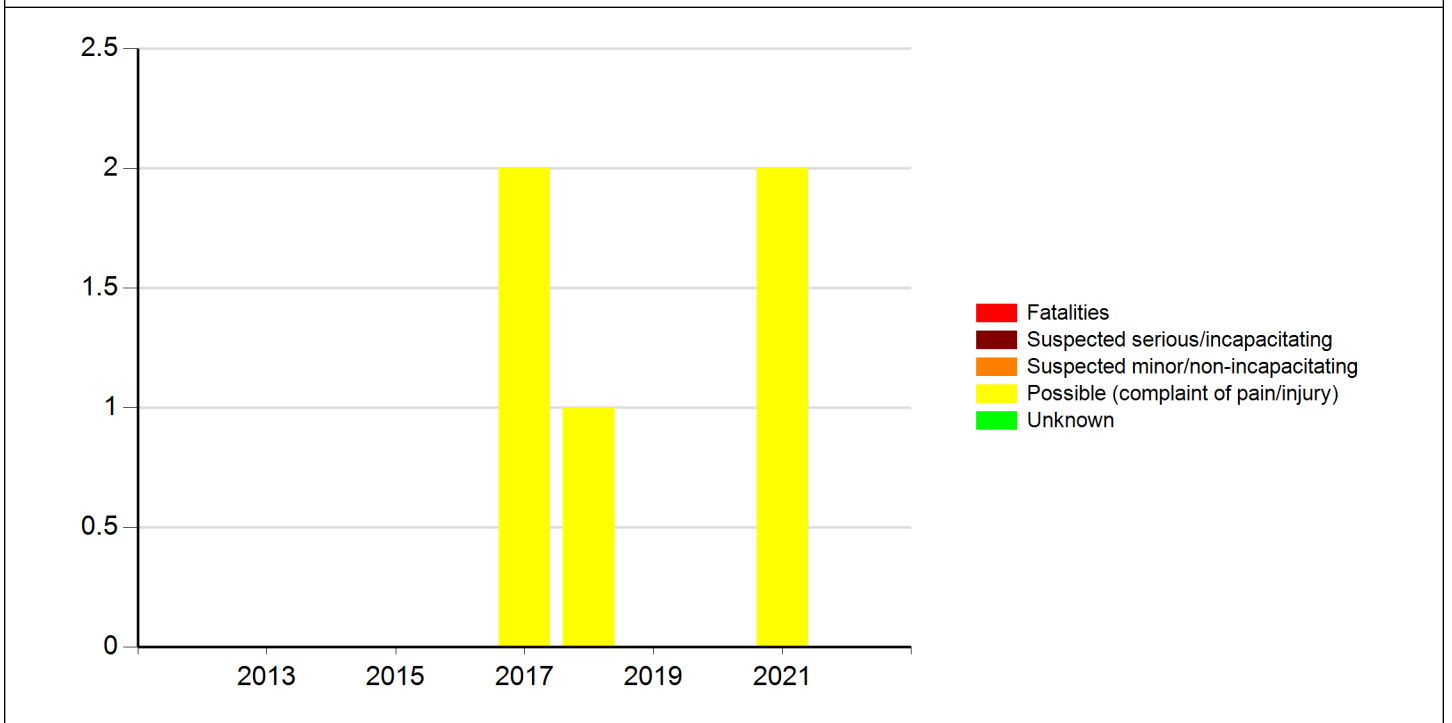


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	2	0	2
2018	0	0	0	1	0	1
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	2	0	2
2022	0	0	0	0	0	0
Total	0	0	0	5	0	5

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

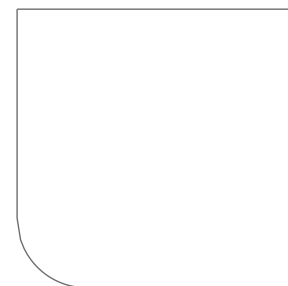
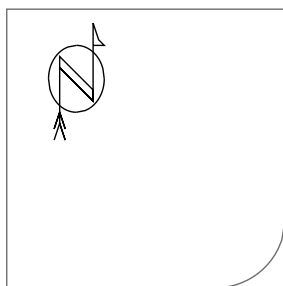
Analyst Information

Sedars Drive and IA 122 in Mason City
2017-2021
Excluding Animal-Related Crashes

Indianhead Drive, 2017-2021 Collision Diagram

13 Crashes

Clear



8/17/2017
5/11/2018

2/26/2019

12/15/2018

10/7/2018

7/18/2018

9/22/2017
4/9/2017

3/6/2017

5/10/2018
9/2/2019

5/3/2019
12/28/2017

← Straight
←+ Stopped
← Unknown
↔ Backing
↔ Overtaking
↔ Sideswipe

▭ Parked
↗ Erratic
↘ Out of control
↗ Right turn
↘ Left turn
↪ U-turn

× Pedestrian
⊗ Bicycle
○ Injury
● Fatality
⚡ Nighttime
⚡ DUI

Fixed objects:
□ General
▣ Signal
▣ Tree
▣ Pole
▣ Curb
⊗ Animal
◀ 3rd vehicle
* Extra data

Crash Magic Online 6/6/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 22, 2022
 Intersection: IA 122 and Indianhead Dr, Mason City, excluding animal-related

Improvement

Proposed Improvement(s):

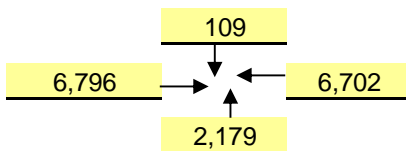
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: 2017 Iowa DOT Turning Movements 2017 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



5,761,890 Current Annual Entering Veh., **AEV** = DEV * 365

15,786 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

15,786 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

<u>0</u> Fatal Crashes	→	<u>0</u> Fatalities @	\$4,500,000	\$	-
<u>4</u> Injury Crashes	→	<u>1</u> Major Injuries @	\$325,000	\$	325,000
<u>9</u> Property Damage Only	→	<u></u> Minor Injuries @	\$65,000	\$	-
<u>13</u> Total Crashes, TA	→	<u>3</u> Possible Injuries @	\$35,000	\$	105,000
		(assumed cost per crash)	\$7,400	\$	-
		-OR- enter all Property Costs of all crashes:	\$		59,100
		Total \$ Loss, LOSS	\$		489,100

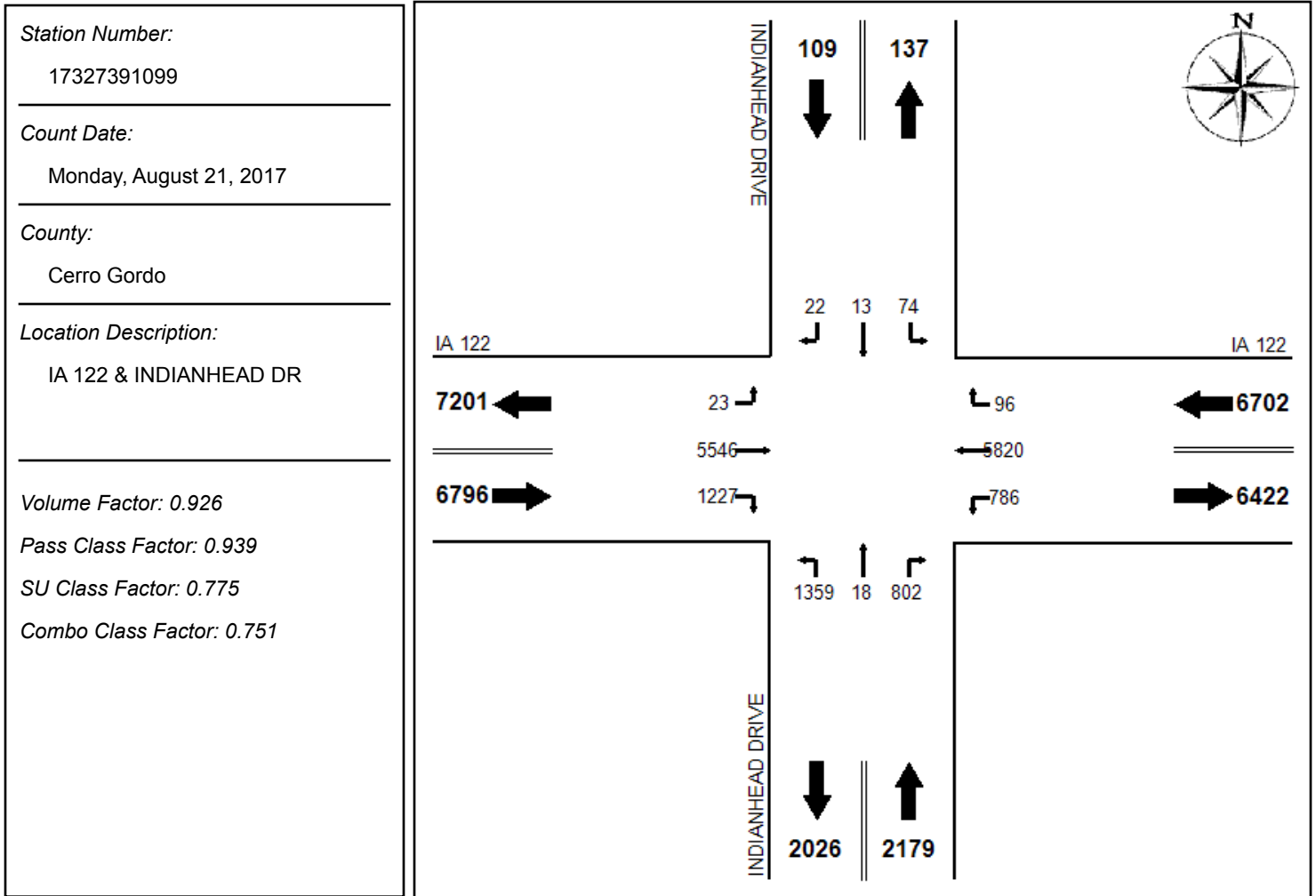
2.60 Current Crashes / Year, **AA** = TA / T
 \$ 37,623 Cost per Crash, **AVC** = LOSS / TA
 - Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
 - Crashes Avoided First Year **AAR** = AA x CRF / 100
 - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100

$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
00:00	1	0	0	0	29	1	8	0	2	1	26	3
01:00	1	0	0	2	21	0	3	0	0	1	19	1
02:00	0	0	0	0	15	0	3	0	0	0	17	3
03:00	0	0	0	1	19	0	1	0	0	0	21	1
04:00	1	0	0	0	51	2	4	0	1	0	42	7
05:00	1	0	0	5	108	0	4	0	1	0	126	8
06:00	5	1	1	2	213	2	12	0	4	1	220	31
07:00	8	0	4	8	318	2	32	1	7	0	458	53
08:00	3	0	0	22	296	6	30	0	15	0	361	53
09:00	5	2	3	47	296	3	57	0	33	2	364	66
10:00	2	0	1	57	384	3	90	4	39	3	392	96
11:00	7	0	2	76	434	4	97	0	76	2	407	100
12:00	4	1	3	86	450	6	99	1	105	2	463	117
13:00	6	2	1	67	481	3	109	3	75	0	456	106
14:00	1	0	1	80	447	2	124	4	71	0	413	116
15:00	3	2	1	89	527	5	144	1	99	3	443	118
16:00	4	1	0	87	591	10	150	1	70	4	461	128
17:00	8	2	1	62	538	6	152	1	79	1	451	99
18:00	6	1	2	67	314	12	91	2	65	2	263	76



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	13	Injury Status Summary	4
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	1	Suspected serious/incapacitating	1
Suspected Minor Injury Crash	0	Suspected minor/non-incapacitating	0
Possible/Unknown Injury Crash	3	Possible (complaint of pain/injury)	3
Property Damage Only	9	Unknown	0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	59,100.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	4,546.15	Fatalities/Crash:	0.00
Total Vehicles:	28.00	Injuries/Crash:	0.31
Average (per crash):	2.15	Major Injuries/Crash:	0.08
Total Occupants:	47.00	Minor Injuries/Crash:	0.00
Average (per crash):	3.62	Possible/Unknown Injuries/Crash:	0.23





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		13
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	0
FTYROW: From stop sign	1 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	1
Exceeded authorized speed	0 Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0 Followed too close	3
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	1
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	1 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
2017-2021**

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	1	1	0	0	0	0	0	0	2
Monday	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Tuesday	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Wednesday	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Thursday	0	0	0	0	1	0	1	0	0	0	1	0	0	3
Friday	0	0	0	0	0	0	0	1	1	1	0	0	0	3
Saturday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	2	3	3	2	1	1	0	0	13

Manner of Crash Collision	13	Surface Conditions	13
Non-collision (single vehicle)	0	Dry	10
Head-on (front to front)	0	Wet	1
Rear-end (front to rear)	9	Ice/frost	0
Angle, oncoming left turn	0	Snow	2
Broadside (front to side)	2	Slush	0
Sideswipe, same direction	2	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	28
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	28



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	0	0	0	0
= 18	0	3	0	0	3
= 19	1	0	0	0	1
= 20	0	0	0	0	0
>= 21 and <= 24	0	1	0	0	1
>= 25 and <= 29	0	0	0	0	0
>= 30 and <= 34	2	0	0	0	2
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	2	0	0	2
>= 45 and <= 49	1	0	0	0	1
>= 50 and <= 54	1	2	0	0	3
>= 55 and <= 59	0	2	0	0	2
>= 60 and <= 64	4	3	0	0	7
>= 65 and <= 69	3	0	0	0	3
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	0	2	0	0	2
>= 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	12	16	0	0	28

Alcohol Test Given	28
None	28
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	28
None	28
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

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

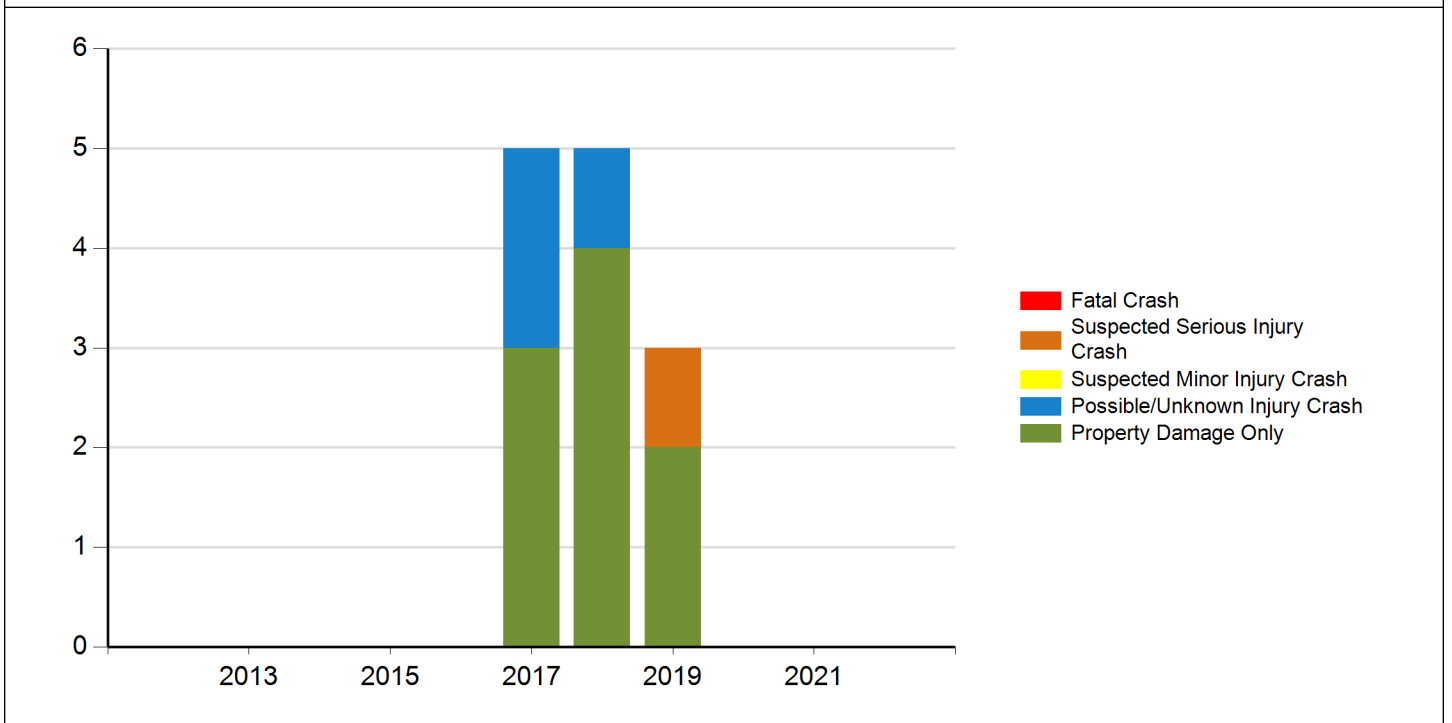


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	2	3	5
2018	0	0	0	1	4	5
2019	0	1	0	0	2	3
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	1	0	3	9	13

Severity/Year



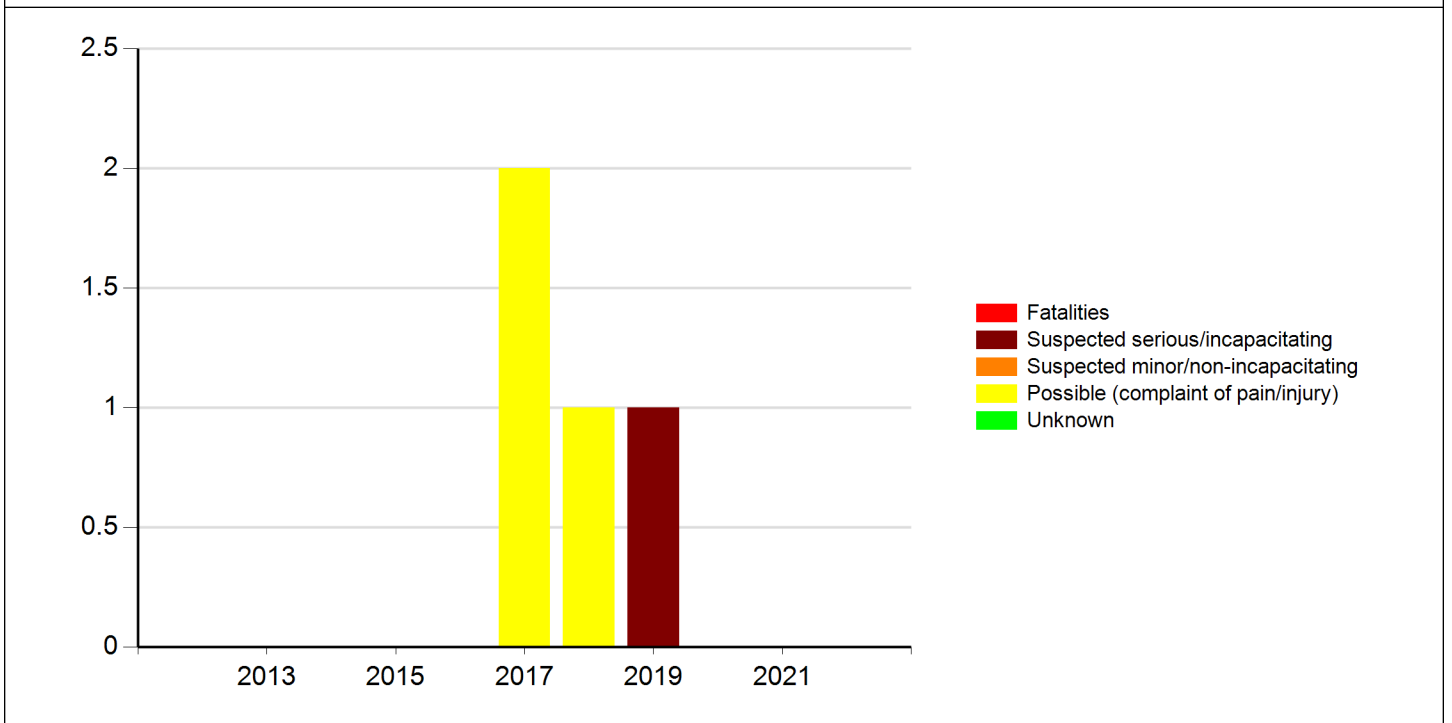


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	2	0	2
2018	0	0	0	1	0	1
2019	0	1	0	0	0	1
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	1	0	3	0	4

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

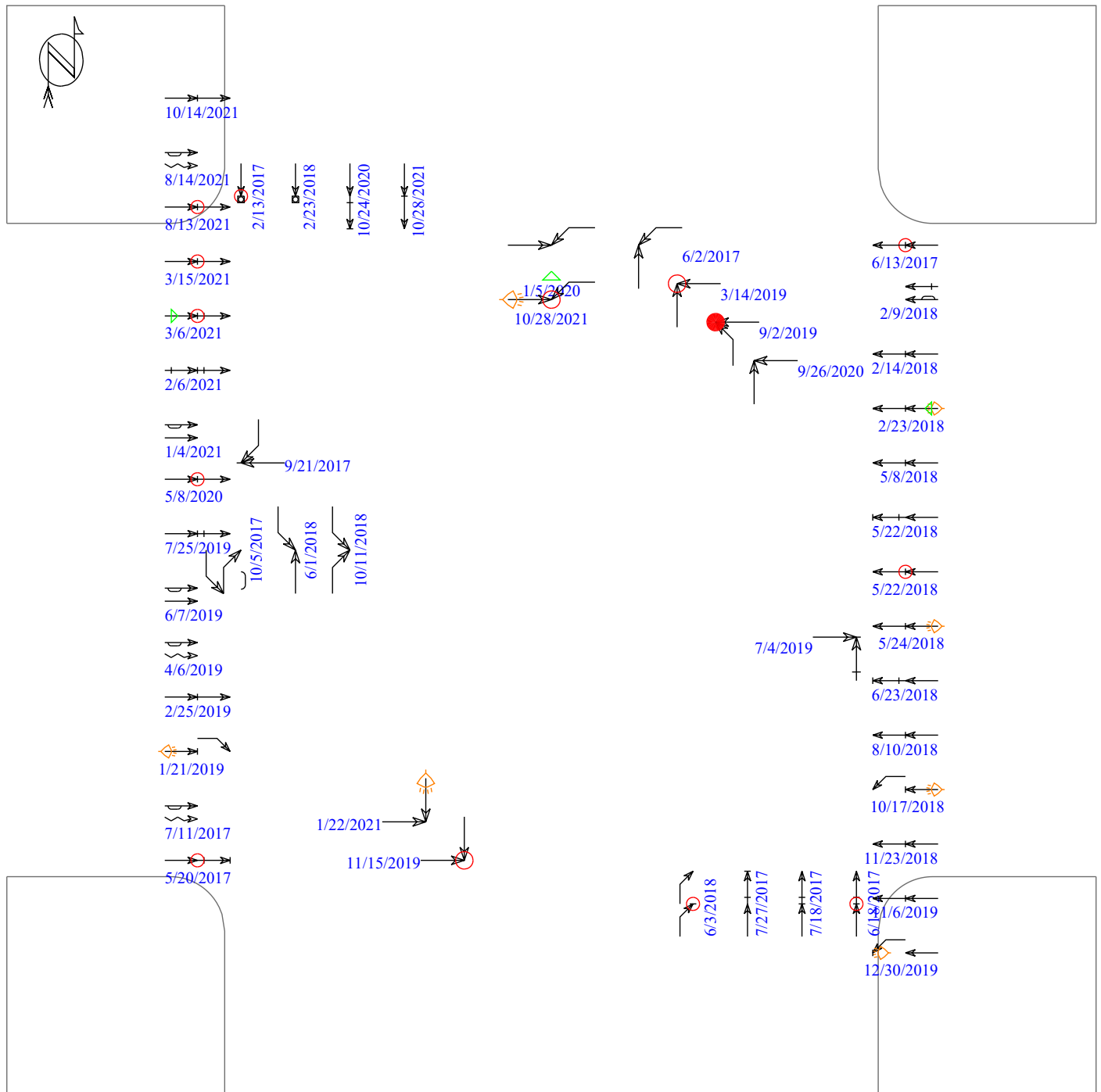
Analyst Information

Indianhead Drive and IA 122 in Mason City
2017-2021
Excluding animal-related

Eisenhower Avenue and IA 122, 2017-2021 Collision Diagram

50 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General
☒ Signal
☒ Tree
☒ Pole
☒ Curb
☒ Animal

3rd vehicle
 Extra data

Crash Magic Online 4/22/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 18, 2022
Intersection: IA 122 and Eisenhower Ave, Mason City

Improvement

Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: 2017 Iowa DOT Turning Movements 2017 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

3,299
6,807 → ← 8,371
3,872

8,157,385 Current Annual Entering Veh., **AEV** = DEV * 365
22,349 veh / day, Final Year DEV, **FDEV**
- MEV, Total Million Entering Veh. Over life of Project, **TMEV**
1.0% Projected Traffic Growth (0%-10%), **G**
22,349 Current Daily Entering Vehicles, **DEV**
$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

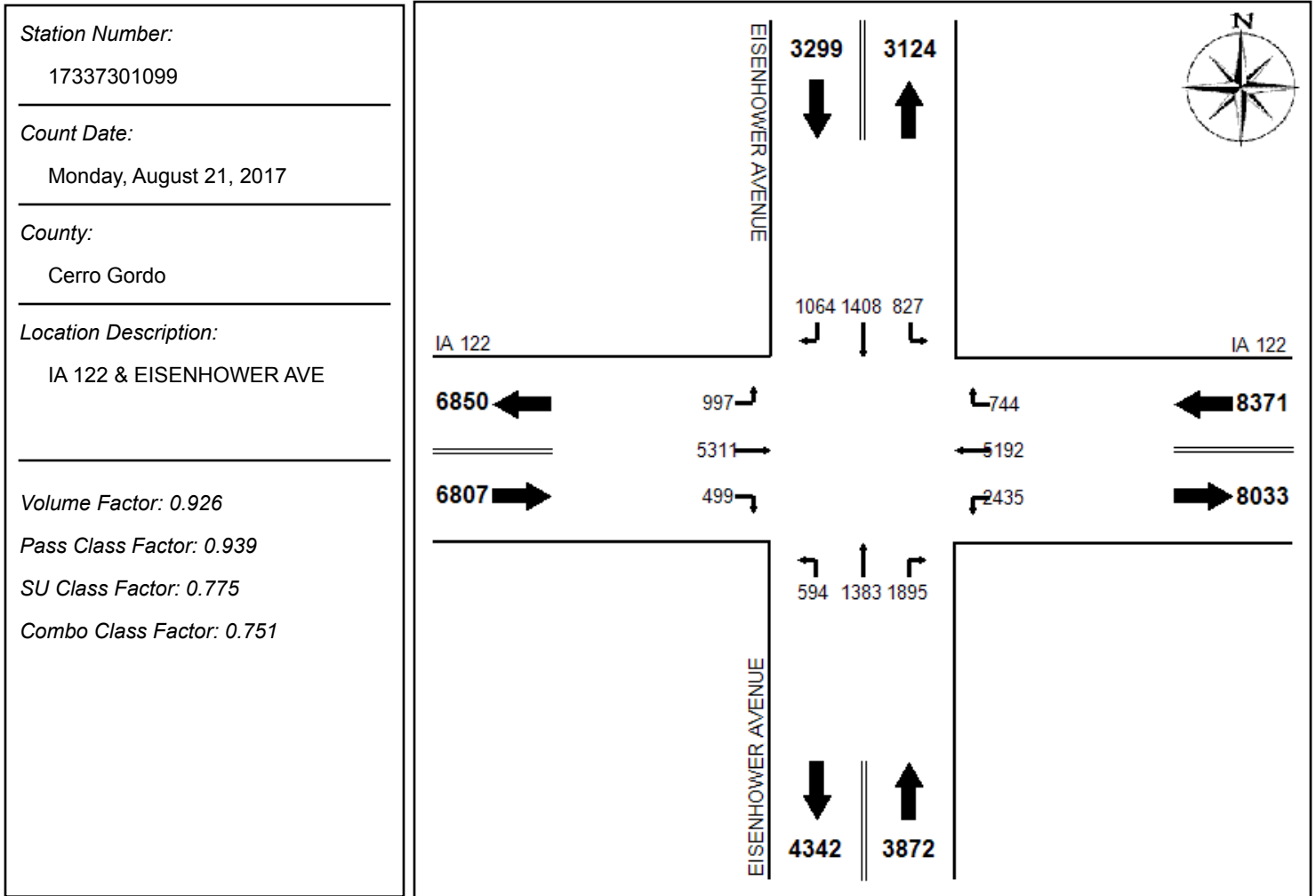
2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**
Additional months
1 Fatal Crashes → 1 Fatalities @ \$4,500,000 \$ 4,500,000
0 Major Injuries @ \$325,000 \$ -
13 Injury Crashes → 2 Minor Injuries @ \$65,000 \$ 130,000
13 Possible Injuries @ \$35,000 \$ 455,000
36 Property Damage Only (assumed cost per crash) \$7,400 \$ -
-OR- enter all Property Costs of all crashes: \$ 208,332
50 Total Crashes, **TA** Total \$ Loss, **LOSS** \$ 5,293,332

10.00 Current Crashes / Year, **AA** = TA / T
\$ 105,867 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, AAR x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
1.23 Crashes / MEV, Crash Rate, **CR**
CR = TA x 10⁶ / (DEV x 365 x T)
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles



Raw Data-All Vehicles:

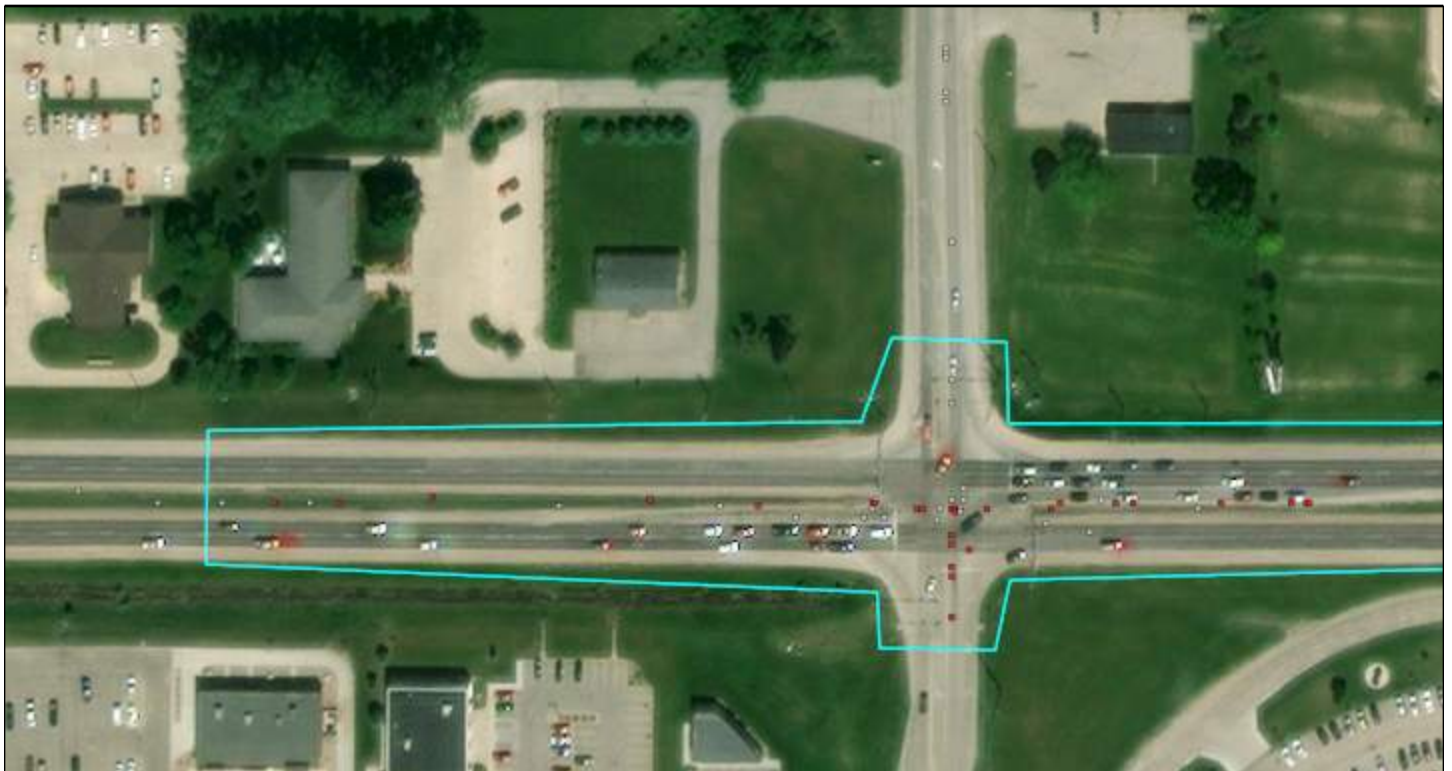
	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
00:00	3	7	6	10	21	0	2	11	13	10	18	2
01:00	1	2	4	8	14	2	2	3	16	3	14	3
02:00	1	3	1	3	11	2	3	4	5	1	15	3
03:00	0	8	2	6	16	0	2	8	4	1	15	5
04:00	0	29	13	9	36	2	3	17	8	9	23	9
05:00	7	29	41	18	64	13	8	23	7	29	78	15
06:00	12	58	70	35	121	12	11	33	23	40	146	21
07:00	40	77	79	43	192	41	30	87	35	81	342	37
08:00	46	62	56	68	212	45	44	67	58	56	296	26
09:00	69	82	37	130	289	47	33	48	83	43	318	30
10:00	68	81	63	194	318	69	52	83	133	45	371	27
11:00	86	103	83	182	374	61	40	91	141	50	422	36
12:00	73	102	72	193	410	74	53	102	174	61	451	41
13:00	76	103	67	230	445	76	52	87	166	69	432	46
14:00	69	103	80	218	388	70	48	92	151	68	382	34
15:00	97	126	86	233	457	62	52	128	144	87	427	36
16:00	80	129	102	211	491	59	70	107	178	85	416	40
17:00	76	118	85	230	461	50	44	138	171	108	515	35
18:00	31	78	47	134	345	25	30	87	135	61	311	21



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	50	Injury Status Summary	17
Fatal Crash	1	Fatalities	1
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	2	Suspected minor/non-incapacitating	2
Possible/Unknown Injury Crash	11	Possible (complaint of pain/injury)	13
Property Damage Only	36	Unknown	1

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	208,332.00	Fatalities/Fatal Crash:	1.00
Average (per crash dollars):	4,166.64	Fatalities/Crash:	0.02
Total Vehicles:	101.00	Injuries/Crash:	0.30
Average (per crash):	2.02	Major Injuries/Crash:	0.00
Total Occupants:	151.00	Minor Injuries/Crash:	0.04
Average (per crash):	3.02	Possible/Unknown Injuries/Crash:	0.26





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		48
Animal	0 Ran traffic signal	4
Ran stop sign	0 Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0 FTYROW: Making right turn on red signal	3
FTYROW: From stop sign	1 FTYROW: From yield sign	0
FTYROW: Making left turn	1 FTYROW: From driveway	0
FTYROW: From parked position	0 FTYROW: To pedestrian	0
FTYROW: Other	1 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	3
Operating vehicle in an reckless, erratic, ca...	0 Followed too close	13
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	1
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	1 Ran off road - right	1
Ran off road - straight	0 Ran off road - left	1
Lost control	4 Swerving/Evasive Action	0
Over correcting/over steering	0 Failed to keep in proper lane	1
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	1 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	8
Unknown	1 Not reported	0
Other: No improper action	1	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	1	1	0	0	0	0	3
Monday	0	0	0	0	0	1	1	1	2	1	0	1	0	7
Tuesday	0	0	0	0	0	2	1	1	1	1	0	0	0	6
Wednesday	0	0	0	0	0	0	0	2	0	0	1	0	0	3
Thursday	0	0	0	0	1	2	2	2	3	1	0	0	0	11
Friday	0	0	0	0	2	0	0	3	4	3	0	0	0	12
Saturday	0	0	0	0	0	0	2	3	3	0	0	0	0	8
Total	0	0	0	0	3	6	6	13	14	6	1	1	0	50

Manner of Crash Collision	50	Surface Conditions	50
Non-collision (single vehicle)	2	Dry	37
Head-on (front to front)	1	Wet	6
Rear-end (front to rear)	31	Ice/frost	1
Angle, oncoming left turn	2	Snow	5
Broadside (front to side)	6	Slush	0
Sideswipe, same direction	6	Mud, dirt	0
Sideswipe, opposite direction	1	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	1	Not reported	0
Unknown	0	Other	1
		Unknown	0

Fixed Object Struck	101
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	1
Traffic signal support	1
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	99



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	3	0	0	0	3
= 17	1	0	0	0	1
= 18	3	0	0	0	3
= 19	3	0	0	0	3
= 20	0	3	0	0	3
>= 21 and <= 24	4	2	0	0	6
>= 25 and <= 29	2	0	1	0	3
>= 30 and <= 34	5	5	0	0	10
>= 35 and <= 39	5	4	0	0	9
>= 40 and <= 44	0	4	1	0	5
>= 45 and <= 49	3	1	0	0	4
>= 50 and <= 54	7	2	0	0	9
>= 55 and <= 59	6	7	0	0	13
>= 60 and <= 64	4	6	0	0	10
>= 65 and <= 69	3	3	0	0	6
>= 70 and <= 74	1	3	0	0	4
>= 75 and <= 79	0	1	0	0	1
>= 80 and <= 84	1	2	0	0	3
>= 85 and <= 89	1	1	0	0	2
>= 90 and <= 94	0	2	0	0	2
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	52	46	2	0	100

Alcohol Test Given	101
None	96
Blood	0
Urine	0
Breath	1
Vitreous	0
Refused	1
Not reported	3

Drug Test Given	101
None	98
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	3

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	50
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	1
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	49

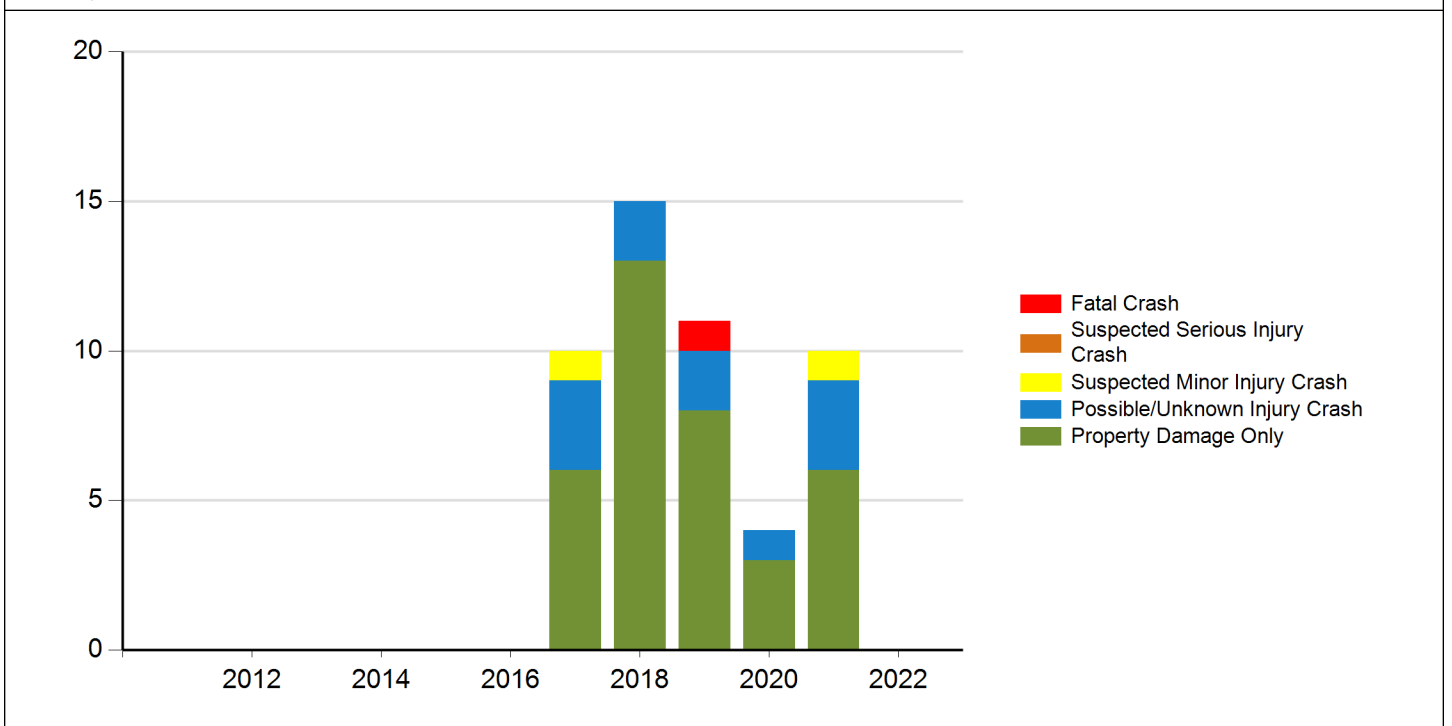


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	3	6	10
2018	0	0	0	2	13	15
2019	1	0	0	2	8	11
2020	0	0	0	1	3	4
2021	0	0	1	3	6	10
2022	0	0	0	0	0	0
Total	1	0	2	11	36	50

Severity/Year



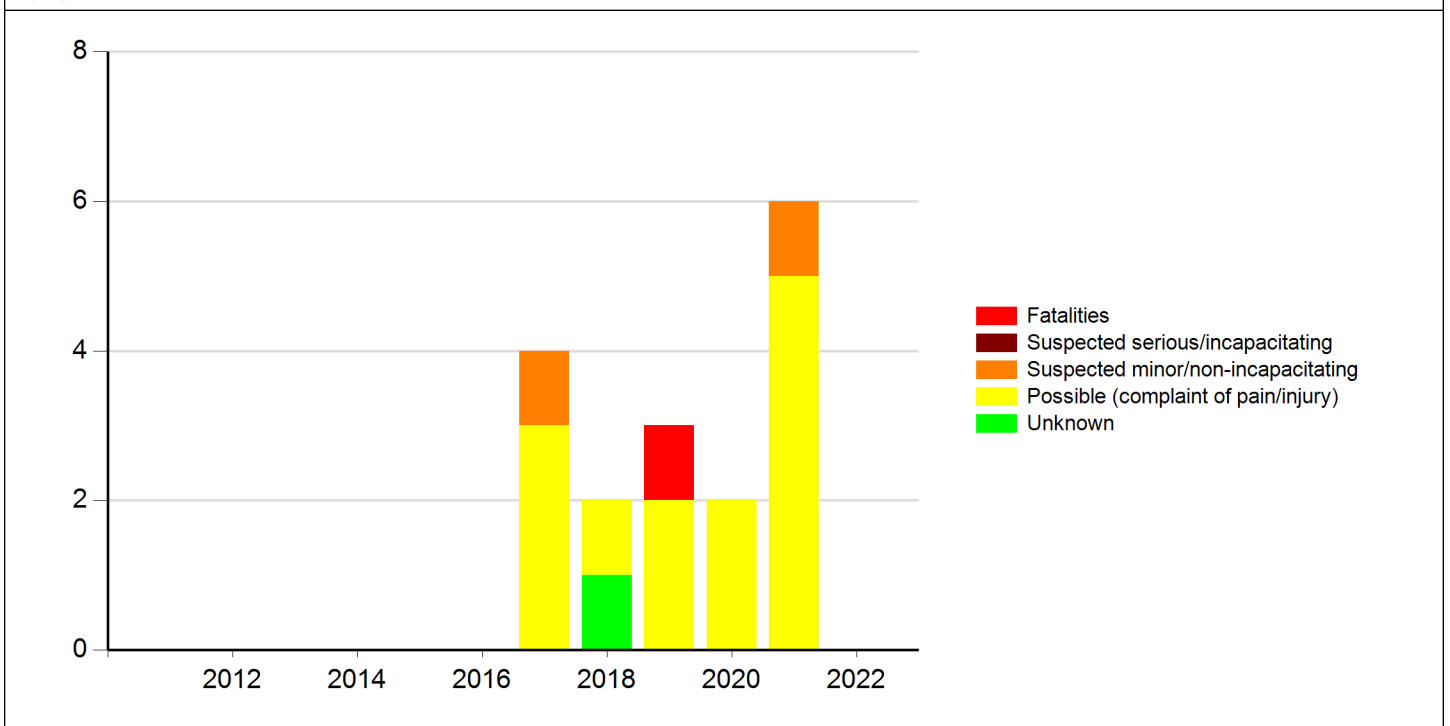


**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	3	0	4
2018	0	0	0	1	1	2
2019	1	0	0	2	0	3
2020	0	0	0	2	0	2
2021	0	0	1	5	0	6
2022	0	0	0	0	0	0
Total	1	0	2	13	1	17

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

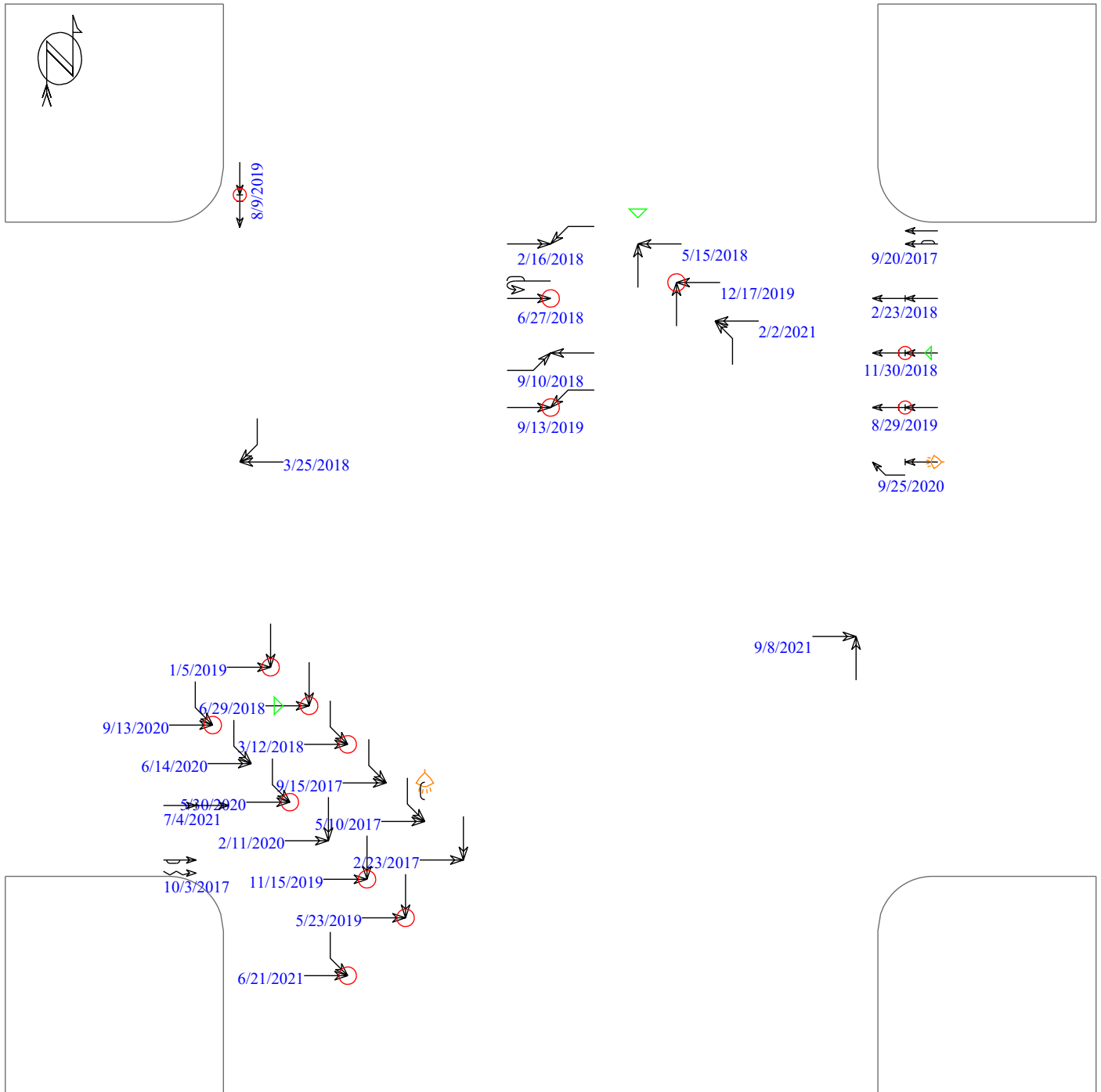
Analyst Information

IA 122 and Eisenhower Avenue, including functional areas, 2021-2017

N. Iowa Events Center Access, 2017-2021 Collision Diagram

31 Crashes

Clear



(1) crashes could not be placed in this schematic

← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

▭ Parked
 ← Erratic
 ← Out of control
 ↘ Right turn
 ↙ Left turn
 ↻ U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 ⚡ Nighttime
 🍷 DUI

Fixed objects:

□ General
 ⊞ Signal
 ⊞ Tree
 ⊞ Pole
 ⊞ Curb
 ⊞ Animal

◀ 3rd vehicle
 * Extra data

Crash Magic Online 4/22/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 13, 2022
Intersection: North Iowa Events Center entrance and IA 122

Improvement

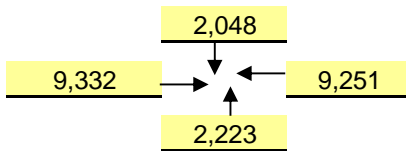
Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Iowa DOT (StreetLight) estimated traffic May-22 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



8,341,710 Current Annual Entering Veh., **AEV** = DEV * 365

22,854 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

22,854 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**
0 Additional months
0 Fatal Crashes 0 Fatalities @ \$4,500,000 \$ -
1 Major Injuries @ \$325,000 \$ 325,000
14 Injury Crashes 4 Minor Injuries @ \$65,000 \$ 260,000
11 Possible Injuries @ \$35,000 \$ 385,000
17 Property Damage Only (assumed cost per crash) \$7,400 \$ -
-OR- enter all Property Costs of all crashes: \$ 219,551
31 Total Crashes, **TA** Total \$ Loss, **LOSS** \$ 1,189,551

6.20 Current Crashes / Year, **AA** = TA / T
\$ 38,373 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, AAR x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

NI Iowa Events Center Access

			Frontage Rd						
			Right	Through	Left				
			1623	248	177				
4th St SW	Left	1548				240	Right	4th St SW	
	Through	7045				8061	Through		
	Right	739				950	Left		
			376	552	1295				
			Left	Through	Right				
			Frontage Rd						

Source: Iowa DOT (StreetLight) Estimated Traffic, Provided by Systems Planning, May 2022



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity		31	Injury Status Summary		16
Fatal Crash		0	Fatalities		0
Suspected Serious Injury Crash		1	Suspected serious/incapacitating		1
Suspected Minor Injury Crash		4	Suspected minor/non-incapacitating		4
Possible/Unknown Injury Crash		9	Possible (complaint of pain/injury)		11
Property Damage Only		17	Unknown		0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	219,551.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	7,082.29	Fatalities/Crash:	0.00
Total Vehicles:	64.00	Injuries/Crash:	0.52
Average (per crash):	2.06	Major Injuries/Crash:	0.03
Total Occupants:	82.00	Minor Injuries/Crash:	0.13
Average (per crash):	2.65	Possible/Unknown Injuries/Crash:	0.35





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		31
Animal	0	0
Ran stop sign	0	0
FTYROW: At uncontrolled intersection	2	0
FTYROW: From stop sign	4	1
FTYROW: Making left turn	10	0
FTYROW: From parked position	0	0
FTYROW: Other	2	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	0
Aggressive driving/road rage	0	0
Exceeded authorized speed	0	2
Operating vehicle in an reckless, erratic, ca...	0	1
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	1
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	0
Driver Distraction: Other electronic device ...	0	0
Driver Distraction: Unrestrained animal	0	0
Driver Distraction: Inattentive/lost in thou...	0	0
Driver Distraction: Exterior distraction	1	0
Ran off road - straight	1	0
Lost control	0	0
Over correcting/over steering	0	0
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	0
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	0	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	6
Unknown	0	0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	3	0	0	0	0	0	3
Monday	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Tuesday	0	0	0	0	0	2	0	1	1	0	0	0	0	4
Wednesday	0	0	0	0	0	0	1	0	0	1	0	1	0	3
Thursday	0	0	0	0	0	1	1	1	1	0	0	0	0	4
Friday	0	0	0	1	0	3	1	2	2	0	0	0	0	9
Saturday	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	1	0	8	3	9	4	1	0	1	0	27

Manner of Crash Collision	31	Surface Conditions	31
Non-collision (single vehicle)	1	Dry	28
Head-on (front to front)	0	Wet	3
Rear-end (front to rear)	6	Ice/frost	0
Angle, oncoming left turn	3	Snow	0
Broadside (front to side)	16	Slush	0
Sideswipe, same direction	3	Mud, dirt	0
Sideswipe, opposite direction	1	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	1	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	64
Bridge overhead structure	1
Bridge/bridge rail parapet	0
Ditch	0
Ground	1
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	62



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	1
= 17	1	0	0	0	1
= 18	0	0	0	0	0
= 19	0	0	0	0	0
= 20	2	0	0	0	2
>= 21 and <= 24	2	2	0	0	4
>= 25 and <= 29	4	0	0	0	4
>= 30 and <= 34	2	3	0	0	5
>= 35 and <= 39	1	5	0	0	6
>= 40 and <= 44	1	3	0	0	4
>= 45 and <= 49	1	2	1	0	4
>= 50 and <= 54	0	5	0	0	5
>= 55 and <= 59	1	1	0	0	2
>= 60 and <= 64	5	2	0	0	7
>= 65 and <= 69	1	2	0	0	3
>= 70 and <= 74	3	4	0	0	7
>= 75 and <= 79	2	2	0	0	4
>= 80 and <= 84	1	0	0	0	1
>= 85 and <= 89	0	2	0	0	2
>= 90 and <= 94	0	1	0	0	1
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	27	35	1	0	63

Alcohol Test Given		64
None		63
Blood		0
Urine		0
Breath		0
Vitreous		0
Refused		0
Not reported		1

Drug Test Given		64
None		63
Blood		0
Urine		0
Breath		0
Vitreous		0
Refused		0
Not reported		1

Drug Test Result		0
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		0
Other		0

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

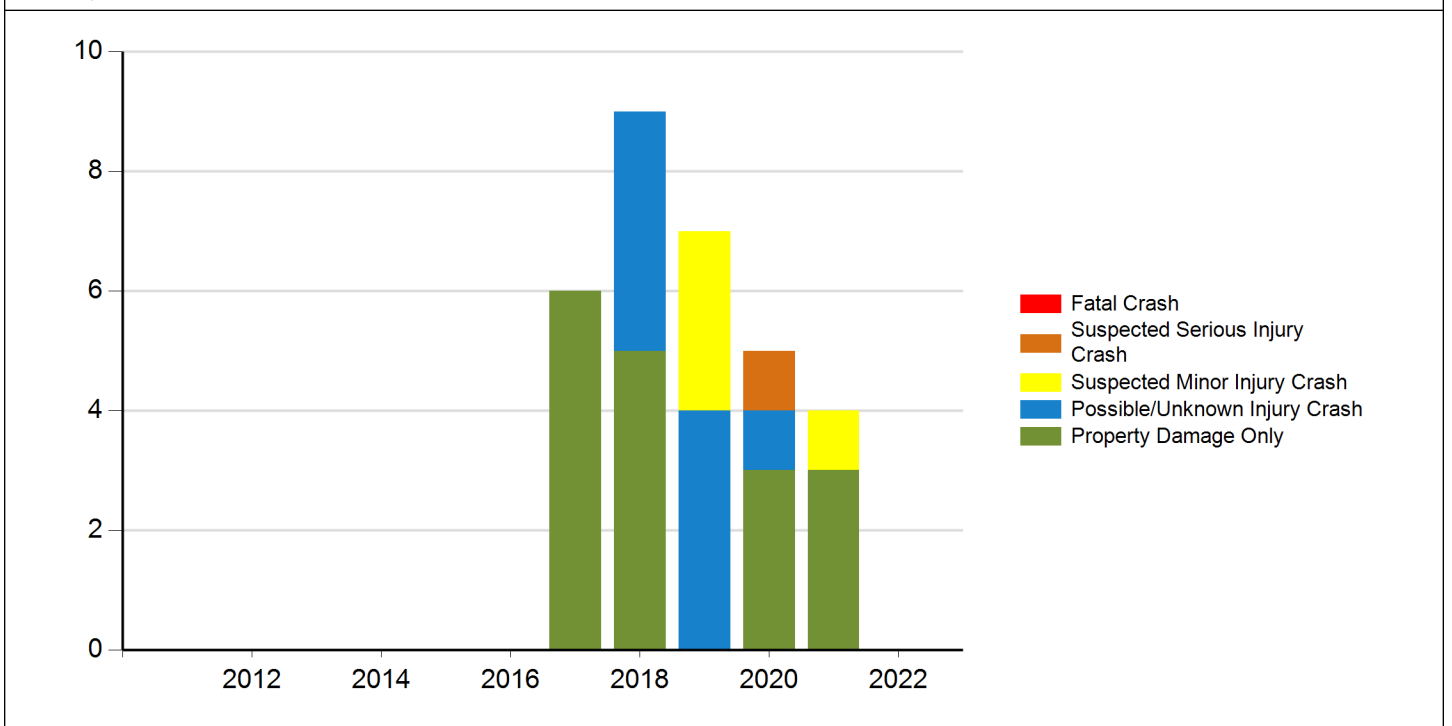


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	6	6
2018	0	0	0	4	5	9
2019	0	0	3	4	0	7
2020	0	1	0	1	3	5
2021	0	0	1	0	3	4
2022	0	0	0	0	0	0
Total	0	1	4	9	17	31

Severity/Year



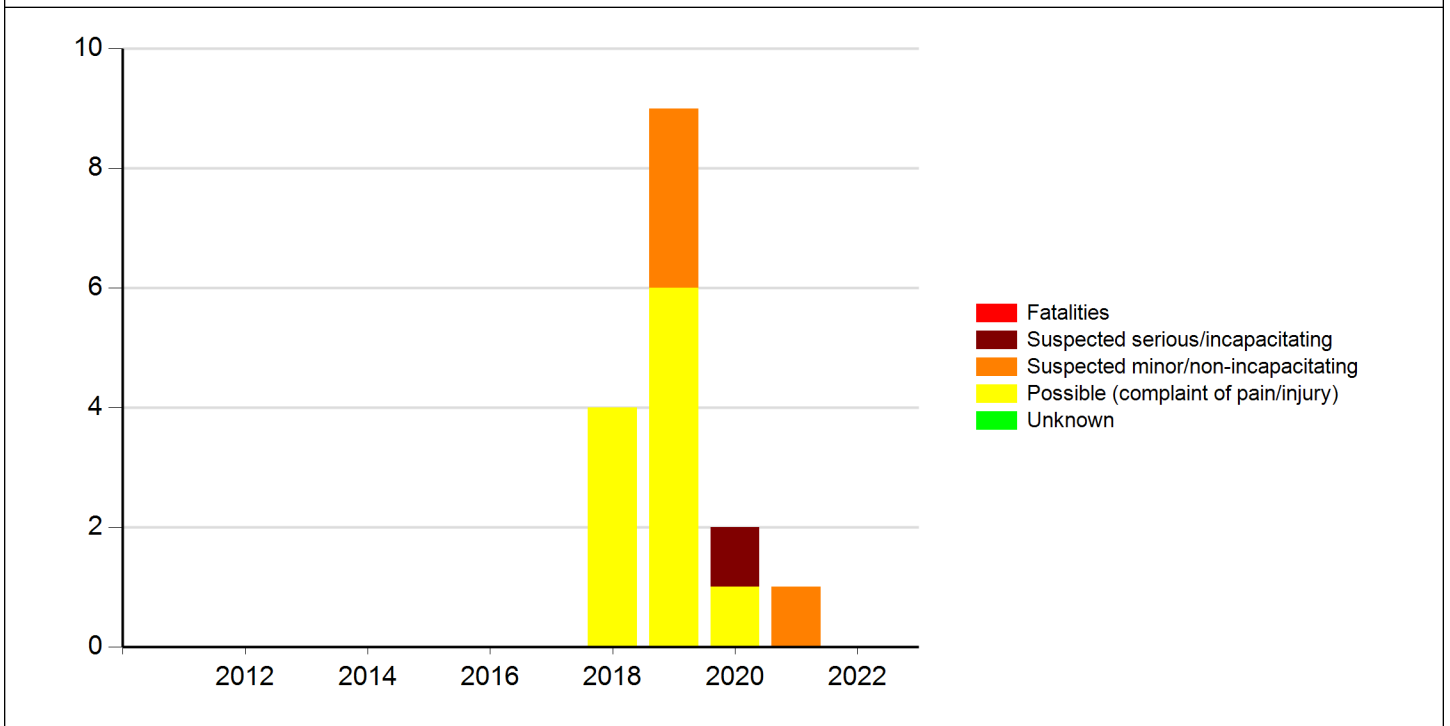


**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	4	0	4
2019	0	0	3	6	0	9
2020	0	1	0	1	0	2
2021	0	0	1	0	0	1
2022	0	0	0	0	0	0
Total	0	1	4	11	0	16

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

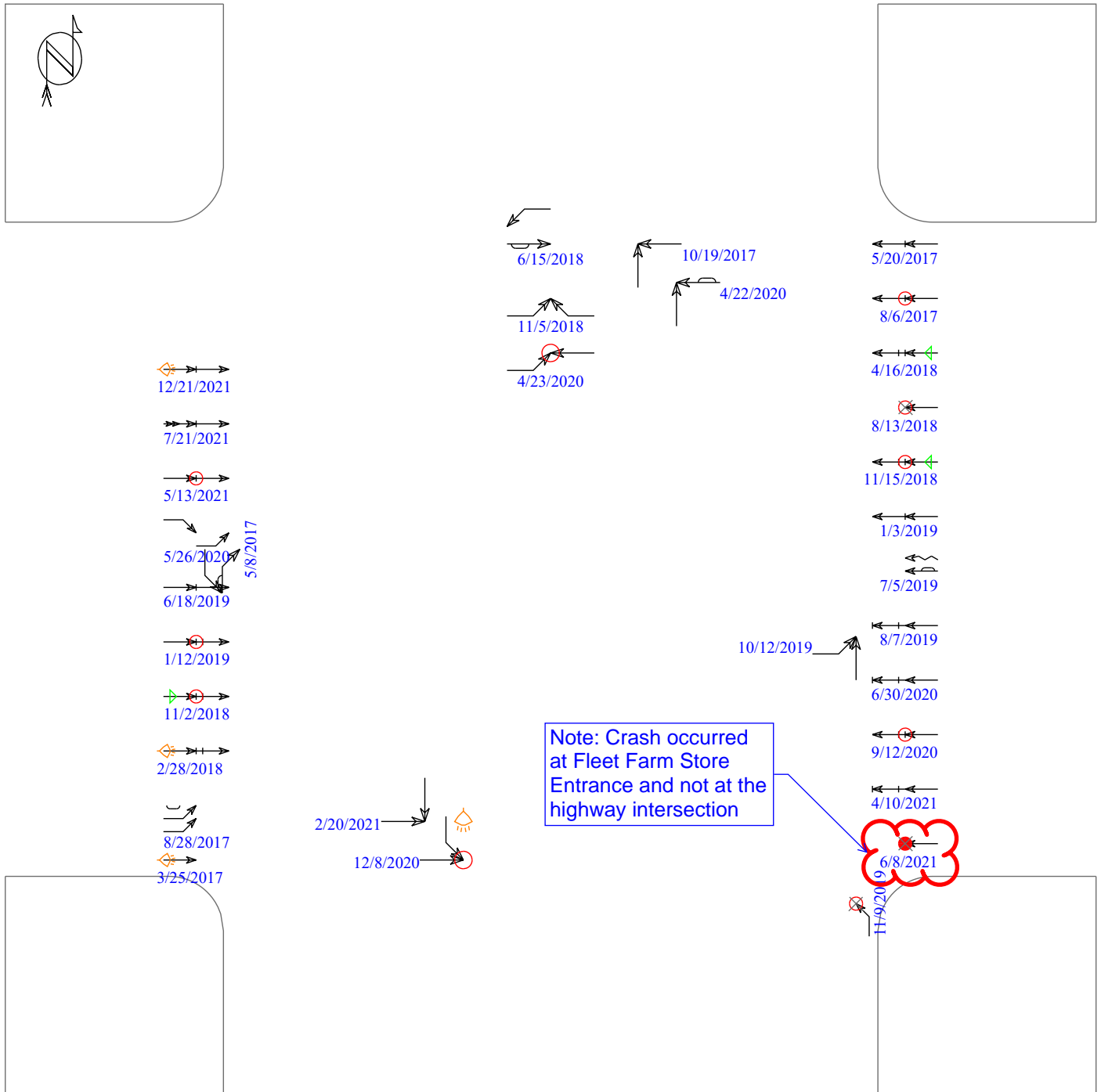
Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

Analyst Information

Village Green Dr/Roosevelt Ave and IA 122 2017-2021 Collision Diagram

32 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

▭ Parked
 ← Erratic
 ← Out of control
 ↘ Right turn
 ↙ Left turn
 ↻ U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 ☀ Nighttime
 ♀ DUI

Fixed objects:

□ General
 ⊞ Signal
 ⊞ Tree
 ⊞ Pole
 ⊞ Curb
 ⊞ Animal

◁ 3rd vehicle
 * Extra data

Crash Magic Online 4/22/2022

INVESTIGATING OFFICER'S REPORT OF MOTOR VEHICLE ACCIDENT

Sheet 2 of 3

Form 4433003 (11-13)

MAIL REPORTS TO: Iowa Department of Transportation, Office of Driver Services, P.O. Box 9204, Des Moines, Iowa 50306-9204

Law Enforcement Case Numbers:
MC2102024

L O C A T I O N	Date of Accident 06/08/2021	Time of Accident 14:48 Hrs.	County CERRO GORDO - 17	Accident occurred within corporate limits of (city) MASON CITY - 4822	Legal Intervention? <input type="checkbox"/>	Private Property? <input checked="" type="checkbox"/>
	Literal Description 3200 4TH ST SW (MILLS FLEET FARM)				County: 17	Route: 17
	If accident occurred outside of city limits show general vicinity N NE E SE S SW W NW ○ ○ ○ ○ ○ ○ ○ of nearest city				X Coordinate: 479717.062	Y Coordinate: 4777315.5
	On Road, Street or Highway: At Intersection with:				If Divided Highway, Provide Route (Cardinal) Travel Direction NB SB EB WB ○ ○ ○ ○	
	Note: Unless accident occurred at an intersection which is completely described above, use the space below to give the exact location from a milepost or definable intersection, bridge, or railroad crossing, using two distances and directions if necessary of N NE E SE S SW W NW and N NE E SE S SW W NW ○ ○ ○ ○ ○ ○ ○ and ○ ○ ○ ○ ○ ○ ○					
Milepost Number Or Definable intersection, bridge, or railroad crossing						
ACCIDENT ENVIRONMENT				ROADWAY CHARACTERISTICS		
Location of First Harmful Event 01 Weather Conditions (up to two) 01				Major Contributing Circumstances Environment 01		
Manner of Crash/Collision 01 01				Roadway 01		
Light Conditions 1 Surface Conditions 01				Type of Roadway Junction/Feature 97		
FRA No.						
First Harmful Event (Crash) 32	WORKZONE RELATED? <input type="radio"/>	Yes <input type="radio"/> No <input checked="" type="radio"/>	Activity	Location	Type	Workers Present
Name 001	Phone Number	DOB: 5/8/1959 12	Sex: F	Struck by Unit No. 1	Injury Status 1	Non-Motorist Type 01
Address: MASON CITY IA 50401	Alcohol Test Given 1	Test Results:	Drug Test Given 1	Result	Charged Yes No	01 01 03 05
Transported to: MERCYONE ER	Transported by: MCFD					
Name	Phone Number	DOB:				
Address:	Alcohol Test Given	Test Results:	Drug Test Given	Result	Charged Yes No	01 01
Transported to:	Transported by:					
If Property other than vehicles damaged explain	Object Damaged	Estimate of Damage				
Owner's Last Name	First Name	Middle Name	Phone Number			
Address	City	State	Zip Code	Was owner or tenant notified? 1 = Yes 2 = No 9 = Unknown		
If Property other than vehicles damaged explain	Object Damaged	Estimate of Damage				
Owner's Last Name	First Name	Middle Name	Phone Number			
Address	City	State	Zip Code	Was owner or tenant notified? 1 = Yes 2 = No 9 = Unknown		
Last Name	First Name	Address	City	State	Zip Code	Phone Number
Last Name	First Name	Address	City	State	Zip Code	Phone Number
Last Name	First Name	Address	City	State	Zip Code	Phone Number
Last Name	First Name	Address	City	State	Zip Code	Phone Number
Last Name	First Name	Address	City	State	Zip Code	Phone Number
Is This a Secondary Crash? Y <input type="radio"/> N <input checked="" type="radio"/>	Type of Primary Incident	Roadway Clearance Date 06/08/2021	Incident Clearance Date 06/08/2021			
Signature of Officer OFFICER CORBY FRIEDERICH	Badge Number 2765	Time Officer Notified of Accident 14:49 Hrs.	Roadway Clearance Time 15:50 Hrs.	Incident Clearance Time 16:00 Hrs.		
Name of Agency MASON CITY POLICE DEPARTMENT	Date of Report 06/08/2021	Time Officer Arrived At Scene 15:02 Hrs.	Total Roadway Clearance Time 001:01	Total Incident Clearance Time 001:11		
Report Reviewed By CREEKMUR, TIFFANY	Date of Review 06/23/2021	Investigation made at scene? Y <input checked="" type="radio"/> N <input type="radio"/>	T.I. No.	Other Technical Investigating Agency		

INVESTIGATING OFFICER'S REPORT OF MOTOR VEHICLE ACCIDENT

Sheet 1 of 3

MAIL REPORTS TO: Iowa Department of Transportation, Office of Driver Services, P.O. Box 9204, Des Moines, Iowa 50306-9204

Law Enforcement Case Numbers:

MC2102024

Date of Accident 06/08/2021		Time of Accident 14:48 Hrs.		County CERRO GORDO - 17		Accident occurred within corporate limits of (city) MASON CITY - 4822		
UNIT 1	Driver's Name - Last [REDACTED]				First [REDACTED]		Middle [REDACTED]	
	Address [REDACTED]				City OMAHA		State NE Zip 68022	
	Date of Birth 05/12/1986		Driver's License Number [REDACTED]		CDL Yes No <input type="radio"/> <input checked="" type="radio"/>	Citation Charge 1 HOMICIDE BY VEHICLE- OPERATING UNDE		
	Citation Charge 2 RECKLESS DRIVING		Citation Charge 3		Citation Charge 4			
	Male Female <input checked="" type="radio"/> <input type="radio"/>	State IA	Class C	Endorsements	Restrictions			
	Alcohol Test Given: 4		Test Results: .255		Drug Test Given: 1	Test Result: <input type="radio"/> <input checked="" type="radio"/>	Re-exam: Yes No <input type="radio"/> <input checked="" type="radio"/>	
	Reason for Re-Exam Request:							
	Owner's Name - Last [REDACTED]				First [REDACTED]		Middle [REDACTED]	
	Address [REDACTED]				City OMAHA		State NE Zip 68022	
	License Plate No. IBW595		State IA	Year 2020	VIN: 1GCGTCE35F1219596		Color GRY	Year 2015
Trailer Plate No.		State	Year	VIN:		Tow 1	Tow #	
Insurance Company Name FARMERS INSURANCE		Insurance Co. Phone Number (800) 435-7764		Insurance Policy Number 193479145				
Initial Travel Direction 04	Veh. Act. 01	Veh. Config. 02	Cargo Body Type 01	Veh. Defect 01	Point of Initial Impact 01	Most Damaged Area 01	Extent of Damage 1	Total Occ. In Veh. 1
Special Veh. Func 01	Emergency Status 01	Bus Use	Driver Condition 06	Vision Obscured 01	Contributing Circumstances Driver (up to two) 02,98		Driver Distractions 16	Speed Limit 15
Traffic Controls 04	Horizontal Alignment 01	Vertical Alignment 01	SEQUENCE OF EVENTS	First Event 32	Second Event	Third Event	Fourth Event	Most Harmful Event 32
Carrier Name/Lessee								
Street Address				City		State	Zip Code	
Number of Axles		Gross Vehicle Weight Rating		US DOT Number		MC Number	Underride/Override 1 - NONE	
Haz Mat Involvement	Haz Mat Placard	Placard Number	Haz. Mat Released	Haz Mat Class	Haz Mat Name			
Trailer Plate:	State	Year	VIN					
Trailer Plate:	State	Year	VIN					
Converter Dolly	Dolly Plate:	State	Plate Year	VIN				
DRIVER OF UNIT 1				Phone Number: (402) 689-2694	Sex	Seating Position	Injury Status	Occupant Protection
Transported to:				Transported by:		Airbag Deployment	Ejection	Ejection Path
Name	Phone Number		DOB:				Trapped/extricated	Source of Transport
Address				Transported to:		Transported by:		
Name	Phone Number		DOB:					
Address				Transported to:		Transported by:		
Name	Phone Number		DOB:					
Address				Transported to:		Transported by:		
Name	Phone Number		DOB:					
Address				Transported to:		Transported by:		

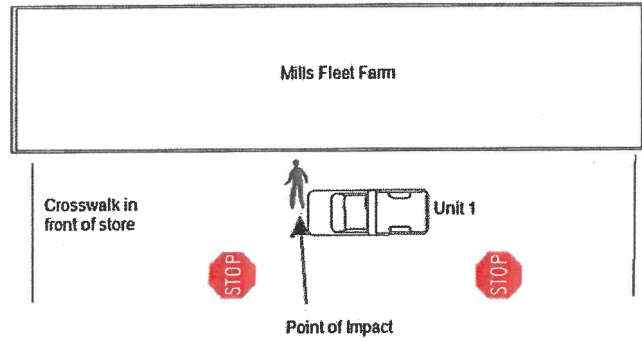
PERSONS INJURED

INVESTIGATING OFFICER'S REPORT
OF MOTOR VEHICLE ACCIDENT

Law Enforcement Case Numbers:

MAIL REPORTS TO: Iowa Department of Transportation, Office of Driver Services, P.O. Box 9204, Des Moines, Iowa 50306-9204

MC2102024

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Unit 1 was traveling west bound in the Mills Fleet Farm parking lot. Non-Motorist was walking out of the store into the painted crosswalk. Unit 1 failed to stop at the stop sign and struck non-motorist. Non-motorist later died at the hospital. Driver of Unit 1 submitted to a certified breath test and it indicated a BAC of .255. Unit 1 was charged with Homicide by vehicle (DWI related) and reckless driving.

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 13, 2022
Intersection: Village Green Drive/Roosevelt Ave and IA 122

Improvement

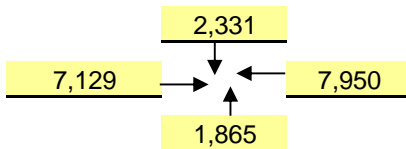
Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Iowa DOT Turning Movements 2017 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



7,035,375 Current Annual Entering Veh., **AEV** = DEV * 365

19,275 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

19,275 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

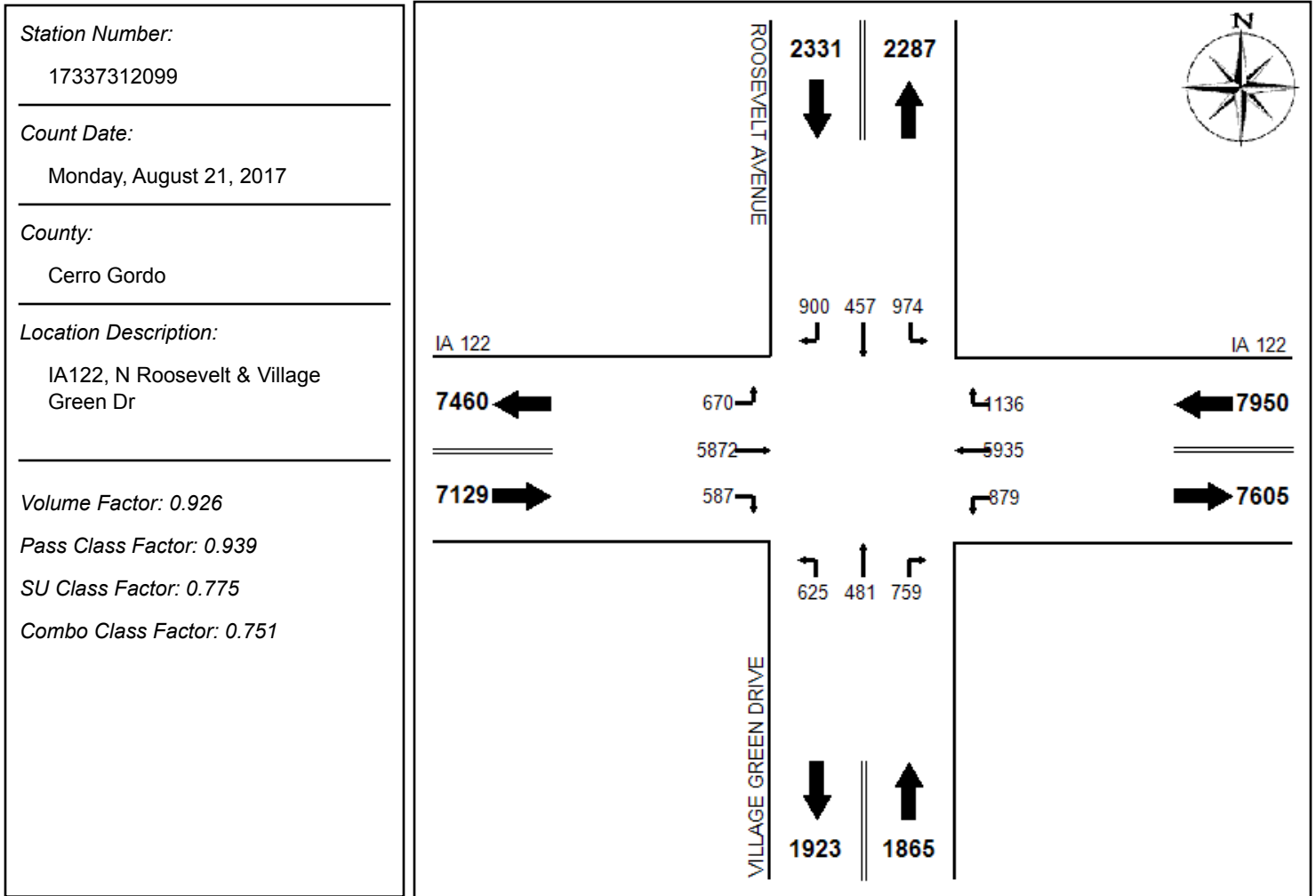
2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**
Additional months
1 Fatal Crashes → 1 Fatalities @ \$4,500,000 \$ 4,500,000
10 Injury Crashes → 3 Minor Injuries @ \$65,000 \$ 195,000
21 Property Damage Only 7 Possible Injuries @ \$35,000 \$ 245,000
(assumed cost per crash) \$7,400 \$ -
-OR- enter all Property Costs of all crashes: \$ 165,100
32 Total Crashes, **TA** Total \$ Loss, **LOSS** \$ 5,105,100

6.40 Current Crashes / Year, **AA** = TA / T
\$ 159,534 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, AAR x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
00:00	0	0	1	0	31	0	0	1	1	0	33	0
01:00	1	0	1	1	26	1	1	0	0	0	32	0
02:00	0	0	1	1	16	0	1	1	1	0	22	0
03:00	0	0	0	0	20	1	0	0	0	0	17	0
04:00	2	1	0	5	53	2	0	0	0	1	28	4
05:00	0	1	1	2	97	13	1	2	2	4	85	2
06:00	3	0	11	3	173	13	4	0	1	6	161	9
07:00	13	4	26	13	264	35	10	13	8	7	372	36
08:00	22	10	25	29	303	42	24	16	17	29	340	30
09:00	47	23	57	63	370	71	40	27	42	36	351	47
10:00	69	45	62	69	436	111	55	35	61	46	387	58
11:00	103	48	72	80	463	95	58	50	90	69	511	60
12:00	109	51	78	102	498	115	43	75	86	69	522	56
13:00	74	23	52	71	337	67	37	26	46	50	303	39
14:00	94	43	90	107	500	114	59	51	85	57	477	57
15:00	106	62	103	90	546	116	69	53	92	77	493	53
16:00	114	55	101	106	581	138	64	47	78	69	515	48
17:00	87	44	88	75	550	83	55	45	71	86	507	48
18:00	71	32	47	39	349	73	53	22	44	47	344	31



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity		32	Injury Status Summary		13
Fatal Crash		1	Fatalities		1
Suspected Serious Injury Crash		0	Suspected serious/incapacitating		0
Suspected Minor Injury Crash		3	Suspected minor/non-incapacitating		3
Possible/Unknown Injury Crash		7	Possible (complaint of pain/injury)		9
Property Damage Only		21	Unknown		0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	165,100.00	Fatalities/Fatal Crash:	1.00
Average (per crash dollars):	5,159.38	Fatalities/Crash:	0.03
Total Vehicles:	63.00	Injuries/Crash:	0.38
Average (per crash):	1.97	Major Injuries/Crash:	0.00
Total Occupants:	92.00	Minor Injuries/Crash:	0.09
Average (per crash):	2.88	Possible/Unknown Injuries/Crash:	0.28





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		31
Animal	0 Ran traffic signal	2
Ran stop sign	1 Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	2 FTYROW: Making right turn on red signal	2
FTYROW: From stop sign	0 FTYROW: From yield sign	0
FTYROW: Making left turn	2 FTYROW: From driveway	0
FTYROW: From parked position	0 FTYROW: To pedestrian	0
FTYROW: Other	1 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	1
Operating vehicle in an reckless, erratic, ca...	1 Followed too close	8
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	1
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...	1
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	3 Swerving/Evasive Action	1
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	3
Unknown	1 Not reported	0
Other: No improper action	1	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	0	0	0	0	1
Monday	0	0	0	0	0	3	1	1	0	0	0	0	0	5
Tuesday	0	0	0	0	0	1	0	0	1	2	0	0	0	4
Wednesday	0	0	0	0	0	0	2	0	0	0	1	0	0	3
Thursday	0	0	0	0	1	0	1	1	1	0	0	0	0	4
Friday	0	0	0	0	1	0	2	0	0	0	0	0	0	3
Saturday	0	0	0	0	0	1	3	0	1	0	1	0	0	6
Total	0	0	0	0	2	5	10	2	3	2	2	0	0	26

Manner of Crash Collision	32	Surface Conditions	32
Non-collision (single vehicle)	4	Dry	27
Head-on (front to front)	1	Wet	5
Rear-end (front to rear)	16	Ice/frost	0
Angle, oncoming left turn	2	Snow	0
Broadside (front to side)	3	Slush	0
Sideswipe, same direction	3	Mud, dirt	0
Sideswipe, opposite direction	2	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	1	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	63
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	63



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	0	1
= 19	2	0	0	0	2
= 20	1	2	0	0	3
>= 21 and <= 24	2	3	0	0	5
>= 25 and <= 29	1	1	0	0	2
>= 30 and <= 34	1	4	0	0	5
>= 35 and <= 39	4	4	0	0	8
>= 40 and <= 44	2	1	0	0	3
>= 45 and <= 49	2	0	0	0	2
>= 50 and <= 54	3	2	0	0	5
>= 55 and <= 59	2	1	0	0	3
>= 60 and <= 64	4	1	0	0	5
>= 65 and <= 69	4	2	0	0	6
>= 70 and <= 74	4	1	0	0	5
>= 75 and <= 79	2	3	0	0	5
>= 80 and <= 84	1	0	0	0	1
>= 85 and <= 89	1	0	0	0	1
>= 90 and <= 94	1	0	0	0	1
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	38	25	0	0	63

Alcohol Test Given	63
None	62
Blood	0
Urine	0
Breath	1
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	63
None	63
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	32
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	1
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	31

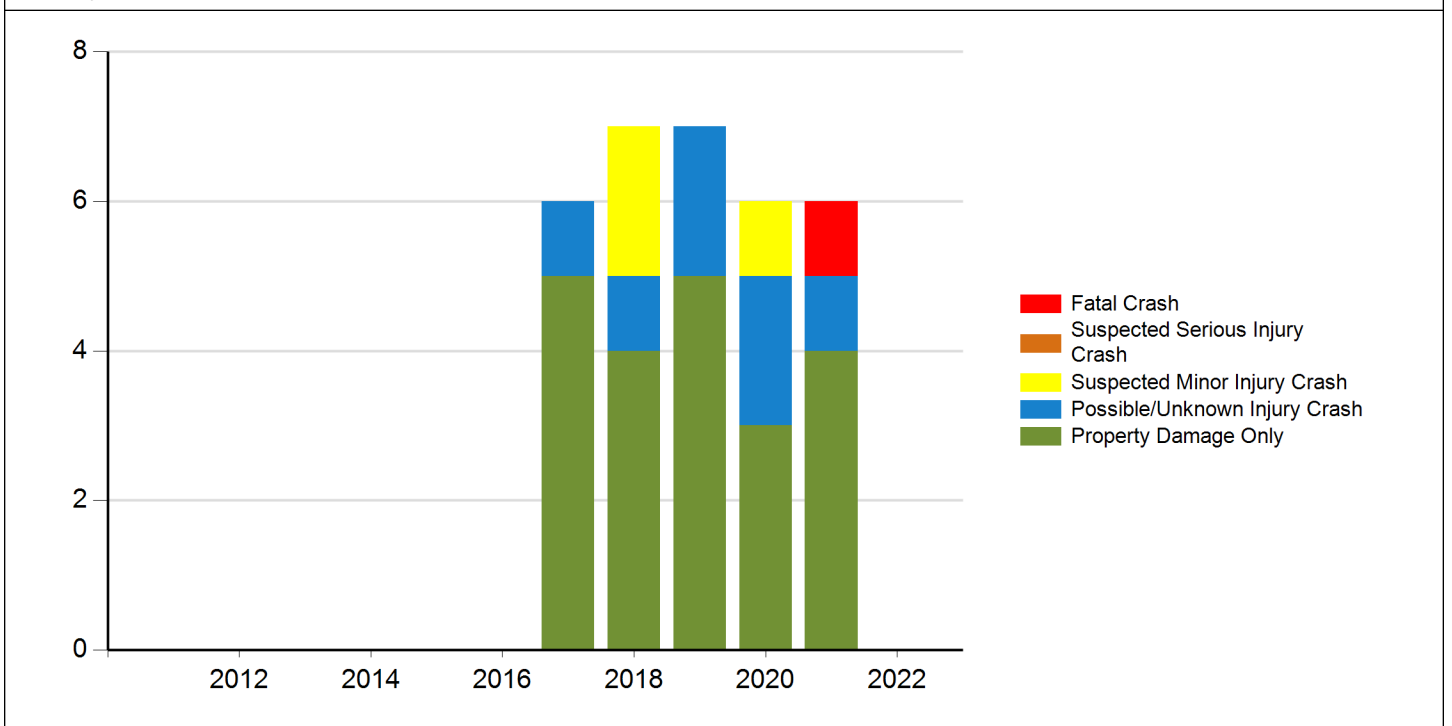


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	5	6
2018	0	0	2	1	4	7
2019	0	0	0	2	5	7
2020	0	0	1	2	3	6
2021	1	0	0	1	4	6
2022	0	0	0	0	0	0
Total	1	0	3	7	21	32

Severity/Year



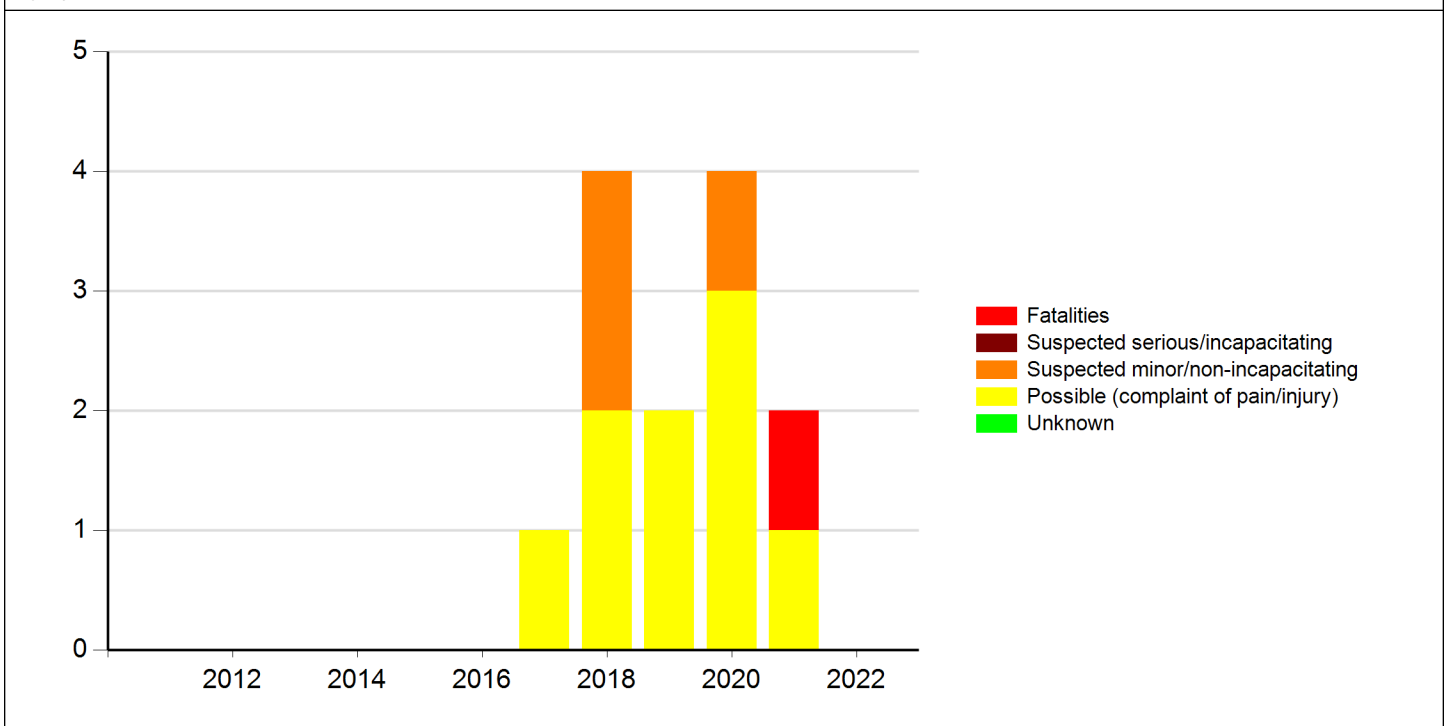


**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	0	1
2018	0	0	2	2	0	4
2019	0	0	0	2	0	2
2020	0	0	1	3	0	4
2021	1	0	0	1	0	2
2022	0	0	0	0	0	0
Total	1	0	3	9	0	13

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

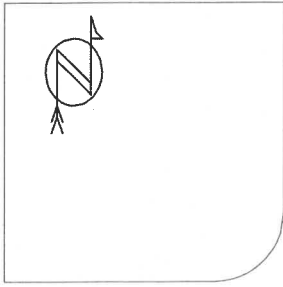
Analyst Information

Village Green/Roosevelt and IA 122

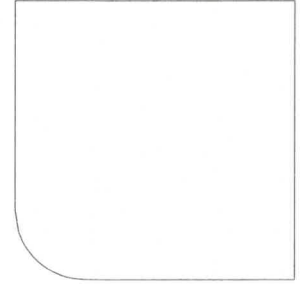
Tiffany Drive, 2017-2021 Collision Diagram

9 Crashes

Clear



9/28/2017



10/22/2018

8/29/2019

9/3/2020

11/24/2021

3/1/2019

10/3/2017

10/9/2020

1/13/2018

← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ↔ Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 × Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General ☒ Pole
☒ Signal ☒ Curb
☒ Tree ☒ Animal

3rd vehicle
 Extra data

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 22, 2022
 Intersection: Tiffany Drive and IA 122 in Mason City, excluding animal-related crashes

Improvement

Proposed Improvement(s):

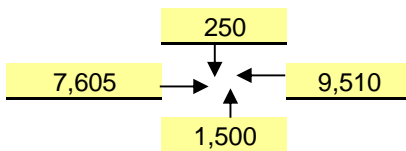
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Assumed from adjacent intersections Various Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



6,885,725 Current Annual Entering Veh., **AEV** = DEV * 365

18,865 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

18,865 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

<u>2017</u> First full year -->	<u>2021</u> Last full year	5.0 years, Time Period, T
<u></u> Additional months		
<u>0</u> Fatal Crashes	→ <u>0</u> Fatalities @	\$4,500,000 \$ -
	→ <u>0</u> Major Injuries @	\$325,000 \$ -
<u>1</u> Injury Crashes	→ <u>0</u> Minor Injuries @	\$65,000 \$ -
	→ <u>1</u> Possible Injuries @	\$35,000 \$ 35,000
<u>8</u> Property Damage Only	(assumed cost per crash)	\$7,400 \$ -
	-OR- enter all Property Costs of all crashes:	\$ 52,150
<u>9</u> Total Crashes, TA		Total \$ Loss, LOSS \$ 87,150

1.80 Current Crashes / Year, **AA** = TA / T
 \$ 9,683 Cost per Crash, **AVC** = LOSS / TA
 - Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
 - Crashes Avoided First Year **AAR** = AA x CRF / 100
 - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100
 0.26 Crashes / MEV, Crash Rate, **CR**
 CR = TA x 10⁶ / (DEV x 365 x T)

$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	9	Injury Status Summary	1
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	0	Suspected minor/non-incapacitating	0
Possible/Unknown Injury Crash	1	Possible (complaint of pain/injury)	1
Property Damage Only	8	Unknown	0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	52,150.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	5,794.44	Fatalities/Crash:	0.00
Total Vehicles:	18.00	Injuries/Crash:	0.11
Average (per crash):	2.00	Major Injuries/Crash:	0.00
Total Occupants:	25.00	Minor Injuries/Crash:	0.00
Average (per crash):	2.78	Possible/Unknown Injuries/Crash:	0.11





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		9
Animal	0	0
Ran stop sign	0	0
FTYROW: At uncontrolled intersection	1	0
FTYROW: From stop sign	0	0
FTYROW: Making left turn	1	0
FTYROW: From parked position	0	0
FTYROW: Other	0	0
Disregarded RR Signal	0	0
Crossed median (divided)	0	0
Aggressive driving/road rage	0	0
Exceeded authorized speed	0	0
Operating vehicle in an reckless, erratic, ca...	0	3
Passing: On wrong side	0	0
Passing: With insufficient distance/inadequa...	0	0
Passing: Other passing	0	0
Driver Distraction: Manual operation of an e...	0	0
Driver Distraction: Talking on a hands free ...	0	1
Driver Distraction: Other electronic device ...	0	0
Driver Distraction: Unrestrained animal	0	0
Driver Distraction: Inattentive/lost in thou...	0	0
Driver Distraction: Exterior distraction	0	0
Ran off road - straight	0	0
Lost control	0	0
Over correcting/over steering	0	0
Failure to signal intentions	0	0
Vehicle stopped on railroad tracks	0	0
Other: Improper operation	0	0
Other: Disregarded signs/road markings	0	0
Downhill runaway	0	0
Towing improperly	0	0
Equipment failure	0	0
Other: Getting off/out of vehicle	0	0
Improper backing	0	0
Illegally parked/unattended	0	0
Operator inexperience	0	3
Unknown	0	0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	0	0	0	0	0	0	1
Tuesday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Wednesday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Thursday	0	0	0	0	0	0	1	0	2	0	0	0	0	3
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	0	0	4	0	5	0	0	0	0	9

Manner of Crash Collision	9	Surface Conditions	9
Non-collision (single vehicle)	0	Dry	6
Head-on (front to front)	0	Wet	3
Rear-end (front to rear)	7	Ice/frost	0
Angle, oncoming left turn	1	Snow	0
Broadside (front to side)	1	Slush	0
Sideswipe, same direction	0	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	18
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	18



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	0	1
= 18	0	0	0	0	0
= 19	0	0	0	0	0
= 20	0	0	0	0	0
>= 21 and <= 24	0	0	1	0	1
>= 25 and <= 29	1	2	0	0	3
>= 30 and <= 34	1	1	0	0	2
>= 35 and <= 39	1	0	0	0	1
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	4	1	0	0	5
>= 55 and <= 59	1	3	0	0	4
>= 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	1	0	0	0	1
>= 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	10	7	1	0	18

Alcohol Test Given	18
None	18
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	18
None	18
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	9
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	9

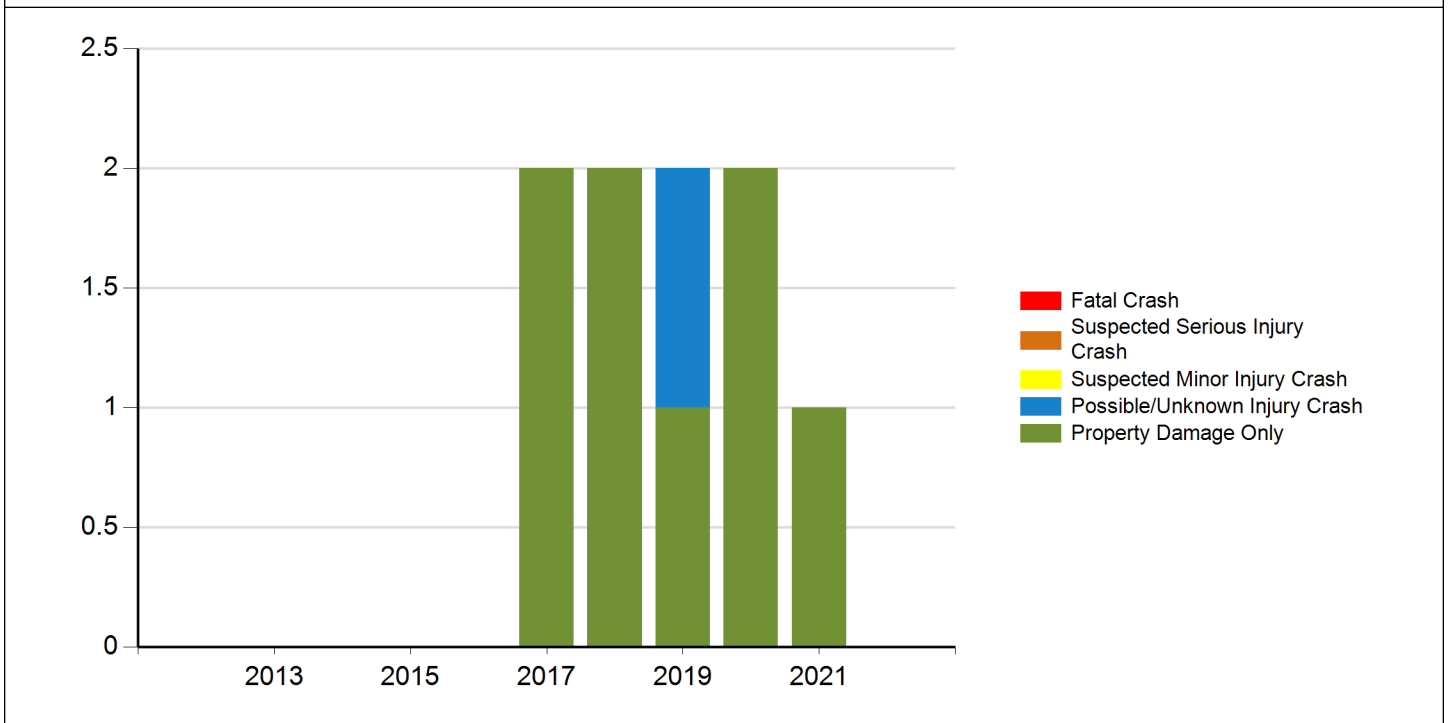


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	2	2
2018	0	0	0	0	2	2
2019	0	0	0	1	1	2
2020	0	0	0	0	2	2
2021	0	0	0	0	1	1
2022	0	0	0	0	0	0
Total	0	0	0	1	8	9

Severity/Year



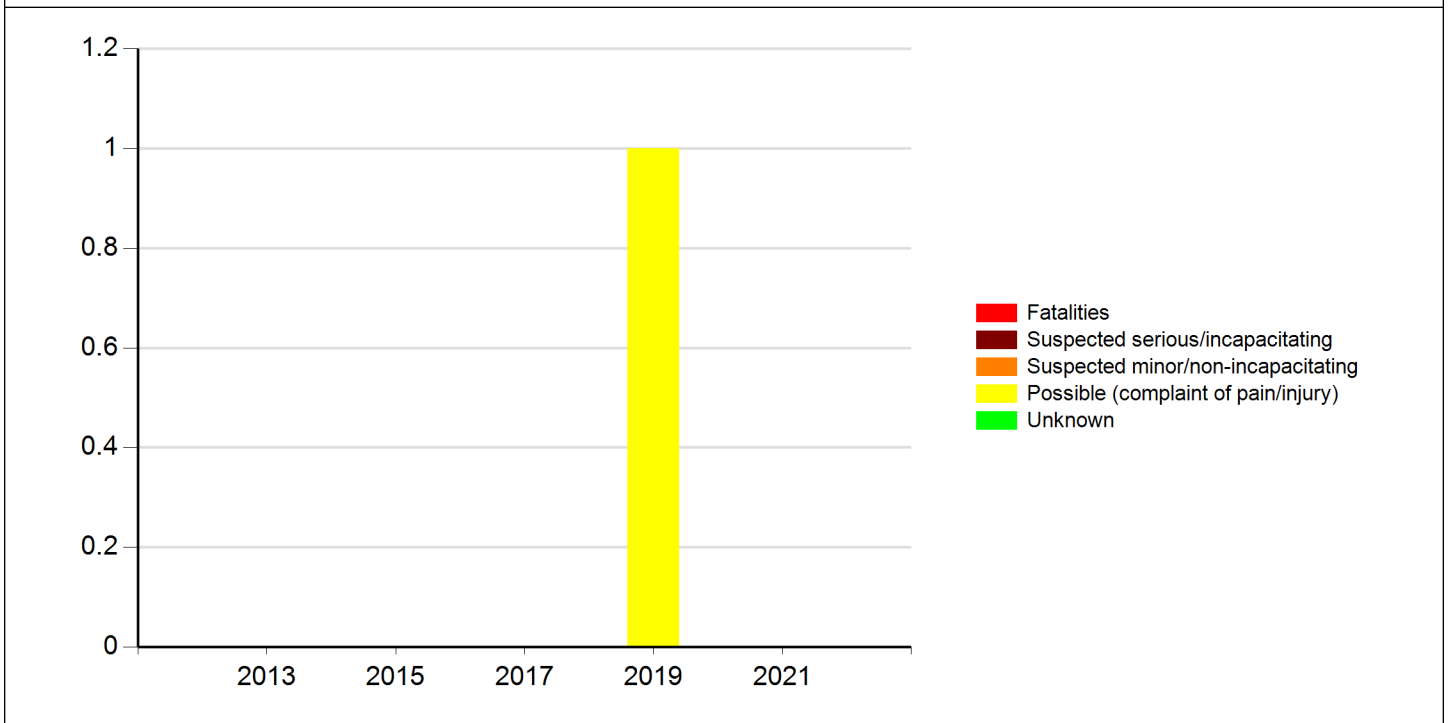


**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	0	0	0
2019	0	0	0	1	0	1
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	0	0	1	0	1

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

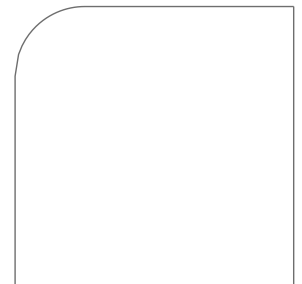
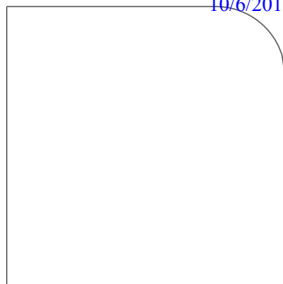
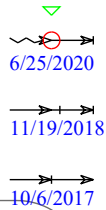
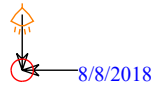
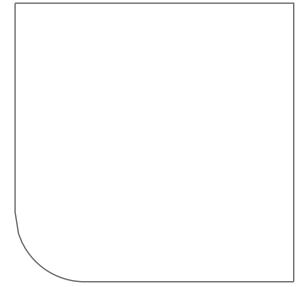
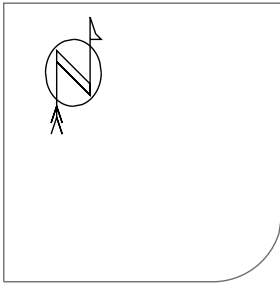
Analyst Information

Tiffany Drive and IA 122 In Mason City
2017-2021
Excluding Animal-related Crashes

Willow Inn Access and IA 122, Collision Diagram

5 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 Bicycle
 Injury
 Fatality
 Nighttime
 DUI

Fixed objects:

☐ General ☒ Pole
☒ Signal ☒ Curb
☒ Tree ☒ Animal

3rd vehicle
 Extra data

Crash Magic Online 6/4/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 20, 2022
 Intersection: Willow Inn Access/Crossover and IA 122, Excluding Animal-Related

Improvement

Proposed Improvement(s):

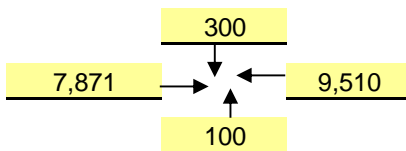
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Assumed from DOT Turning Movements - Adjacent intersec 2017 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



6,490,065 Current Annual Entering Veh., **AEV** = DEV * 365

17,781 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

17,781 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

0	Fatal Crashes	0	Fatalities @	\$4,500,000	\$	-
		0	Major Injuries @	\$325,000	\$	-
3	Injury Crashes	1	Minor Injuries @	\$65,000	\$	65,000
2	Property Damage Only	2	Possible Injuries @	\$35,000	\$	70,000
			(assumed cost per crash)	\$7,400	\$	-
			-OR- enter all Property Costs of all crashes:	\$		56,500
5	Total Crashes, TA		Total \$ Loss, LOSS	\$		191,500

1.00 Current Crashes / Year, **AA** = TA / T
 \$ 38,300 Cost per Crash, **AVC** = LOSS / TA
 - Total Expected Crashes, **TECR** = CR x TMEV
 - Crashes Avoided First Year **AAR** = AA x CRF / 100
 \$ - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100
 0.15 Crashes / MEV, Crash Rate, **CR**
 CR = TA x 10^6 / (DEV x 365 x T)
 \$ - Present Value of Avoided Crashes, **BENEFIT**

$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Crash Severity	5	Injury Status Summary	3
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	1	Suspected minor/non-incapacitating	1
Possible/Unknown Injury Crash	2	Possible (complaint of pain/injury)	2
Property Damage Only	2	Unknown	0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	56,500.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	11,300.00	Fatalities/Crash:	0.00
Total Vehicles:	11.00	Injuries/Crash:	0.60
Average (per crash):	2.20	Major Injuries/Crash:	0.00
Total Occupants:	13.00	Minor Injuries/Crash:	0.20
Average (per crash):	2.60	Possible/Unknown Injuries/Crash:	0.40





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause			5
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	1	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	2
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	2
Unknown	0	Not reported	0
Other: No improper action	0		



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	0	0	0	0	0	0	1
Tuesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wednesday	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Thursday	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Friday	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Saturday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	1	0	1	1	0	5

Manner of Crash Collision	5	Surface Conditions	5
Non-collision (single vehicle)	0	Dry	3
Head-on (front to front)	0	Wet	1
Rear-end (front to rear)	3	Ice/frost	0
Angle, oncoming left turn	0	Snow	1
Broadside (front to side)	2	Slush	0
Sideswipe, same direction	0	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	11
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	11



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	0	1
= 18	0	0	0	0	0
= 19	1	0	0	0	1
= 20	0	0	0	0	0
>= 21 and <= 24	1	0	0	0	1
>= 25 and <= 29	1	0	0	0	1
>= 30 and <= 34	0	1	0	0	1
>= 35 and <= 39	2	0	0	0	2
>= 40 and <= 44	1	1	0	0	2
>= 45 and <= 49	0	1	0	0	1
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	1	0	0	0	1
>= 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	8	3	0	0	11

Alcohol Test Given	11
None	11
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	11
None	11
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	5
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	5

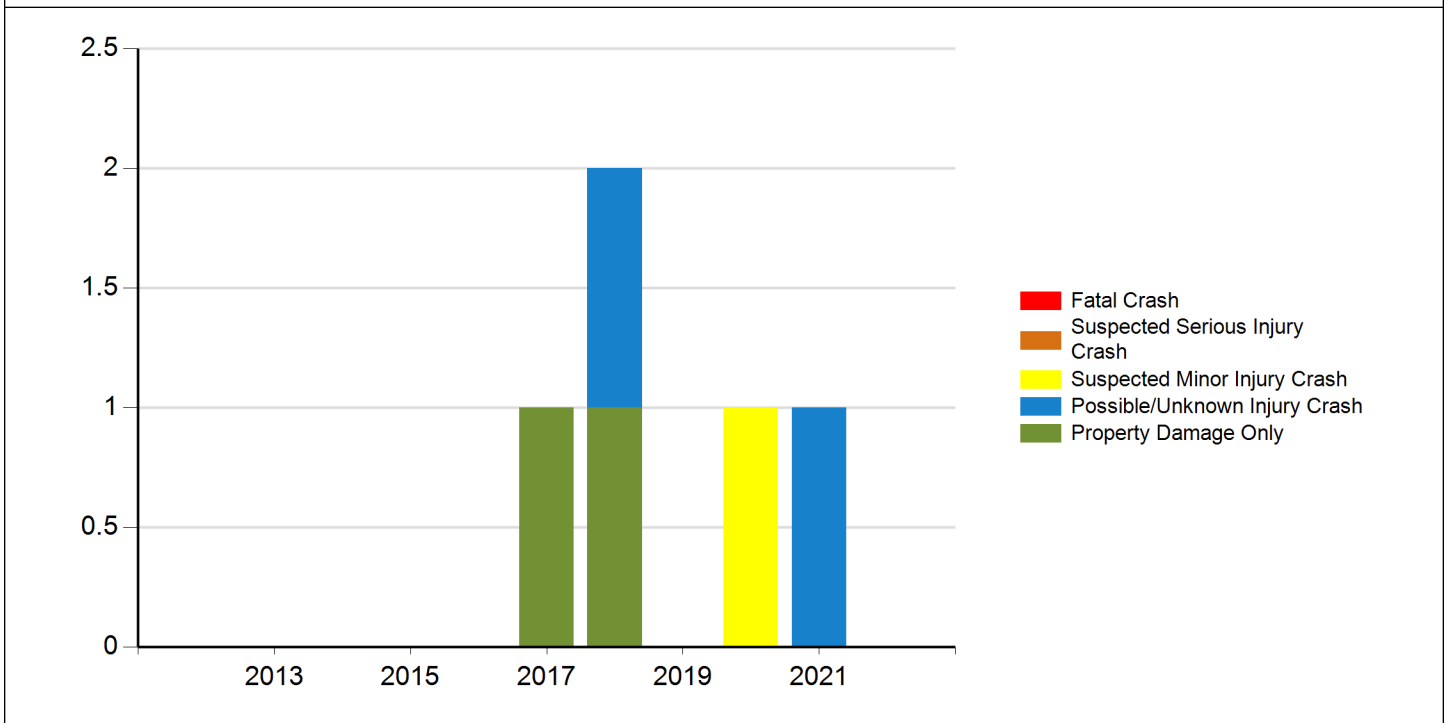


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	1	1
2018	0	0	0	1	1	2
2019	0	0	0	0	0	0
2020	0	0	1	0	0	1
2021	0	0	0	1	0	1
2022	0	0	0	0	0	0
Total	0	0	1	2	2	5

Severity/Year



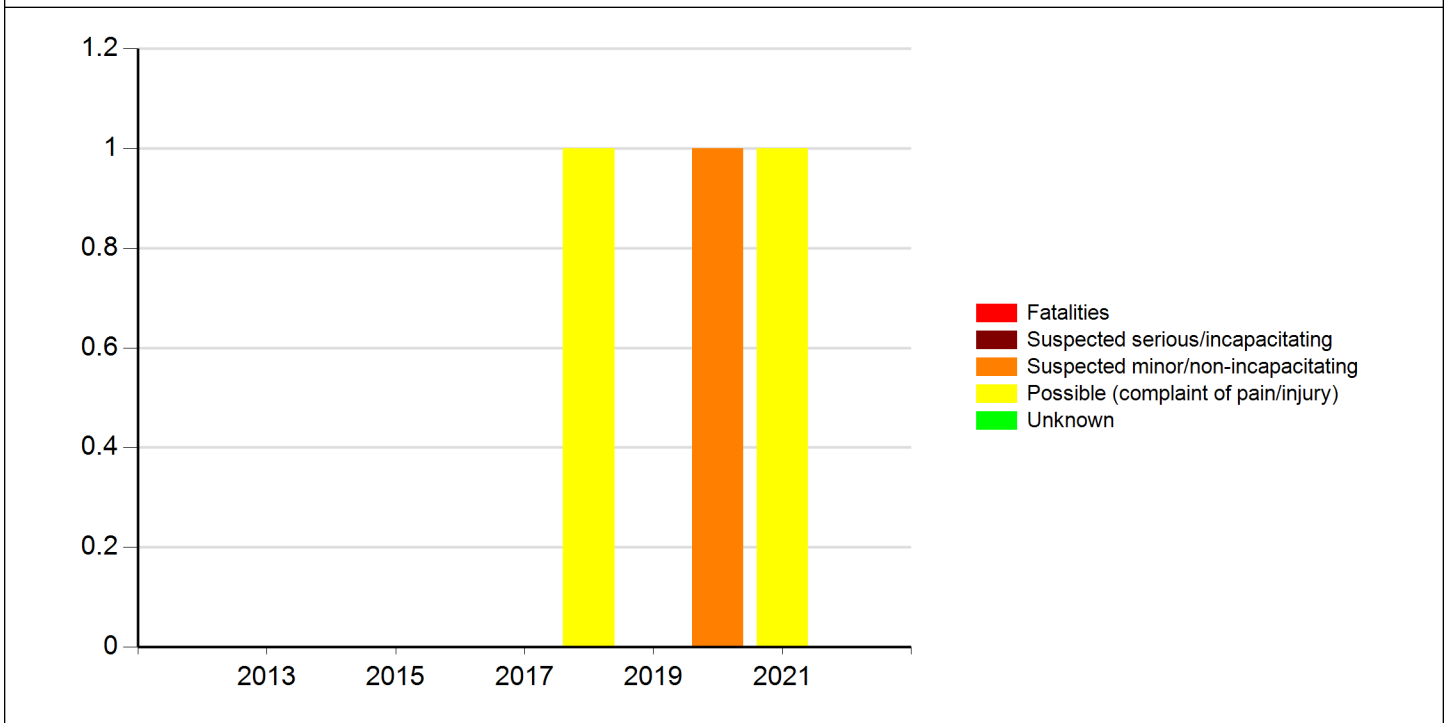


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	0	0	0	1	0	1
2019	0	0	0	0	0	0
2020	0	0	1	0	0	1
2021	0	0	0	1	0	1
2022	0	0	0	0	0	0
Total	0	0	1	2	0	3

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

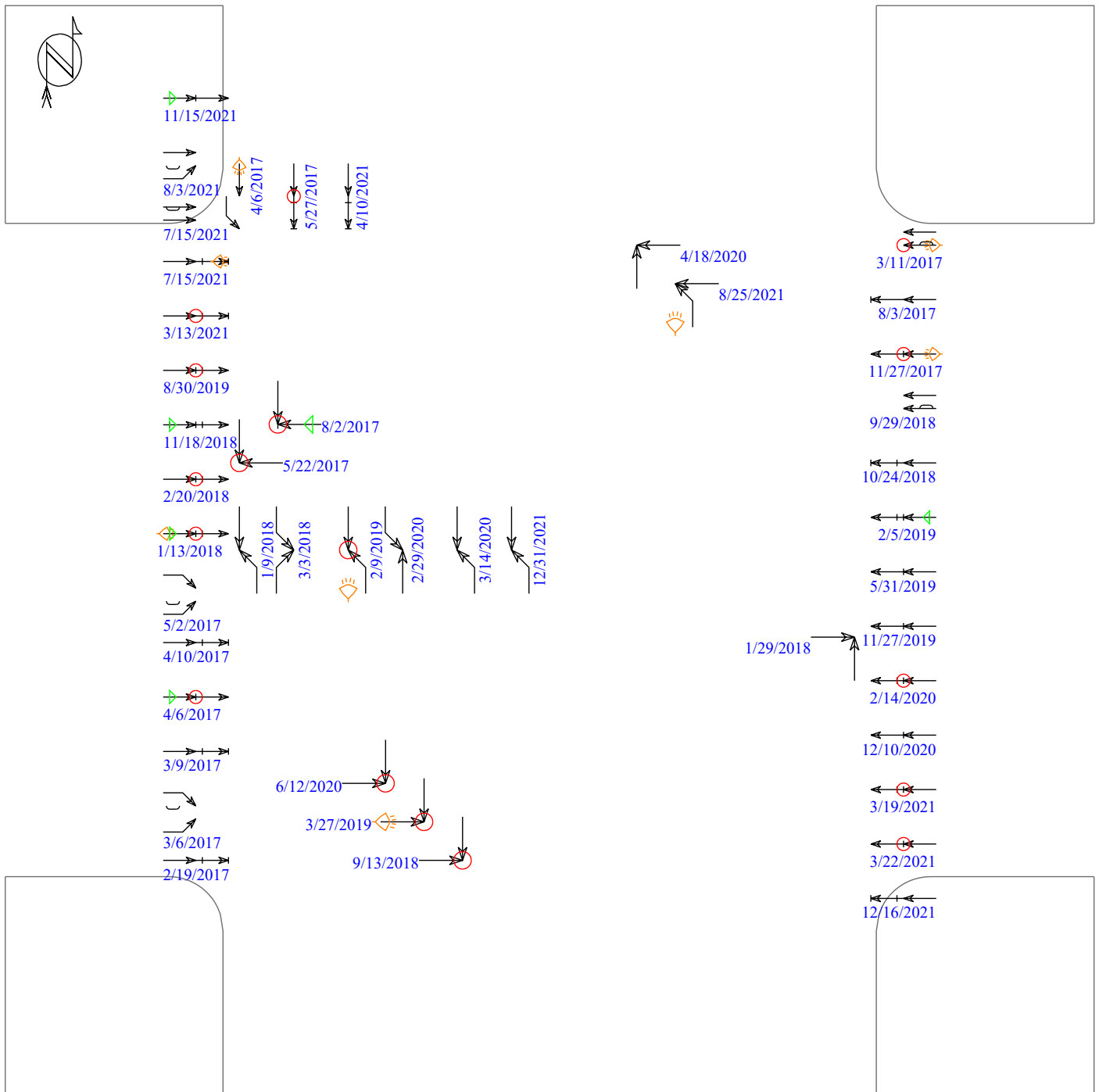
Analyst Information

Willow Inn Access and IA 122 in Mason City
2017-2021
Excluding Animal-related crashes

Taft Drive, 2017-2021 Collision Diagram

45 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General
☒ Signal
☒ Tree
☒ Pole
☒ Curb
☒ Animal

3rd vehicle
 Extra data

Crash Magic Online 6/6/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 19, 2022
Intersection: Taft Ave and IA 122, Excluding Animal-Related Crashes

Improvement

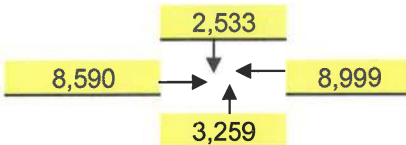
Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Iowa DOT Turning Movements 2017 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



8,534,065 Current Annual Entering Veh., **AEV** = DEV * 365

23,381 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

23,381 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

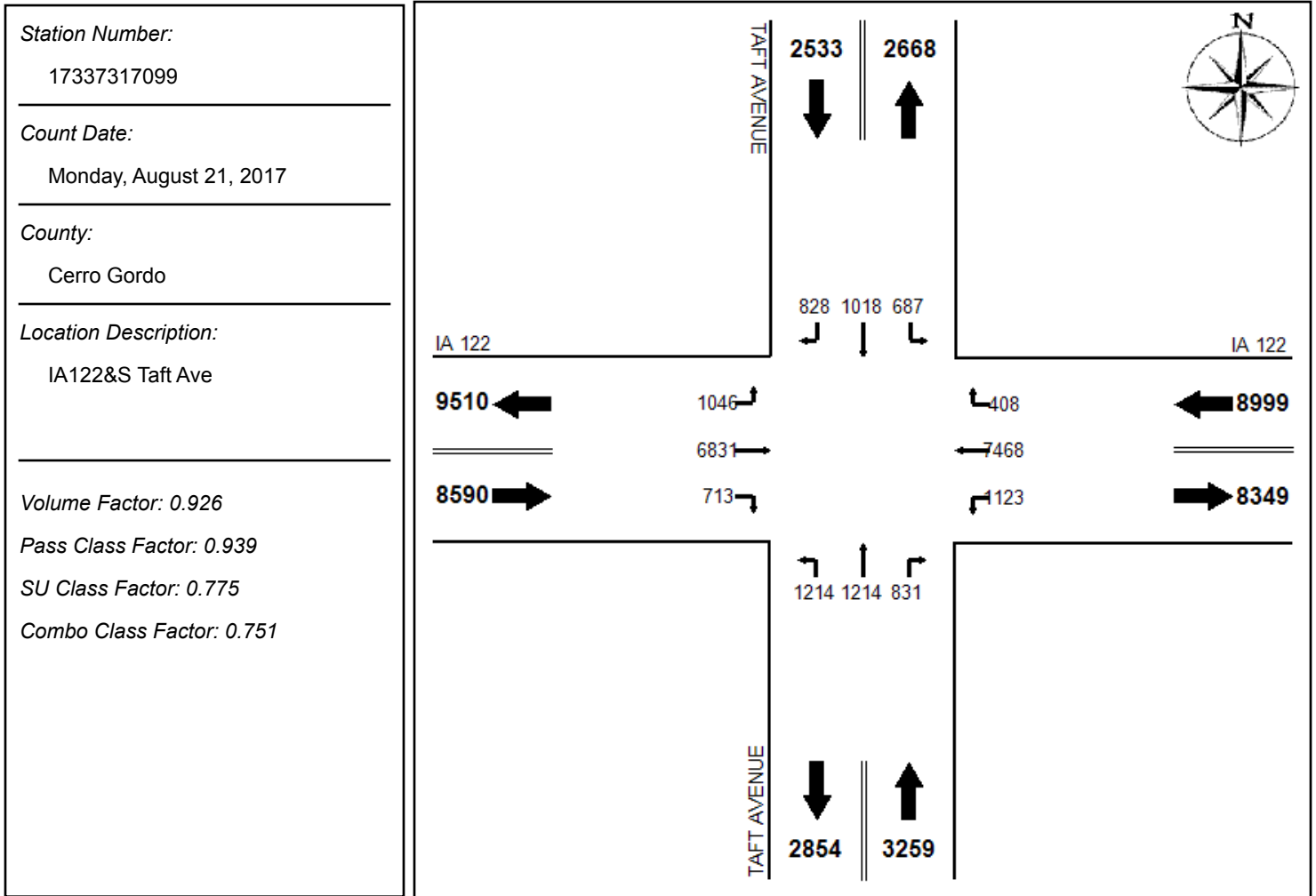
0	Fatal Crashes	0	Fatalities @	\$4,500,000	\$	-
		0	Major Injuries @	\$325,000	\$	-
17	Injury Crashes	7	Minor Injuries @	\$65,000	\$	455,000
28	Property Damage Only	19	Possible Injuries @	\$35,000	\$	665,000
			(assumed cost per crash)	\$7,400	\$	-
			-OR- enter all Property Costs of all crashes:	\$		300,852
45	Total Crashes, TA		Total \$ Loss, LOSS	\$		1,420,852

9.00 Current Crashes / Year, **AA** = TA / T
\$ 31,574 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, **AAR** x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
1.05 Crashes / MEV, Crash Rate, **CR**
CR = TA x 10^6 / (DEV x 365 x T)
\$ - Present Value of Avoided Crashes, **BENEFIT**
$$BEN. = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
00:00	3	8	6	8	44	5	5	15	6	6	48	6
01:00	0	4	0	1	26	0	3	6	4	2	29	2
02:00	0	4	1	4	13	0	5	6	1	2	19	1
03:00	0	3	0	1	22	0	1	3	1	0	11	3
04:00	2	6	10	10	64	1	4	11	3	1	21	5
05:00	3	50	8	42	105	5	3	18	5	11	74	13
06:00	11	38	16	35	183	7	17	31	24	3	140	17
07:00	31	102	42	53	320	20	49	58	69	21	343	25
08:00	36	60	46	56	357	12	59	71	52	21	341	37
09:00	35	47	51	72	473	24	65	56	57	55	389	40
10:00	41	59	64	68	593	22	111	67	55	81	468	42
11:00	57	66	67	87	618	24	122	98	62	100	586	63
12:00	70	58	80	137	603	44	134	87	73	94	653	66
13:00	83	89	82	100	637	46	130	96	75	94	577	70
14:00	69	74	94	73	660	40	110	96	80	98	574	64
15:00	36	88	62	123	696	30	85	131	55	101	605	63
16:00	51	87	72	87	741	42	108	144	79	123	606	71
17:00	50	93	61	88	637	42	113	125	72	117	522	53
18:00	46	59	30	46	377	20	69	69	44	73	377	39



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	45
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	3
Possible/Unknown Injury Crash	14
Property Damage Only	28

Injury Status Summary	26
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	7
Possible (complaint of pain/injury)	19
Unknown	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	300,852.00
Average (per crash dollars):	6,685.60
Total Vehicles:	97.00
Average (per crash):	2.16
Total Occupants:	151.00
Average (per crash):	3.36

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.58
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.16
Possible/Unknown Injuries/Crash:	0.42





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		43
Animal	0	Ran traffic signal 7
Ran stop sign	1	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	6	FTYROW: From driveway 0
FTYROW: From parked position	0	FTYROW: To pedestrian 0
FTYROW: Other	1	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 1
Exceeded authorized speed	0	Improper or erratic lane changing 1
Operating vehicle in an reckless, erratic, ca...	1	Followed too close 9
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 1
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... 1
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	3	Swerving/Evasive Action 1
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 8
Unknown	1	Not reported 0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	0	0	1	0	0	0	0	2
Monday	0	0	0	0	2	1	1	2	1	0	0	0	0	7
Tuesday	0	0	0	0	0	1	3	0	1	0	0	0	0	5
Wednesday	0	0	0	0	0	1	1	1	0	0	1	1	0	5
Thursday	0	0	0	0	0	1	1	3	2	1	0	1	0	9
Friday	0	0	0	1	0	1	1	1	1	1	0	0	0	6
Saturday	0	0	0	0	1	1	4	0	2	3	0	0	0	11
Total	0	0	0	2	3	6	11	7	8	5	1	2	0	45

Manner of Crash Collision	45	Surface Conditions	45
Non-collision (single vehicle)	0	Dry	36
Head-on (front to front)	1	Wet	5
Rear-end (front to rear)	25	Ice/frost	3
Angle, oncoming left turn	5	Snow	1
Broadside (front to side)	7	Slush	0
Sideswipe, same direction	6	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	1	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	97
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	97



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	2	0	0	0	2
= 17	2	2	0	0	4
= 18	2	1	0	0	3
= 19	0	2	0	0	2
= 20	1	1	0	0	2
>= 21 and <= 24	3	4	0	0	7
>= 25 and <= 29	5	4	0	0	9
>= 30 and <= 34	4	3	0	0	7
>= 35 and <= 39	1	4	0	0	5
>= 40 and <= 44	2	1	0	0	3
>= 45 and <= 49	0	2	0	0	2
>= 50 and <= 54	1	3	0	0	4
>= 55 and <= 59	5	5	0	0	10
>= 60 and <= 64	8	2	0	0	10
>= 65 and <= 69	5	6	0	0	11
>= 70 and <= 74	3	3	0	0	6
>= 75 and <= 79	1	1	0	0	2
>= 80 and <= 84	2	1	0	0	3
>= 85 and <= 89	0	4	0	0	4
>= 90 and <= 94	0	1	0	0	1
>= 95	0	0	0	0	0
Not reported	0	0	0	0	0
Unknown	0	0	0	0	0
Total	47	50	0	0	97

Alcohol Test Given	97
None	95
Blood	1
Urine	0
Breath	1
Vitreous	0
Refused	0
Not reported	0

Drug Test Given	97
None	97
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	45
Drug	0
Alcohol (< Statutory)	1
Alcohol (Statutory)	1
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	0
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	43

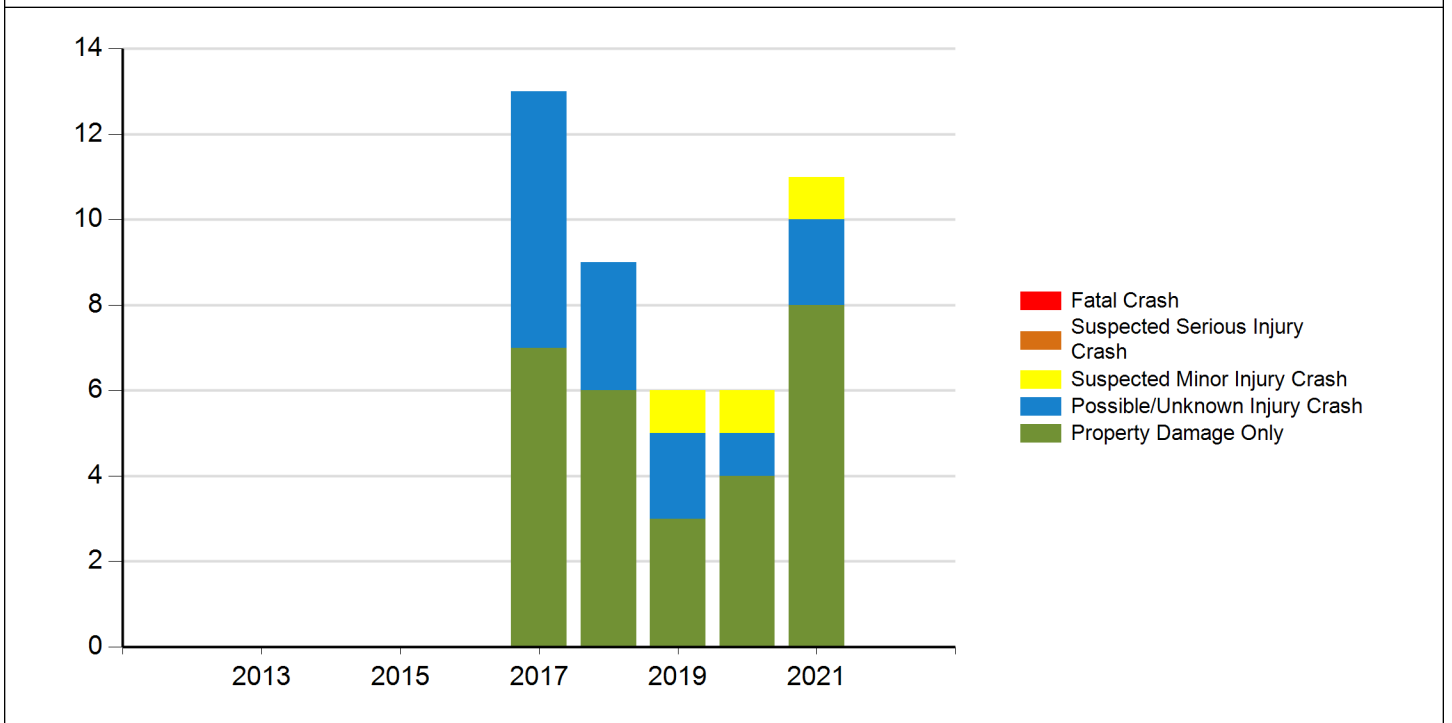


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	6	7	13
2018	0	0	0	3	6	9
2019	0	0	1	2	3	6
2020	0	0	1	1	4	6
2021	0	0	1	2	8	11
2022	0	0	0	0	0	0
Total	0	0	3	14	28	45

Severity/Year



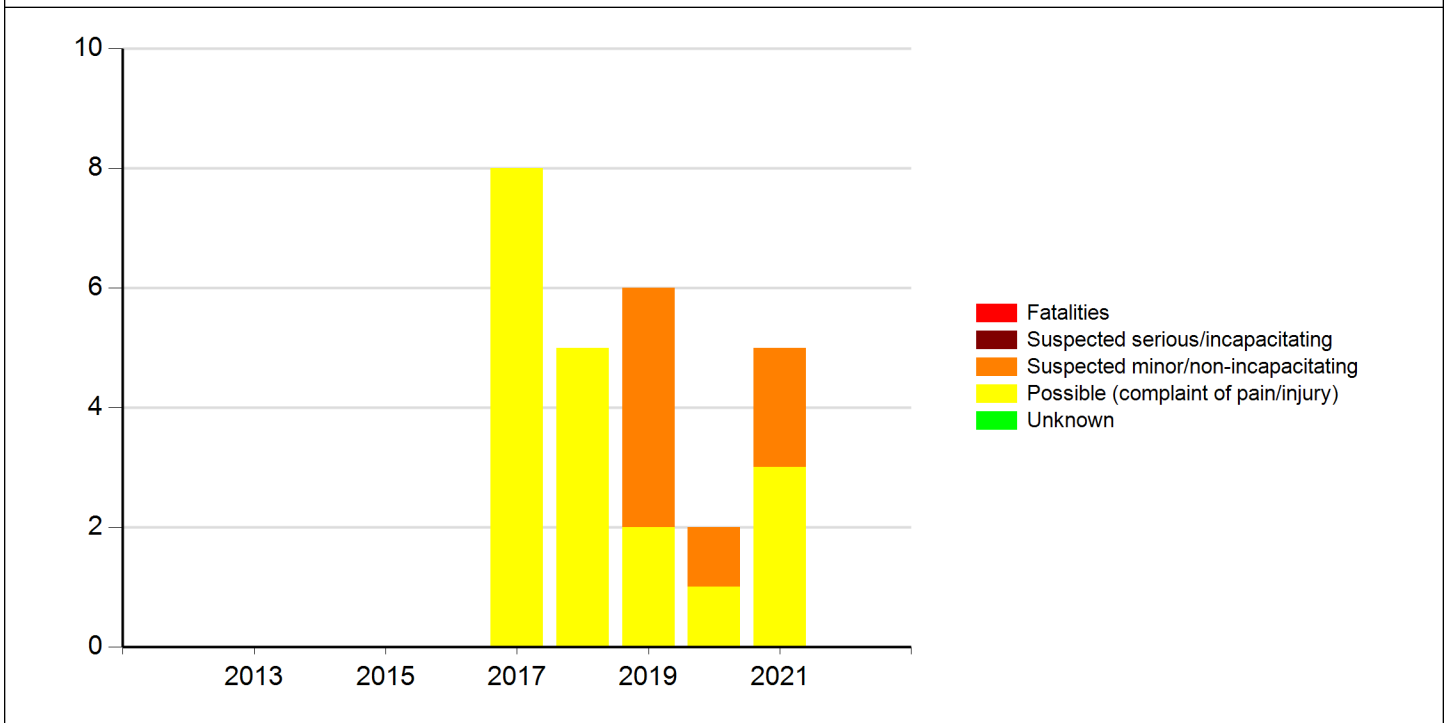


**Iowa Crash Analysis Tool
Quick Report
2017-2021**

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	8	0	8
2018	0	0	0	5	0	5
2019	0	0	4	2	0	6
2020	0	0	1	1	0	2
2021	0	0	2	3	0	5
2022	0	0	0	0	0	0
Total	0	0	7	19	0	26

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: Non Animal-related

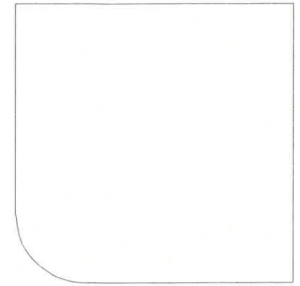
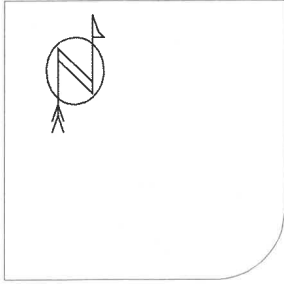
Analyst Information

Taft Avenue and IA122 in Mason City
2017-2021
Excluding Animal-Related Crashes

Hobby Lobby Right-In/Right-Out Collision Diagram, 2017-2021

7 Crashes

Clear



8/2/2017

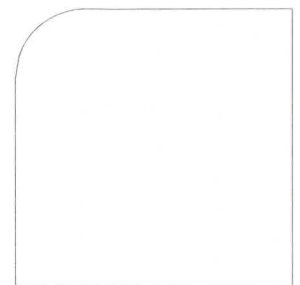
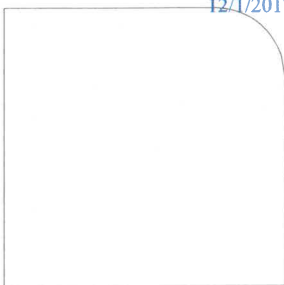
4/23/2020



9/24/2018

8/2/2017

8/3/2021
7/15/2021
12/1/2017



← Straight
←+ Stopped
← Unknown
↔ Backing
↔ Overtaking
↔ Sideswipe

▭ Parked
↖ Erratic
↖ Out of control
↖ Right turn
↖ Left turn
↖ U-turn

× Pedestrian
× Bicycle
○ Injury
● Fatality
⚡ Nighttime
⚡ DUI

Fixed objects:

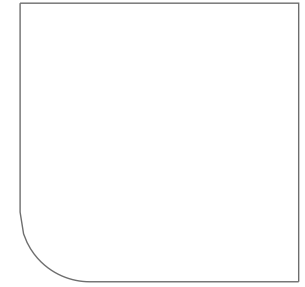
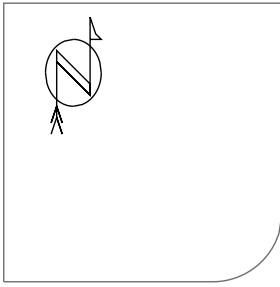
□ General
▣ Signal
▣ Tree
▣ Pole
▣ Curb
⌘ Animal

◁ 3rd vehicle
* Extra data

HyVee West Right-In/Right-Out Collision Diagram, 2017-2021

5 Crashes

Clear



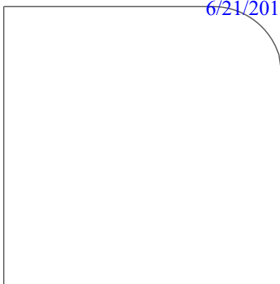
7/2/2018

11/20/2018

11/3/2018

6/27/2018

6/21/2018



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 ✂ Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General ☒ Pole
☒ Signal ☒ Curb
☒ Tree ☒ Animal

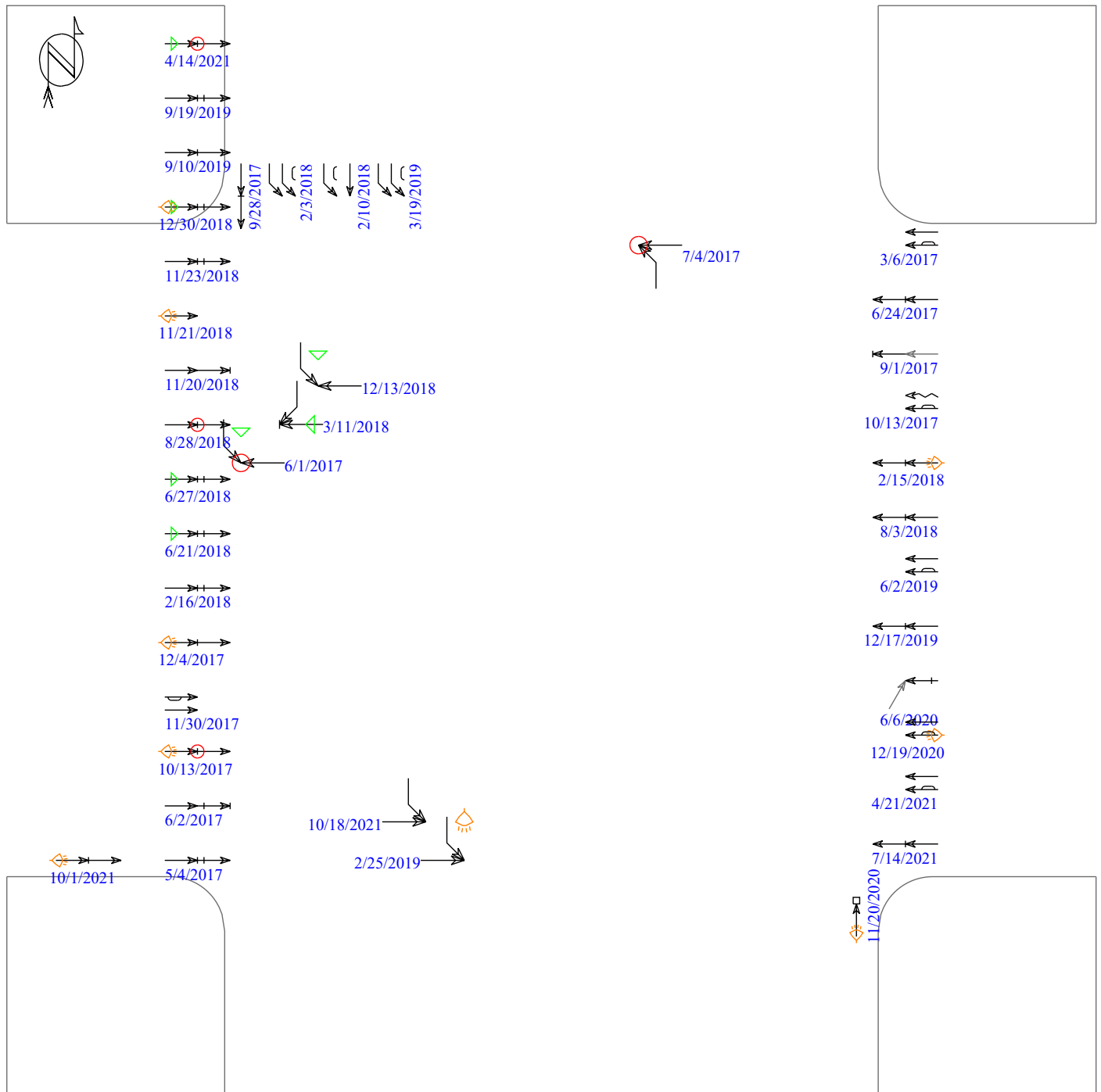
3rd vehicle
 Extra data

Crash Magic Online 6/9/2022

Grover Ave and IA 122, Collision Diagram, 2017-2021

40 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 ⊗ Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General
☒ Signal
☒ Tree
☒ Pole
☒ Curb
☒ Animal

3rd vehicle
 Extra data

Crash Magic Online 4/19/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 19, 2022
Intersection: Grover Avenue and IA 122

Improvement

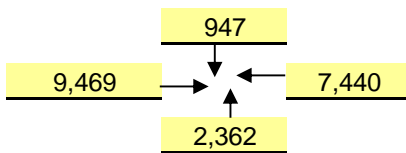
Proposed Improvement(s):

Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
\$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**
$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: IA 122 TEAP Study by Snyder and Associates, raw 13-hour 2019 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



7,379,570 Current Annual Entering Veh., **AEV** = DEV * 365

20,218 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

20,218 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

<u>2017</u> First full year -->	<u>2021</u> Last full year	5.0 years, Time Period, T
<u>0</u> Additional months		
<u>0</u> Fatal Crashes	0 Fatalities @	\$4,500,000 \$ -
	0 Major Injuries @	\$325,000 \$ -
<u>5</u> Injury Crashes	1 Minor Injuries @	\$65,000 \$ 65,000
	9 Possible Injuries @	\$35,000 \$ 315,000
<u>35</u> Property Damage Only	(assumed cost per crash)	\$7,400 \$ -
	-OR- enter all Property Costs of all crashes:	\$ 193,871
<u>40</u> Total Crashes, TA	Total \$ Loss, LOSS	\$ 573,871

8.00 Current Crashes / Year, **AA** = TA / T
\$ 14,347 Cost per Crash, **AVC** = LOSS / TA
- Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided Crashes, **BENEFIT**
- Crashes Avoided First Year **AAR** = AA x CRF / 100
\$ - Crash Costs Avoided in First Year, AAR x AVC
- Total Avoided Crashes, **TECR** x CRF / 100
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
Site Code :
Start Date : 8/28/2019
Page No : 1

Groups Printed- Cars+ - Heavy Vehicles

	Grover Ave SB						IA 122 WB					Grover Ave NB						IA 122 EB						
Start Time	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	Int. Total			
06:00 AM	0	0	0	0	0	2	41	1	0	44	1	0	0	0	1	2	40	5	0	47	92			
06:15 AM	2	0	4	0	6	2	29	1	0	32	7	0	2	0	9	0	34	4	1	39	86			
06:30 AM	2	2	5	0	9	5	71	2	0	78	6	2	0	0	8	3	62	8	0	73	168			
06:45 AM	2	0	1	0	3	1	75	3	0	79	11	0	5	0	16	1	67	19	0	87	185			
Total	6	2	10	0	18	10	216	7	0	233	25	2	7	0	34	6	203	36	1	246	531			
07:00 AM	8	1	2	0	11	5	86	6	0	97	9	3	4	0	16	3	65	12	0	80	204			
07:15 AM	5	2	6	0	13	4	87	4	0	95	18	1	2	0	21	2	61	11	0	74	203			
07:30 AM	6	3	8	0	17	3	125	7	0	135	19	2	7	0	28	3	93	12	0	108	288			
07:45 AM	10	1	9	0	20	6	139	2	0	147	26	3	3	0	32	8	120	16	0	144	343			
Total	29	7	25	0	61	18	437	19	0	474	72	9	16	0	97	16	339	51	0	406	1038			
08:00 AM	4	0	11	0	15	3	97	7	0	107	5	5	8	0	18	4	95	22	0	121	261			
08:15 AM	12	3	6	0	21	7	92	3	0	102	21	5	5	0	31	7	110	17	0	134	288			
08:30 AM	9	2	5	0	16	5	99	6	0	110	16	1	3	0	20	5	106	22	0	133	279			
08:45 AM	7	1	7	0	15	7	99	5	0	111	12	3	4	0	19	7	116	13	0	136	281			
Total	32	6	29	0	67	22	387	21	0	430	54	14	20	0	88	23	427	74	0	524	1109			
09:00 AM	4	5	9	0	18	7	102	5	0	114	22	1	3	0	26	12	100	26	0	138	296			
09:15 AM	8	2	7	0	17	11	124	5	0	140	28	2	3	0	33	4	151	20	0	175	365			
09:30 AM	5	3	5	0	13	11	118	7	0	136	25	4	6	0	35	10	143	24	0	177	361			
09:45 AM	11	5	6	0	22	6	134	6	0	146	28	6	9	0	43	6	109	24	0	139	350			
Total	28	15	27	0	70	35	478	23	0	536	103	13	21	0	137	32	503	94	0	629	1372			
10:00 AM	4	6	5	0	15	2	109	4	0	115	26	3	9	0	38	6	164	24	0	194	362			
10:15 AM	8	6	4	0	18	7	130	7	0	144	20	6	9	0	35	12	158	34	1	205	402			
10:30 AM	6	4	3	0	13	17	133	9	0	159	32	3	7	0	42	11	148	15	0	174	388			
10:45 AM	3	0	8	0	11	4	138	6	0	148	40	7	8	0	55	6	185	34	0	225	439			
Total	21	16	20	0	57	30	510	26	0	566	118	19	33	0	170	35	655	107	1	798	1591			
11:00 AM	3	6	9	0	18	14	141	7	0	162	36	5	5	0	46	14	154	31	0	199	425			
11:15 AM	4	4	7	0	15	10	157	5	0	172	37	8	5	0	50	6	156	38	0	200	437			
11:30 AM	13	5	9	0	27	14	146	9	0	169	37	7	13	0	57	12	192	29	0	233	486			
11:45 AM	10	4	7	0	21	20	157	13	0	190	33	11	12	0	56	18	185	42	0	245	512			
Total	30	19	32	0	81	58	601	34	0	693	143	31	35	0	209	50	687	140	0	877	1860			
12:00 PM	12	6	8	0	26	23	149	13	0	185	38	15	19	0	72	26	206	36	0	268	551			
12:15 PM	7	6	11	0	24	26	154	19	0	199	38	6	17	0	61	28	178	35	0	241	525			
12:30 PM	10	4	14	0	28	14	152	13	0	179	32	11	15	0	58	9	180	36	0	225	490			
12:45 PM	5	9	16	0	30	19	152	5	0	176	48	9	16	0	73	9	171	37	1	218	497			
Total	34	25	49	0	108	82	607	50	0	739	156	41	67	0	264	72	735	144	1	952	2063			
01:00 PM	13	6	8	0	27	14	130	10	0	154	48	8	19	0	75	13	170	31	1	215	471			
01:15 PM	13	4	15	0	32	6	173	6	0	185	51	4	7	0	62	7	185	33	0	225	504			
01:30 PM	12	4	10	0	26	15	119	18	0	152	49	9	12	0	70	10	183	26	0	219	467			
01:45 PM	8	6	11	0	25	6	148	6	0	160	54	7	17	0	78	11	188	28	0	227	490			
Total	46	20	44	0	110	41	570	40	0	651	202	28	55	0	285	41	726	118	1	886	1932			
02:00 PM	5	6	8	0	19	11	143	7	3	164	36	3	11	0	50	14	188	23	1	226	459			
02:15 PM	6	0	14	0	20	10	151	8	0	169	43	4	7	0	54	9	154	22	0	185	428			
02:30 PM	9	9	6	0	24	7	173	11	0	191	32	6	2	0	40	8	168	30	0	206	461			
02:45 PM	8	3	7	0	18	6	144	6	0	156	52	7	14	0	73	6	164	32	0	202	449			
Total	28	18	35	0	81	34	611	32	3	680	163	20	34	0	217	37	674	107	1	819	1797			
03:00 PM	7	6	7	0	20	15	165	5	3	188	31	7	5	0	43	3	148	45	0	196	447			
03:15 PM	2	3	8	0	13	11	117	3	0	131	44	5	4	0	53	5	189	35	0	229	426			
03:30 PM	6	7	5	0	18	10	186	4	0	200	50	6	10	0	66	9	192	40	0	241	525			
03:45 PM	10	2	7	0	19	17	140	11	0	168	40	10	10	0	60	10	199	41	0	250	497			
Total	25	18	27	0	70	53	608	23	3	687	165	28	29	0	222	27	728	161	0	916	1895			
04:00 PM	6	5	8	0	19	8	157	11	0	176	46	7	3	0	56	4	207	32	0	243	494			

Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
Site Code :
Start Date : 8/28/2019
Page No : 2

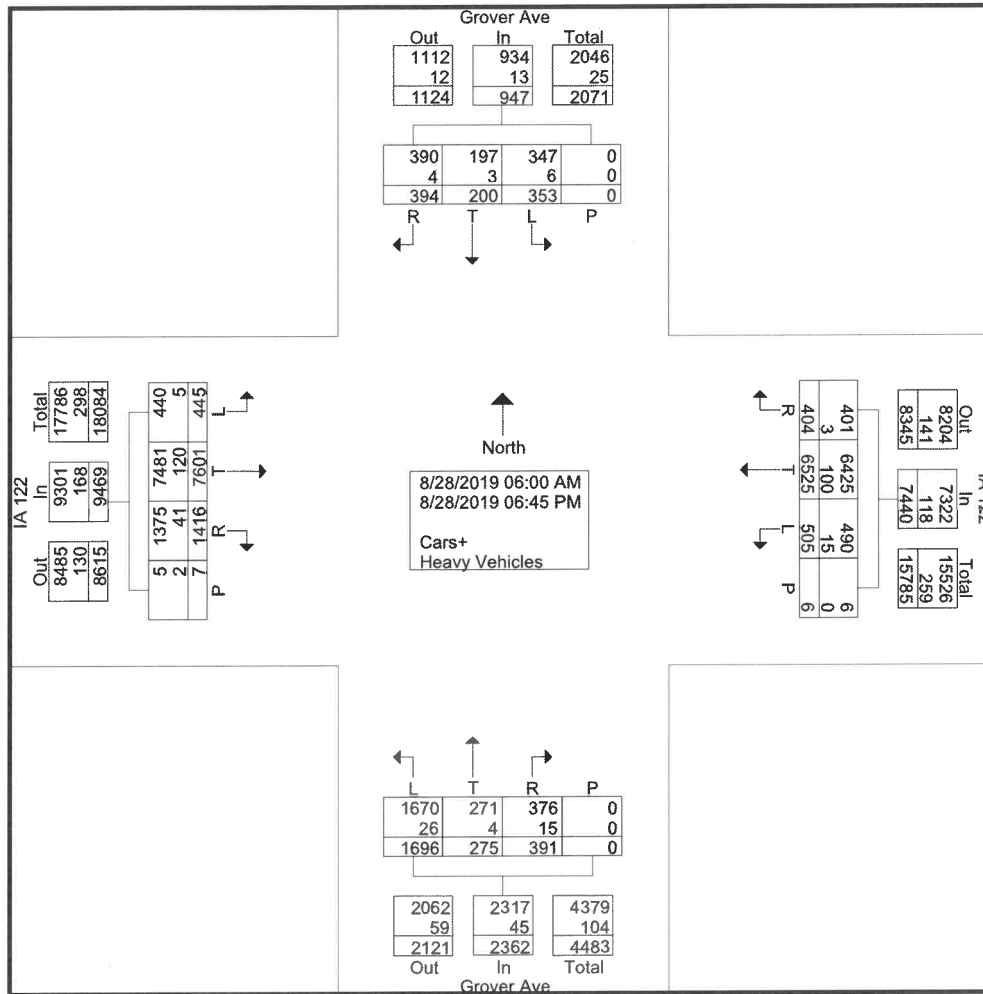
Groups Printed- Cars+ - Heavy Vehicles

	Grover Ave SB					IA 122 WB					Grover Ave NB					IA 122 EB					
Start Time	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	Int. Total
04:15 PM	4	2	6	0	12	12	135	9	0	156	43	10	8	0	61	6	209	37	0	252	481
04:30 PM	4	5	8	0	17	10	145	11	0	166	45	4	6	0	55	6	219	43	0	268	506
04:45 PM	8	4	6	0	18	11	132	12	0	155	42	6	7	0	55	9	189	54	1	253	481
Total	22	16	28	0	66	41	569	43	0	653	176	27	24	0	227	25	824	166	1	1016	1962
05:00 PM	8	5	9	0	22	15	134	11	0	160	53	5	6	0	64	11	189	40	1	241	487
05:15 PM	11	6	3	0	20	10	138	12	0	160	52	2	8	0	62	11	173	36	0	220	462
05:30 PM	11	3	17	0	31	12	155	15	0	182	49	10	12	0	71	15	151	26	0	192	476
05:45 PM	3	6	6	0	15	9	116	9	0	134	34	6	6	0	46	14	138	31	0	183	378
Total	33	20	35	0	88	46	543	47	0	636	188	23	32	0	243	51	651	133	1	836	1803
06:00 PM	4	5	10	0	19	14	107	3	0	124	38	4	6	0	48	10	137	17	0	164	355
06:15 PM	9	4	5	0	18	7	106	21	0	134	38	3	7	0	48	8	106	24	0	138	338
06:30 PM	1	2	11	0	14	7	97	6	0	110	26	6	3	0	35	5	108	19	0	132	291
06:45 PM	5	7	7	0	19	7	78	9	0	94	29	7	2	0	38	7	98	25	0	130	281
Total	19	18	33	0	70	35	388	39	0	462	131	20	18	0	169	30	449	85	0	564	1265
Grand Total	353	200	394	0	947	505	6525	404	6	7440	1696	275	391	0	2362	445	7601	1416	7	9469	20218
Apprch %	37.3	21.1	41.6	0		6.8	87.7	5.4	0.1		71.8	11.6	16.6	0		4.7	80.3	15	0.1		
Total %	1.7	1	1.9	0	4.7	2.5	32.3	2	0	36.8	8.4	1.4	1.9	0	11.7	2.2	37.6	7	0	46.8	
Cars+	347	197	390	0	934	490	6425	401	6	7322	1670	271	376	0	2317	440	7481	1375	5	9301	19874
% Cars+	98.3	98.5	99	0	98.6	97	98.5	99.3	100	98.4	98.5	98.5	96.2	0	98.1	98.9	98.4	97.1	71.4	98.2	98.3
Heavy Vehicles	6	3	4	0	13	15	100	3	0	118	26	4	15	0	45	5	120	41	2	168	344
% Heavy Vehicles	1.7	1.5	1	0	1.4	3	1.5	0.7	0	1.6	1.5	1.5	3.8	0	1.9	1.1	1.6	2.9	28.6	1.8	1.7

Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
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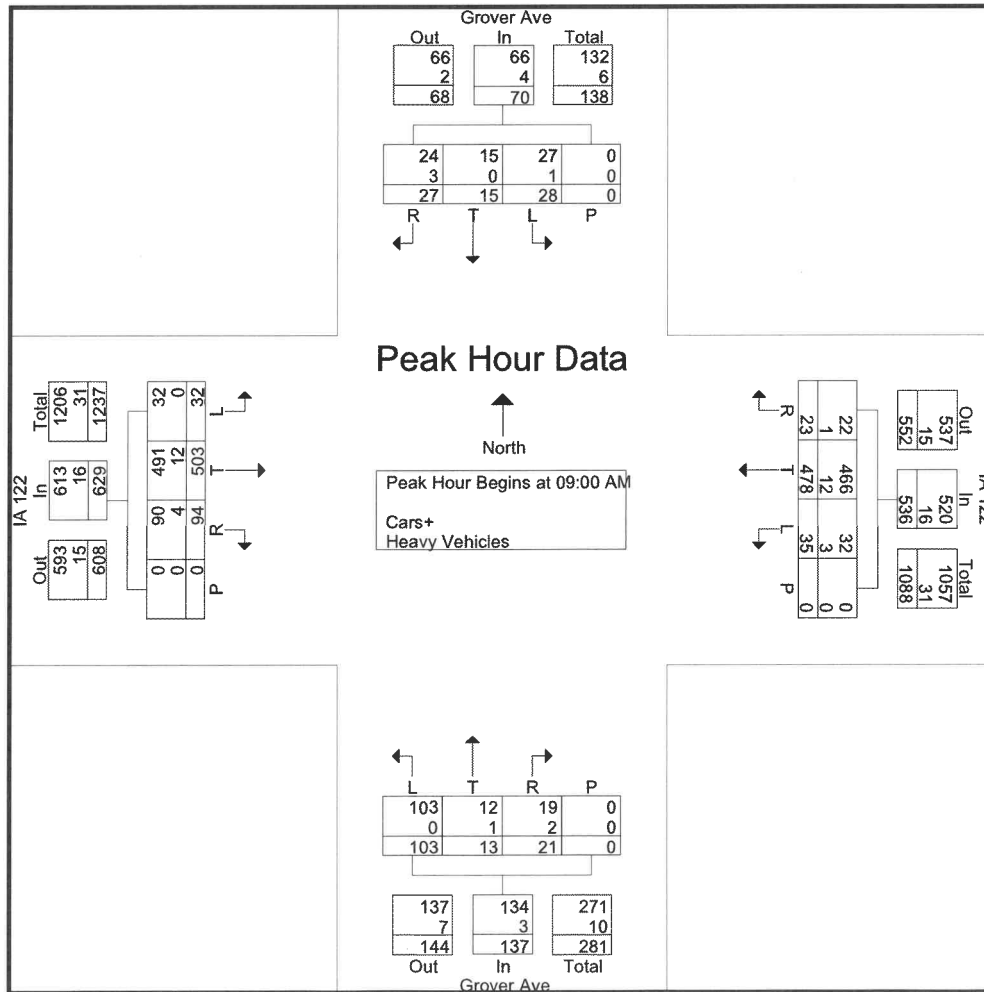


Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
Site Code :
Start Date : 8/28/2019
Page No : 4

	Grover Ave SB					IA 122 WB					Grover Ave NB					IA 122 EB					
Start Time	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 AM																					
09:00 AM	4	5	9	0	18	7	102	5	0	114	22	1	3	0	26	12	100	26	0	138	296
09:15 AM	8	2	7	0	17	11	124	5	0	140	28	2	3	0	33	4	151	20	0	175	365
09:30 AM	5	3	5	0	13	11	118	7	0	136	25	4	6	0	35	10	143	24	0	177	361
09:45 AM	11	5	6	0	22	6	134	6	0	146	28	6	9	0	43	6	109	24	0	139	350
Total Volume	28	15	27	0	70	35	478	23	0	536	103	13	21	0	137	32	503	94	0	629	1372
% App. Total	40	21.4	38.6	0		6.5	89.2	4.3	0		75.2	9.5	15.3	0		5.1	80	14.9	0		
PHF	.636	.750	.750	.000	.795	.795	.892	.821	.000	.918	.920	.542	.583	.000	.797	.667	.833	.904	.000	.888	.940
Cars+	27	15	24	0	66	32	466	22	0	520	103	12	19	0	134	32	491	90	0	613	1333
% Cars+	96.4	100	88.9	0	94.3	91.4	97.5	95.7	0	97.0	100	92.3	90.5	0	97.8	100	97.6	95.7	0	97.5	97.2
Heavy Vehicles	1	0	3	0	4	3	12	1	0	16	0	1	2	0	3	0	12	4	0	16	39
% Heavy Vehicles	3.6	0	11.1	0	5.7	8.6	2.5	4.3	0	3.0	0	7.7	9.5	0	2.2	0	2.4	4.3	0	2.5	2.8

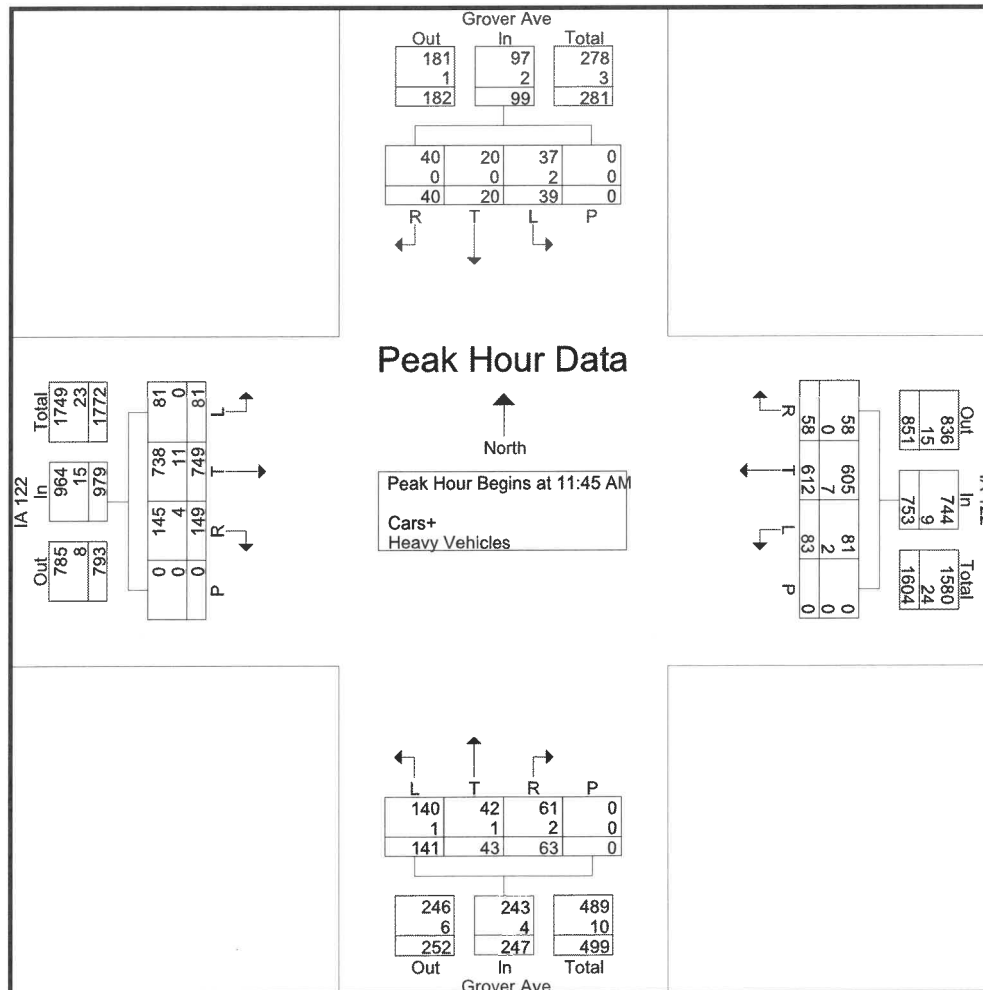


Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
Site Code :
Start Date : 8/28/2019
Page No : 5

	Grover Ave SB					IA 122 WB					Grover Ave NB					IA 122 EB					
Start Time	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	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 11:45 AM																					
11:45 AM	10	4	7	0	21	20	157	13	0	190	33	11	12	0	56	18	185	42	0	245	512
12:00 PM	12	6	8	0	26	23	149	13	0	185	38	15	19	0	72	26	206	36	0	268	551
12:15 PM	7	6	11	0	24	26	154	19	0	199	38	6	17	0	61	28	178	35	0	241	525
12:30 PM	10	4	14	0	28	14	152	13	0	179	32	11	15	0	58	9	180	36	0	225	490
Total Volume	39	20	40	0	99	83	612	58	0	753	141	43	63	0	247	81	749	149	0	979	2078
% App. Total	39.4	20.2	40.4	0		11	81.3	7.7	0		57.1	17.4	25.5	0		8.3	76.5	15.2	0		
PHF	.813	.833	.714	.000	.884	.798	.975	.763	.000	.946	.928	.717	.829	.000	.858	.723	.909	.887	.000	.913	.943
Cars+	37	20	40	0	97	81	605	58	0	744	140	42	61	0	243	81	738	145	0	964	2048
% Cars+	94.9	100	100	0	98.0	97.6	98.9	100	0	98.8	99.3	97.7	96.8	0	98.4	100	98.5	97.3	0	98.5	98.6
Heavy Vehicles	2	0	0	0	2	2	7	0	0	9	1	1	2	0	4	0	11	4	0	15	30
% Heavy Vehicles	5.1	0	0	0	2.0	2.4	1.1	0	0	1.2	0.7	2.3	3.2	0	1.6	0	1.5	2.7	0	1.5	1.4

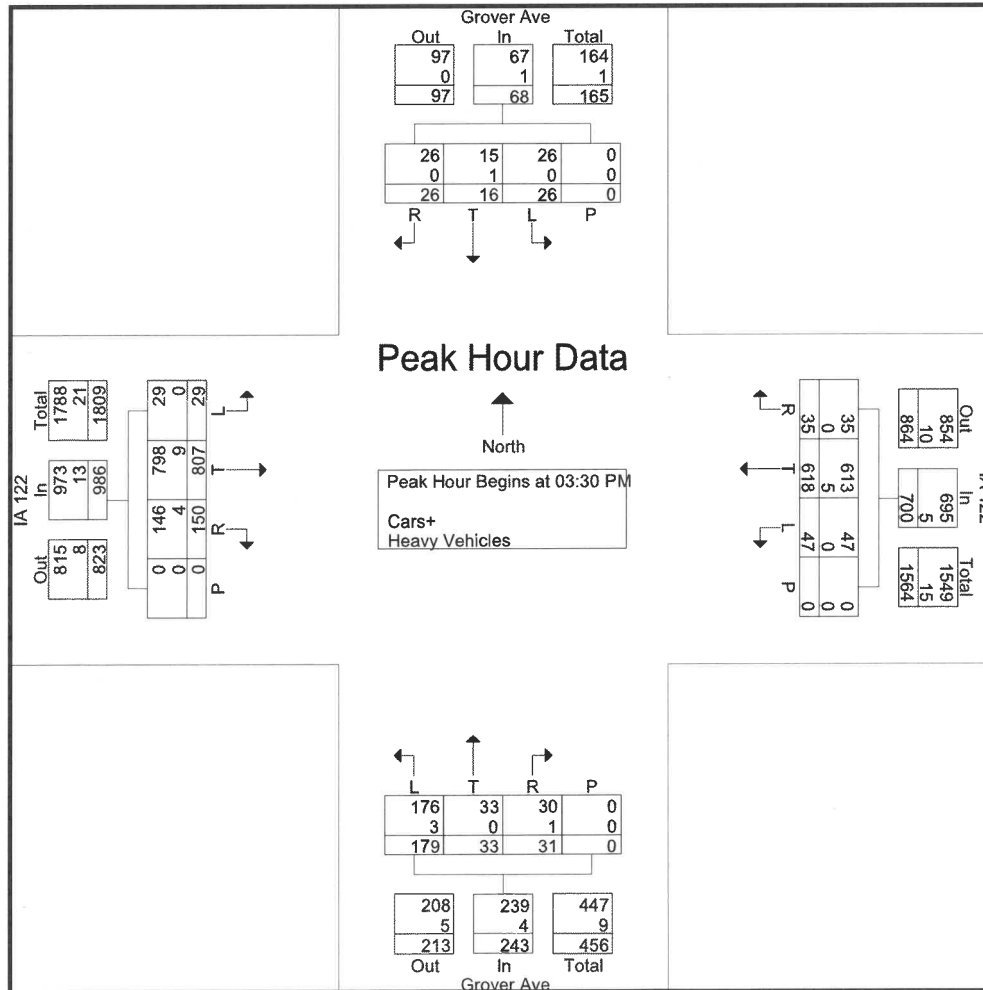


Turning Movement Count Summary

IA 122 & Grover Ave
Mason City, IA
115.1000.01M
Iowa DOT TEAP Study

File Name : IA 122_GroverAve_20190828_13HR
Site Code :
Start Date : 8/28/2019
Page No : 6

	Grover Ave SB					IA 122 WB					Grover Ave NB					IA 122 EB					
Start Time	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	L	T	R	P	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	6	7	5	0	18	10	186	4	0	200	50	6	10	0	66	9	192	40	0	241	525
03:45 PM	10	2	7	0	19	17	140	11	0	168	40	10	10	0	60	10	199	41	0	250	497
04:00 PM	6	5	8	0	19	8	157	11	0	176	46	7	3	0	56	4	207	32	0	243	494
04:15 PM	4	2	6	0	12	12	135	9	0	156	43	10	8	0	61	6	209	37	0	252	481
Total Volume	26	16	26	0	68	47	618	35	0	700	179	33	31	0	243	29	807	150	0	986	1997
% App. Total	38.2	23.5	38.2	0		6.7	88.3	5	0		73.7	13.6	12.8	0		2.9	81.8	15.2	0		
PHF	.650	.571	.813	.000	.895	.691	.831	.795	.000	.875	.895	.825	.775	.000	.920	.725	.965	.915	.000	.978	.951
Cars+	26	15	26	0	67	47	613	35	0	695	176	33	30	0	239	29	798	146	0	973	1974
% Cars+	100	93.8	100	0	98.5	100	99.2	100	0	99.3	98.3	100	96.8	0	98.4	100	98.9	97.3	0	98.7	98.8
Heavy Vehicles	0	1	0	0	1	0	5	0	0	5	3	0	1	0	4	0	9	4	0	13	23
% Heavy Vehicles	0	6.3	0	0	1.5	0	0.8	0	0	0.7	1.7	0	3.2	0	1.6	0	1.1	2.7	0	1.3	1.2





Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity	40	Injury Status Summary	10
Fatal Crash	0	Fatalities	0
Suspected Serious Injury Crash	0	Suspected serious/incapacitating	0
Suspected Minor Injury Crash	1	Suspected minor/non-incapacitating	1
Possible/Unknown Injury Crash	4	Possible (complaint of pain/injury)	9
Property Damage Only	35	Unknown	0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	193,871.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	4,846.78	Fatalities/Crash:	0.00
Total Vehicles:	86.00	Injuries/Crash:	0.25
Average (per crash):	2.15	Major Injuries/Crash:	0.00
Total Occupants:	120.00	Minor Injuries/Crash:	0.03
Average (per crash):	3.00	Possible/Unknown Injuries/Crash:	0.23





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		37
Animal	0 Ran traffic signal	4
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	1 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	2
Operating vehicle in an reckless, erratic, ca...	1 Followed too close	8
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...	1
Driver Distraction: Inattentive/lost in thou...	2 Driver Distraction: Other interior distracti...	1
Driver Distraction: Exterior distraction	0 Ran off road - right	1
Ran off road - straight	0 Ran off road - left	0
Lost control	4 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	8
Unknown	4 Not reported	0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	1	0	0	1	0	0	3
Monday	0	0	0	0	0	1	0	1	1	1	0	0	0	4
Tuesday	0	0	0	0	1	1	1	3	0	0	0	0	0	6
Wednesday	0	0	1	0	0	1	1	1	0	0	1	0	0	5
Thursday	0	0	0	0	2	2	1	0	2	1	0	0	0	8
Friday	0	0	0	0	0	1	3	1	1	1	1	1	0	9
Saturday	0	0	0	0	0	1	2	1	0	1	0	0	0	5
Total	0	0	1	0	3	8	8	8	4	4	3	1	0	40

Manner of Crash Collision	40	Surface Conditions	40
Non-collision (single vehicle)	2	Dry	26
Head-on (front to front)	0	Wet	13
Rear-end (front to rear)	23	Ice/frost	0
Angle, oncoming left turn	0	Snow	1
Broadside (front to side)	5	Slush	0
Sideswipe, same direction	9	Mud, dirt	0
Sideswipe, opposite direction	0	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	0	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	1	Other	0
		Unknown	0

Fixed Object Struck	86
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	0
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	1
Building	0
None (no fixed object struck)	85



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	2
= 17	1	0	0	0	1
= 18	1	1	0	0	2
= 19	1	1	0	0	2
= 20	3	1	0	0	4
>= 21 and <= 24	2	2	0	0	4
>= 25 and <= 29	2	6	1	0	9
>= 30 and <= 34	5	4	0	0	9
>= 35 and <= 39	3	1	0	0	4
>= 40 and <= 44	3	4	0	0	7
>= 45 and <= 49	4	2	0	0	6
>= 50 and <= 54	4	3	1	0	8
>= 55 and <= 59	3	2	0	0	5
>= 60 and <= 64	2	1	0	0	3
>= 65 and <= 69	5	2	0	0	7
>= 70 and <= 74	2	2	0	0	4
>= 75 and <= 79	1	1	0	0	2
>= 80 and <= 84	1	2	0	0	3
>= 85 and <= 89	1	0	0	0	1
>= 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	45	36	2	0	83

Alcohol Test Given	86
None	81
Blood	0
Urine	0
Breath	1
Vitreous	0
Refused	1
Not reported	3

Drug Test Given	86
None	83
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	3

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	40
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	1
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	1
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	38

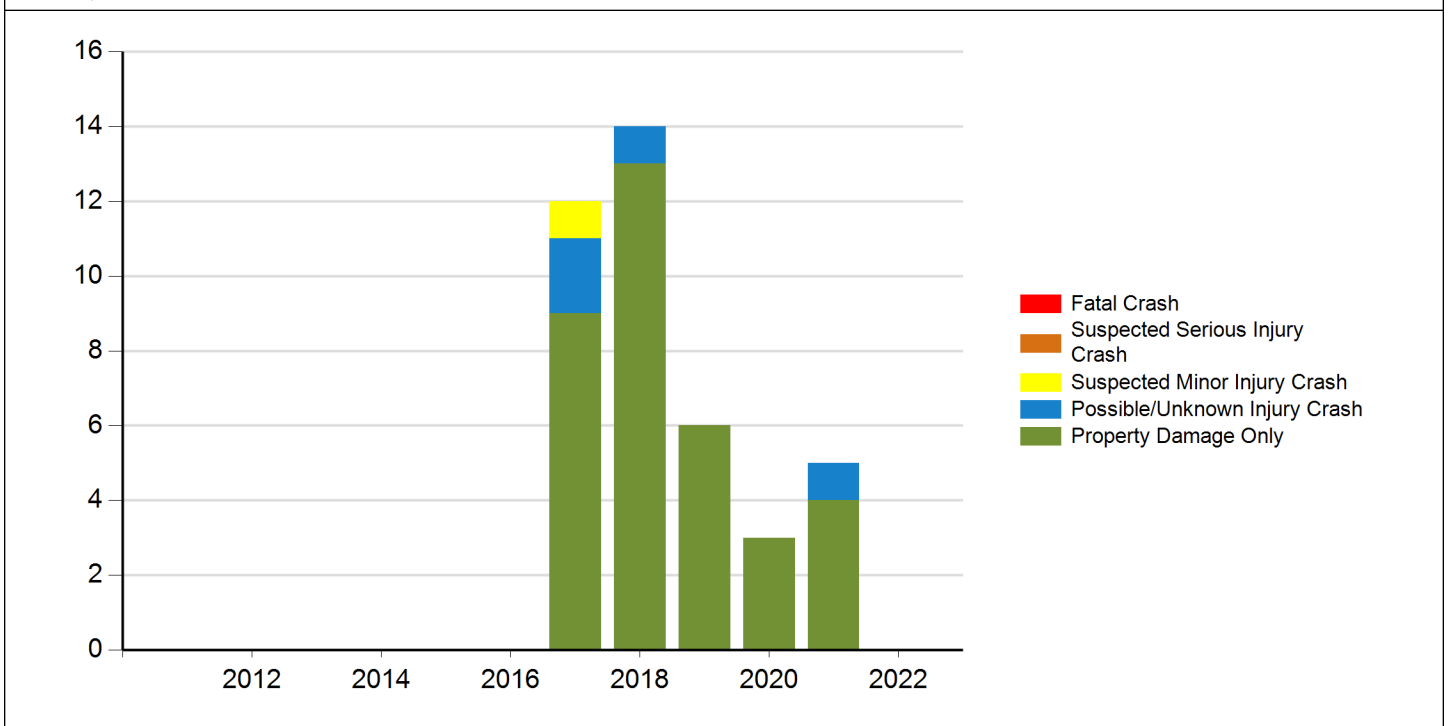


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	2	9	12
2018	0	0	0	1	13	14
2019	0	0	0	0	6	6
2020	0	0	0	0	3	3
2021	0	0	0	1	4	5
2022	0	0	0	0	0	0
Total	0	0	1	4	35	40

Severity/Year



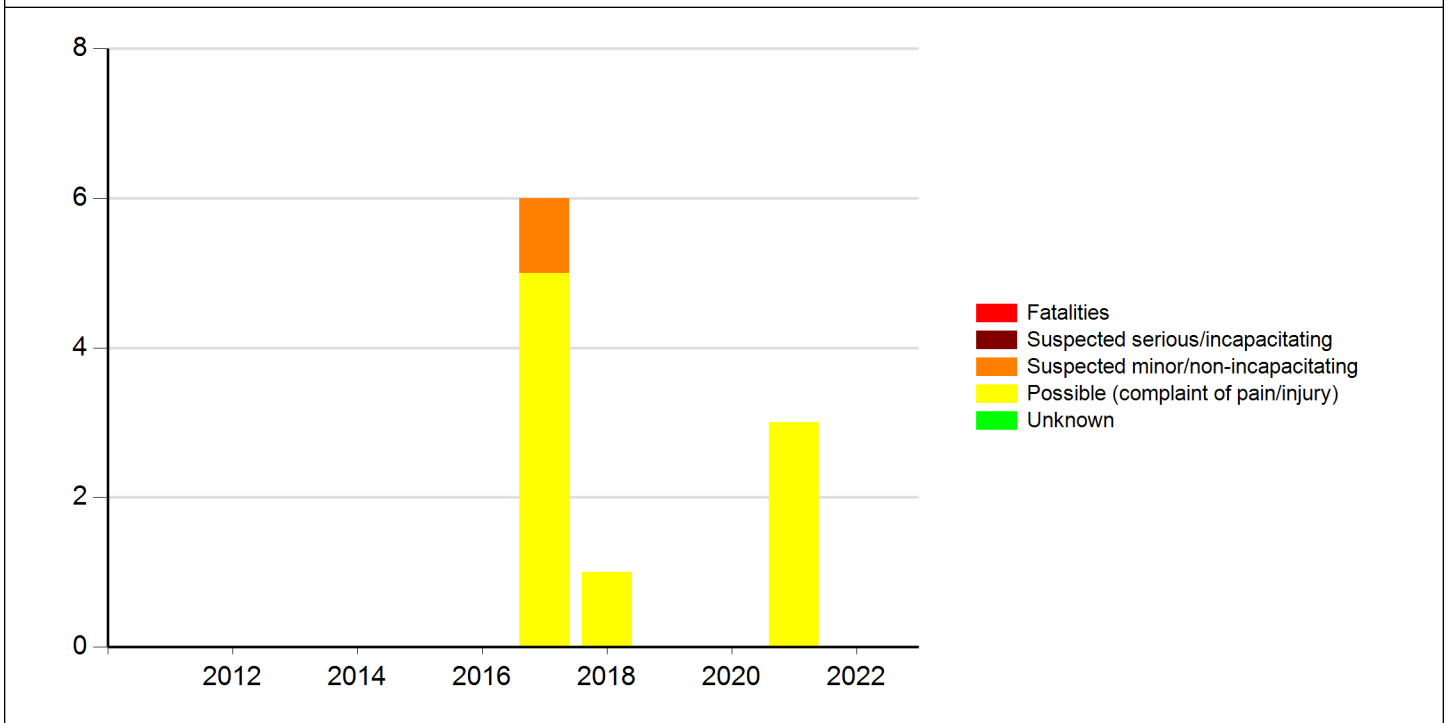


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	5	0	6
2018	0	0	0	1	0	1
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	3	0	3
2022	0	0	0	0	0	0
Total	0	0	1	9	0	10

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

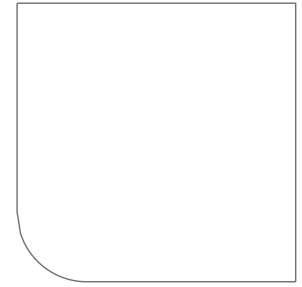
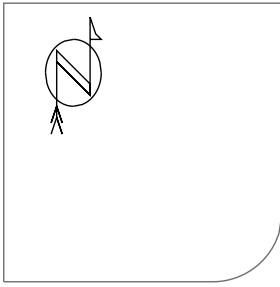
Analyst Information

Grover Avenue and IA 122 in Mason City
2017-2021 Crash History

Ashley Furniture Right-In/Right-Out Collision Diagram

5 Crashes

Clear



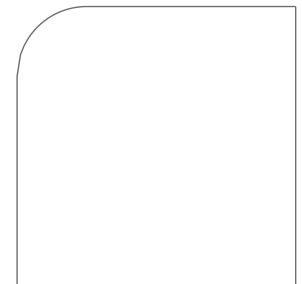
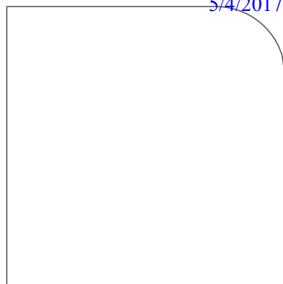
6/2/2019

8/22/2019

10/5/2019

11/30/2017

5/4/2017



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 ✂ Bicycle
 ○ Injury
 ● Fatality
 Nighttime
 DUI

Fixed objects:

☐ General ☒ Pole
☒ Signal ☒ Curb
☒ Tree ☒ Animal

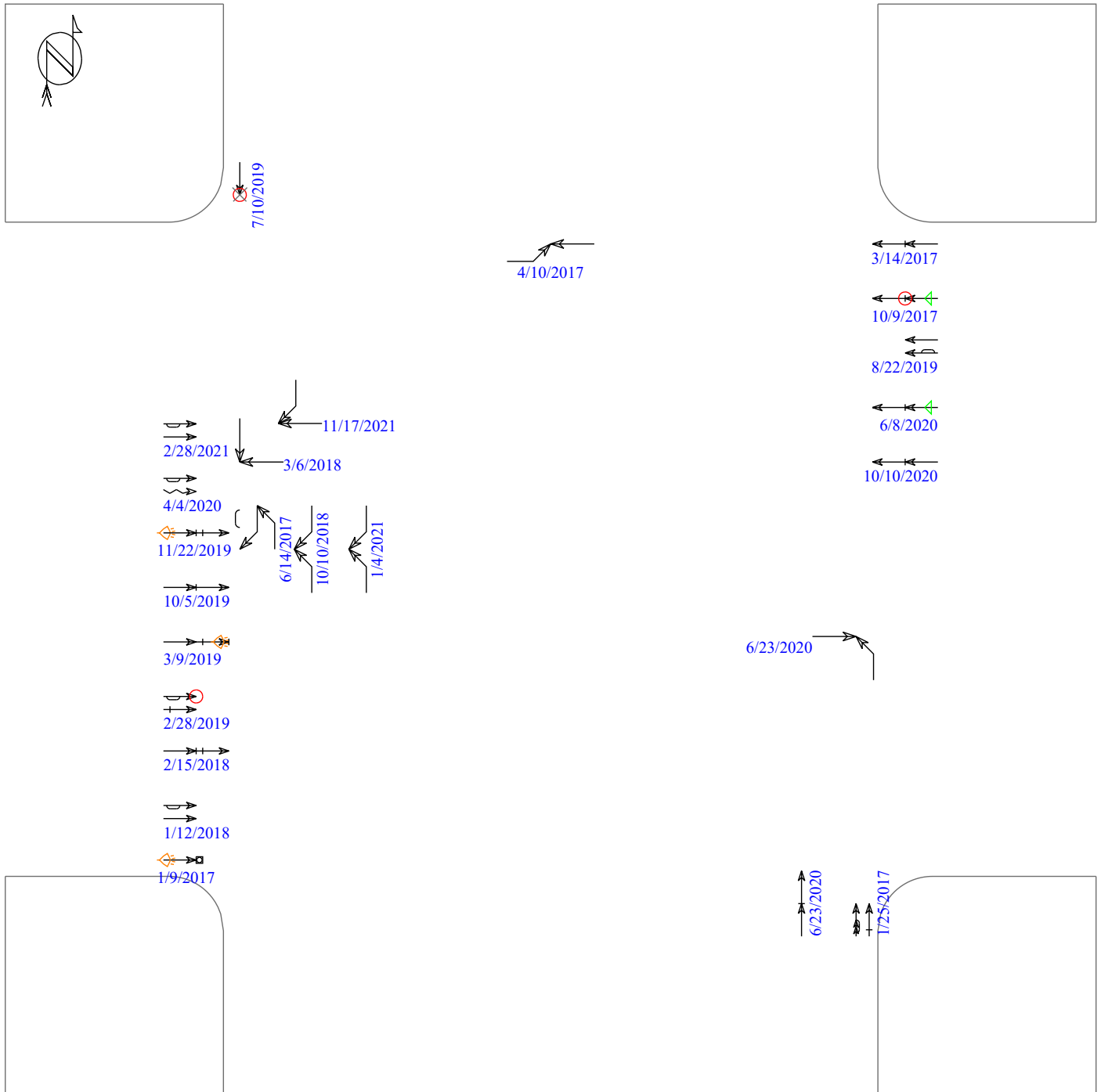
3rd vehicle
 Extra data

Crash Magic Online 6/9/2022

Winnebago/Cerro Gordo Way and IA 122, 2017-2021 Collision Diagram

24 Crashes

Clear



← Straight
 ←+ Stopped
 ← Unknown
 ↔ Backing
 ↔ Overtaking
 ← Sideswipe

Parked
 Erratic
 Out of control
 Right turn
 Left turn
 U-turn

× Pedestrian
 Bicycle
 Injury
 Fatality
 Nighttime
 DUI

Fixed objects:

☐ General ☒ Pole
☒ Signal ☒ Curb
☒ Tree ☒ Animal

3rd vehicle
 Extra data

Crash Magic Online 4/20/2022

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 5/18

Iowa DOT Office of Traffic & Safety

County: Cerro Gordo Prepared by: D. Little Date Prepared: Apr 20, 2022
 Intersection: Winnebago and Cerro Gordo Way and IA 122 in Mason City

Improvement

Proposed Improvement(s):

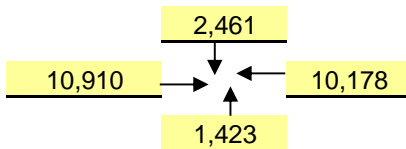
Estimated Improvement Cost, **EC** Estimated Service Life, years, **Y**
 Other Annual Cost (after initial year), **AC** Crash Reduction Factor (integer), **CRF**
 \$ - Present Value Other Annual Costs, **OC** 4.0% Discount Rate (time value of \$), **INT**

$$OC = \frac{AC}{INT} \left(1 - \frac{1}{(1 + INT)^Y} \right)$$
 \$ - Present Value Cost, **COST** = EC + OC

Traffic Volume Data

Source: Iowa DOT Turning Movements 2013 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)



9,114,780 Current Annual Entering Veh., **AEV** = DEV * 365

24,972 veh / day, Final Year DEV, **FDEV**

- MEV, Total Million Entering Veh. Over life of Project, **TMEV**

1.0% Projected Traffic Growth (0%-10%), **G**

24,972 Current Daily Entering Vehicles, **DEV**

$$TMEV = \frac{AEV}{-G} \left(1 - \left(\frac{1+G}{1} \right)^Y \right) / 10^6$$

Crash Data

2017 First full year --> 2021 Last full year 5.0 years, Time Period, **T**

Additional months

<u>0</u> Fatal Crashes	→	<u>0</u> Fatalities @	\$4,500,000	\$	-
		<u>0</u> Major Injuries @	\$325,000	\$	-
<u>3</u> Injury Crashes	→	<u>0</u> Minor Injuries @	\$65,000	\$	-
		<u>3</u> Possible Injuries @	\$35,000	\$	105,000
<u>21</u> Property Damage Only		(assumed cost per crash)	\$7,400	\$	-
		-OR- enter all Property Costs of all crashes:	\$	116,112	
<u>24</u> Total Crashes, TA		Total \$ Loss, LOSS	\$	221,112	

4.80 Current Crashes / Year, **AA** = TA / T 0.53 Crashes / MEV, Crash Rate, **CR**
 \$ 9,213 Cost per Crash, **AVC** = LOSS / TA CR = TA x 10^6 / (DEV x 365 x T)
 - Total Expected Crashes, **TECR** = CR x TMEV \$ - Present Value of Avoided
 - Crashes Avoided First Year **AAR** = AA x CRF / 100 Crashes, **BENEFIT**
 \$ - Crash Costs Avoided in First Year, AAR x AVC
 - Total Avoided Crashes, **TECR** x CRF / 100
$$BEN = \frac{AVC \times AAR}{(INT - G)} \left(1 - \left(\frac{1+G}{1+INT} \right)^Y \right)$$

Benefit / Cost Ratio

Benefit : Cost = \$0 : \$0 = - : 1

Iowa Department of Transportation

Turning Movement Traffic Count Summary

Annualized Daily Traffic For All Vehicles

Station Number:

17337426099

Count Date:

Wednesday, June 05, 2013

County:

Cerro Gordo

Location Description:

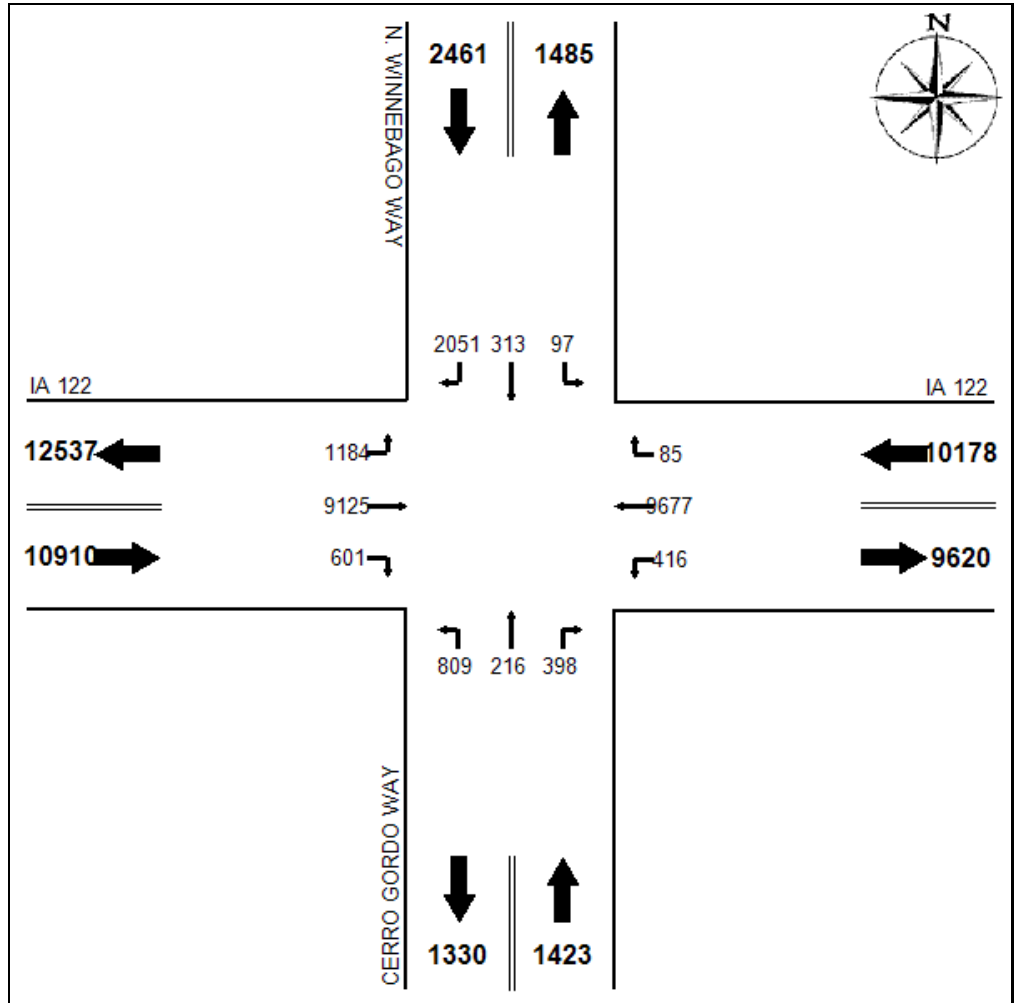
IA 122, Winnebago Way &
Cerro Gordo Way

Volume Factor: 1.841

Pass Class Factor: 1.866

SU Class Factor: 1.579

Combo Class Factor: 1.538



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	6	17	87	15	355	2	28	8	11	48	523	36
08:00	4	14	126	16	490	6	31	6	16	44	495	26
11:00	13	16	154	29	796	13	76	12	35	86	740	50
12:00	8	29	150	63	969	4	74	24	53	102	871	62
15:00	6	33	166	29	875	8	74	23	27	117	808	48
16:00	10	29	225	41	960	6	82	22	41	144	753	59
17:00	5	30	195	30	760	7	69	21	31	95	720	42



Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity		24	Injury Status Summary		3
Fatal Crash		0	Fatalities		0
Suspected Serious Injury Crash		0	Suspected serious/incapacitating		0
Suspected Minor Injury Crash		0	Suspected minor/non-incapacitating		0
Possible/Unknown Injury Crash		3	Possible (complaint of pain/injury)		3
Property Damage Only		21	Unknown		0

Property/Vehicles/Occupants		Average Severity	
Property Damage Total (dollars):	116,112.00	Fatalities/Fatal Crash:	0.00
Average (per crash dollars):	4,838.00	Fatalities/Crash:	0.00
Total Vehicles:	49.00	Injuries/Crash:	0.13
Average (per crash):	2.04	Major Injuries/Crash:	0.00
Total Occupants:	70.00	Minor Injuries/Crash:	0.00
Average (per crash):	2.92	Possible/Unknown Injuries/Crash:	0.13





Iowa Crash Analysis Tool
Quick Report
2017-2021

Major Cause		20
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 0
FTYROW: From stop sign	0	FTYROW: From yield sign 0
FTYROW: Making left turn	1	FTYROW: From driveway 0
FTYROW: From parked position	0	FTYROW: To pedestrian 1
FTYROW: Other	1	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 1
Aggressive driving/road rage	0	Driving too fast for conditions 1
Exceeded authorized speed	0	Improper or erratic lane changing 1
Operating vehicle in an reckless, erratic, ca...	1	Followed too close 4
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 2
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 3
Unknown	1	Not reported 0
Other: No improper action	0	



**Iowa Crash Analysis Tool
Quick Report
2017-2021**

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	1	0	0	0	0	0	1
Monday	0	0	0	0	0	2	0	0	2	0	1	0	0	5
Tuesday	0	0	0	0	0	2	0	1	1	0	0	0	0	4
Wednesday	0	0	0	0	1	2	0	2	0	0	0	0	0	5
Thursday	0	0	0	1	0	1	0	0	1	0	0	0	0	3
Friday	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Saturday	0	0	0	0	0	0	0	3	0	0	0	1	0	4
Total	0	0	0	1	1	7	1	7	5	0	1	1	0	24

Manner of Crash Collision	24	Surface Conditions	24
Non-collision (single vehicle)	2	Dry	14
Head-on (front to front)	1	Wet	5
Rear-end (front to rear)	9	Ice/frost	2
Angle, oncoming left turn	1	Snow	0
Broadside (front to side)	3	Slush	3
Sideswipe, same direction	6	Mud, dirt	0
Sideswipe, opposite direction	1	Water (standing or moving)	0
Rear to rear	0	Sand	0
Rear to side	1	Oil	0
Not reported	0	Gravel	0
Other	0	Not reported	0
Unknown	0	Other	0
		Unknown	0

Fixed Object Struck	49
Bridge overhead structure	0
Bridge/bridge rail parapet	0
Ditch	0
Ground	0
Guardrail - face	0
Concrete traffic barrier (median or right sid...	0
Cable barrier	0
Utility pole/light support	0
Traffic signal support	0
Fire hydrant	0
Tree	0
Snow bank	0
Wall	0
Other fixed object	0
Bridge pier or support	0
Curb/island/raised median	0
Embankment	0
Culvert/pipe opening	0
Guardrail - end	0
Other traffic barrier	0
Impact attenuator/crash cushion	0
Traffic sign support	1
Other post/pole/support	0
Mailbox	0
Landscape/shrubbery	0
Fence	0
Building	0
None (no fixed object struck)	48



Iowa Crash Analysis Tool
Quick Report
2017-2021

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	1	0	0	1
= 18	1	2	0	0	3
= 19	0	0	0	0	0
= 20	0	0	0	0	0
>= 21 and <= 24	1	5	0	0	6
>= 25 and <= 29	3	4	0	0	7
>= 30 and <= 34	3	0	0	0	3
>= 35 and <= 39	2	3	0	0	5
>= 40 and <= 44	1	3	0	0	4
>= 45 and <= 49	1	0	0	0	1
>= 50 and <= 54	0	2	0	0	2
>= 55 and <= 59	3	1	0	0	4
>= 60 and <= 64	3	2	0	0	5
>= 65 and <= 69	0	1	0	0	1
>= 70 and <= 74	4	0	0	0	4
>= 75 and <= 79	0	0	0	0	0
>= 80 and <= 84	1	0	0	0	1
>= 85 and <= 89	0	1	0	0	1
>= 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	23	25	0	0	48

Alcohol Test Given	49
None	47
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	1
Not reported	1

Drug Test Given	49
None	48
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

Drug Test Result	0
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	0
Other	0

Drug/Alcohol Related	24
Drug	0
Alcohol (< Statutory)	0
Alcohol (Statutory)	0
Drug and Alcohol (< Statutory)	0
Drug and Alcohol (Statutory)	0
Refused	1
Under Influence of Alcohol/Drugs/Medications	0
None Indicated	23

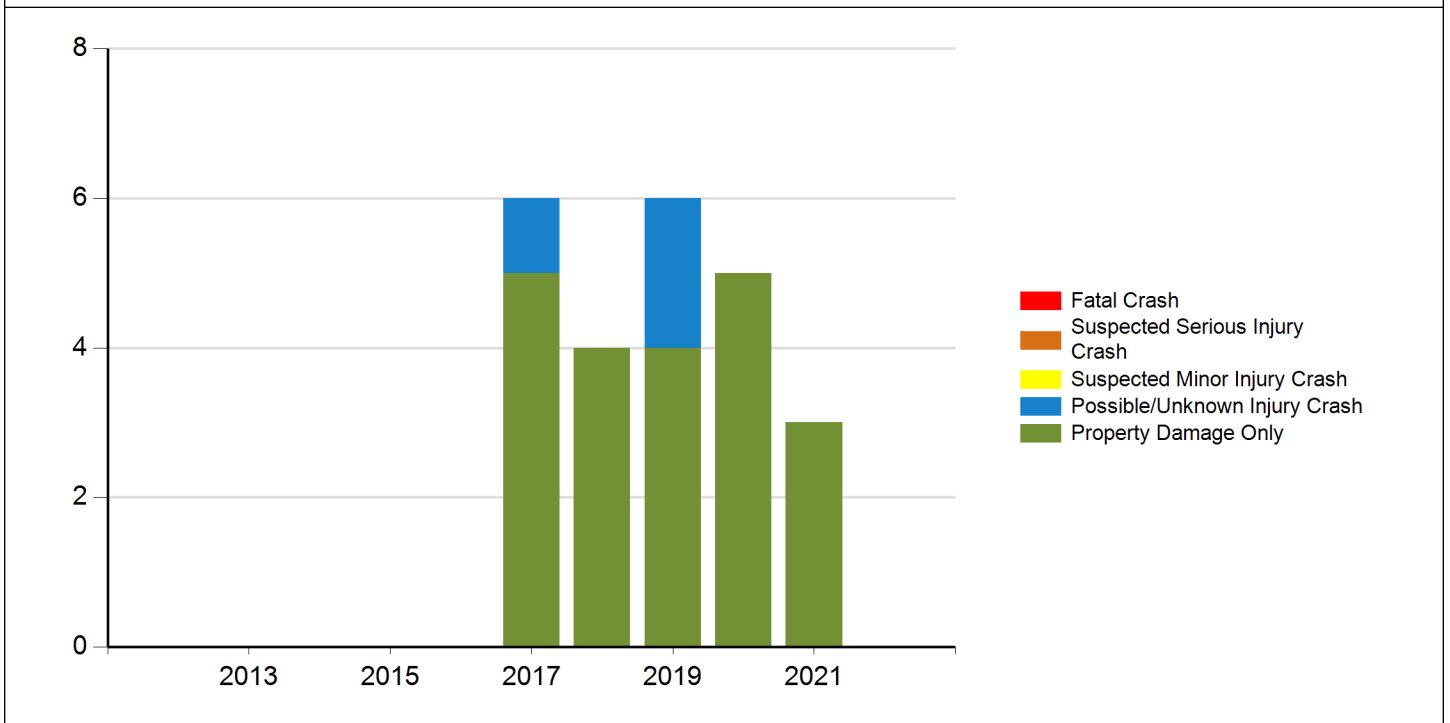


Iowa Crash Analysis Tool
Quick Report
2017-2021

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	Total
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	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	5	6
2018	0	0	0	0	4	4
2019	0	0	0	2	4	6
2020	0	0	0	0	5	5
2021	0	0	0	0	3	3
2022	0	0	0	0	0	0
Total	0	0	0	3	21	24

Severity/Year



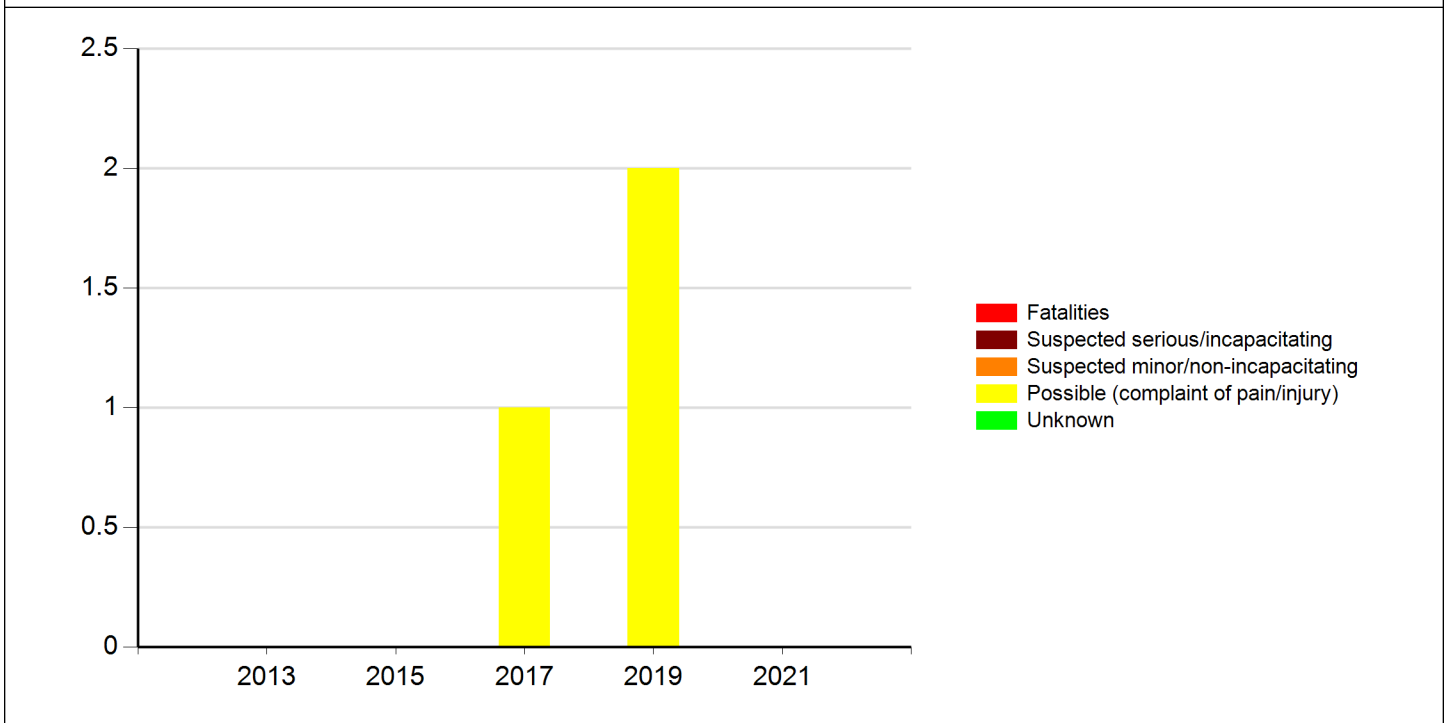


Iowa Crash Analysis Tool
Quick Report
2017-2021

Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
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	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	2	0	2
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
Total	0	0	0	3	0	3

Injury Status/Year





Iowa Crash Analysis Tool
Quick Report
2017-2021

Meeting the following criteria

Jurisdiction: Statewide
Year: 2017, 2018, 2019, 2020, 2021
Map Selection: Yes
Filter: None

Analyst Information

Winnebago Way/Cerro Gordo Way and IA 122 in Mason City
2017-2021 Crash History