TRAFFIC ENGINEERING ASSISTANCE PROGRAM

FINAL

City of Muscatine

Traffic and Safety TEAP Study

Prepared for:

Muscatine, IA

In Cooperation With:
Iowa Department of Transportation &
U.S. Department of Transportation
Federal Highway Administration

June 25, 2021

IOWA DOT

HRGreen

INFORMATION SHEET
IOWA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING ASSISTANCE PROGRAM

CITY OF MUSCATINE TRAFFIC AND SAFETY TEAP STUDY
June 25, 2021

1. Local Jurisdiction: Muscatine, IA

2. Reason TEAP Study Originated: The City of Muscatine requested the completion of a feasibility/operations study of the Isett Avenue/Cypress Street corridor. Isett Avenue/Cypress Street is currently a four-lane undivided facility between the intersection with Lake Park Boulevard and Bidwell Road through the City of Muscatine with the two-lane to four-lane transitions located at the intersections of Lake Park Boulevard and approximately 400 feet south of Bidwell Street. The Isett Avenue corridor between Lake Park Boulevard and Woodlawn Avenue had been identified as a candidate for a potential four-lane to three-lane reconfiguration within the April 2017 Iowa DOT document titled, "Statewide Screening for Potential Lane Reconfiguration". This study included the review of traffic operations at the six major intersections of Lake Park Boulevard, Clay Street, Bidwell Road, E 11th Street, E 10th Street, and E 9th Street along the Isett Avenue/Cypress Street corridor to determine the feasibility with respect to safety and traffic operational impacts associated with converting the corridor from a four-lane cross section to a three-lane cross section.

3. Scope of Services Provided: Performed field review and observation of existing conditions, reviewed vehicle count data, evaluated relevant crash history and traffic operations; developed short and long term recommendations; prepared illustrative drawings of proposed improvements; and identified potential funding sources.

4. The Consultant, HR Green, submitted a final report dated June 25, 2021 with the following recommendations:

Short Term Recommendations

- Study Corridors: Isett Avenue and Cypress Street
  - Replace signs that fail to meet minimum retroreflective, consistency, and conspicuity standards outlined in the MUTCD.
  - Adopt the use of ladder style crosswalks at marked locations.
- Study Intersection: Isett Avenue & Bidwell Road
  - Evaluate/update traffic signal timing parameters.
- Study Intersection: Isett Avenue/Cypress Street & E 11th Street
  - Repaint the existing E 11th Street stop line nearer the intersection (recommended within 15 feet of the intersecting roadway).
  - Replace the existing Horizontal Alignment (MUTCD, W1-2) sign with a Combination Horizontal Alignment/Intersection (MUTCD, W1-10) sign and speed plaque (W13-1P) and relocate to within 200 feet of the intersection with E 11th Street for northbound and southbound traffic.
  - Trim and maintain all trees within approximately 500 feet of this study intersection.
  - Remove the off-street parking located north of this intersection.

Long Term Recommendations

- Study Corridor: Isett Avenue
  - Restripe the corridor from a 4-lane cross section to a 3-lane cross section between Lake Park Boulevard and Bidwell Road.
- Study Intersection: Lake Park Boulevard
  - Consider reconstructing the east leg roadway alignment.
- Study Intersection: Isett Avenue & Bidwell Road
  - Consider replacing the traffic signal span wire with a traffic signal pole and mast arm installation.
    a) If the existing traffic signals equipment at Highway 100 with East Post Road are replaced in the long term, it may be beneficial to include adequate pedestrian accommodations in addition to the recommendations listed in the short term.

    b) Dual left turn lanes are also widely used at signalized intersections where traffic volumes have increased to the point that signal timing cannot alleviate excessive queues and delay with the current number of lanes.

5. The planning level opinion of probable construction costs for recommended improvements:

	Cost Estimate	Notes
SHORT TERM:		
Replace/Relocate Existing Corridor Signing (Per Sign)	$200 - $300	Construction costs only
Relocate Stop Bar Pavement Markings (Per Approach)	$200 - $300	Construction costs only
Update Crosswalk Pavement Markings	$200 - $300 per leg	Construction costs only
Curb and Gutter to Eliminate Off-Street Parking	-	Further study necessary
Traffic Signal Timing Evaluation	-	Further study necessary
LONG TERM:		
ADA-Compliant Sidewalk Ramps	$750 - $1,500 per ramp	Construction costs only
4-Lane to 3-Lane Conversion	-	Further Study Necessary
Traffic Signal Infrastructure Evaluation/Upgrade	-	Further study necessary
Roadway Reconstruction at Lake Park Boulevard	-	Further study necessary
NOTES: * This opinion represents approximate construction quantities only and does not provide a detailed list of expected project pay items. The opinion is to be used as a planning number only. Actual costs may vary, as detailed design plans are prepared. * Cost do not include any permanent right-of-way and temporary construction easement costs.		

6. Potential funding sources include the Traffic Safety Improvement Program (TSIP), and the local Road Use Tax Fund (RUTF).

Traffic Engineering Assistance Program

Traffic and Safety Study

Muscatine, Iowa

FINAL Report

June 25, 2021

Prepared For:

CITY OF MUSCATINE

In Cooperation with:

IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN

Prepared By:

HRGreen

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

6/30/2021

TYLER C. WILES, P.E. DATE

License Number: 20906

My license renewal date is DECEMBER 31, 2021.

Pages or sheets covered by this seal:

ALL PAGES

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INTRODUCTION

Purpose and Study Objective

At the request of the Iowa Department of Transportation (DOT) and the City of Muscatine, Iowa, through the Iowa DOT Traffic Engineering Assistance Program (TEAP), this study evaluated traffic operations and safety along the Isett Avenue/Cypress Street corridor between the intersections with Lake Park Boulevard (northern limit) and E 9th Street (southern limit) located in Muscatine, Iowa. The study examined existing traffic patterns, roadway geometry, lane configurations, and traffic control within the study area. Recommendations for improvements and possible funding sources to implement the recommended improvements are contained within the report.

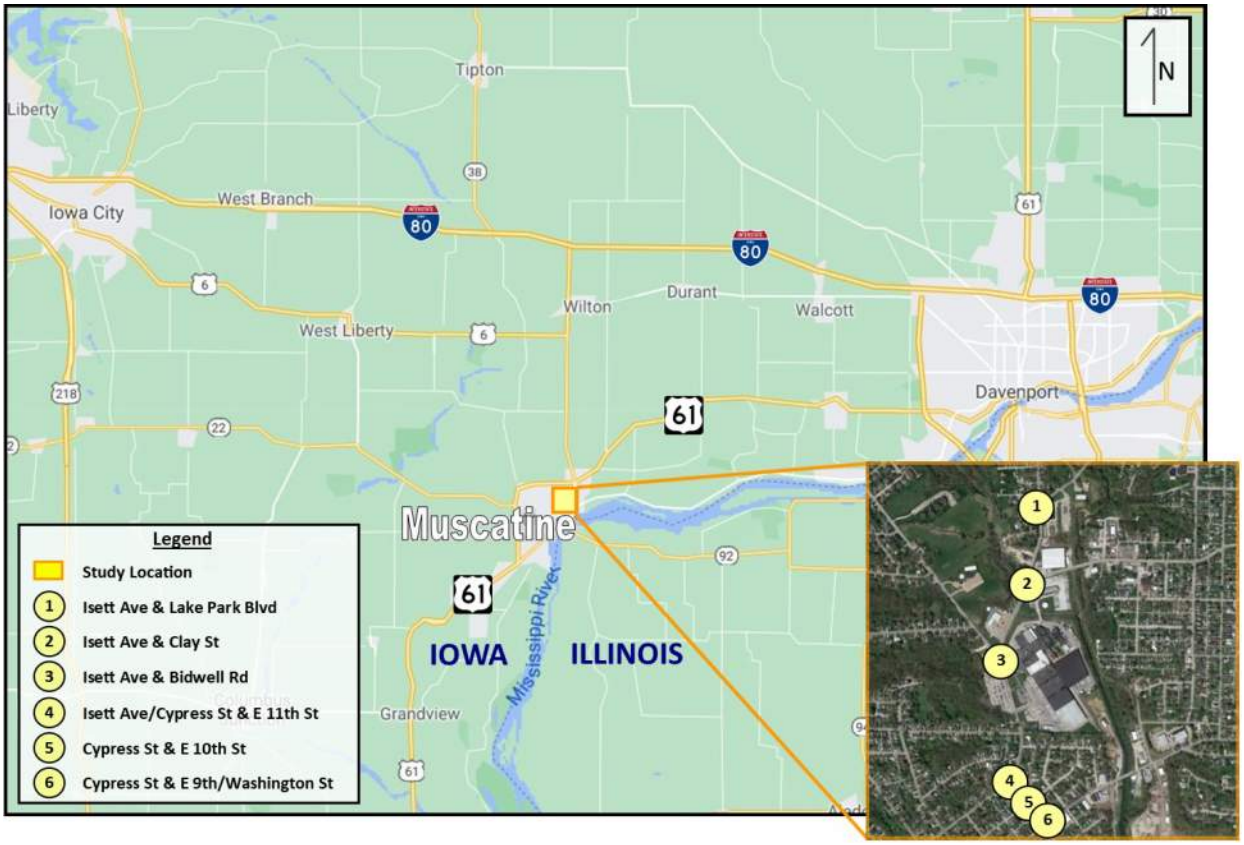
The City of Muscatine initiated the study to determine the feasibility of reconfiguring the existing four-lane undivided roadway to a three-lane undivided cross section through the evaluation of traffic operations and safety impacts at major intersections along the Isett Avenue/Cypress Avenue corridor.

BACKGROUND

Study Location

The City of Muscatine is located along US Highway 61 and adjacent to the Mississippi River, approximately 25 miles southwest from the City of Davenport, in Muscatine County, Iowa. The population of the City of Muscatine was approximately 23,000 people during the 2010 census. The study location and intersections can be seen in **Exhibit 1**.

Exhibit 1: Study Area Location



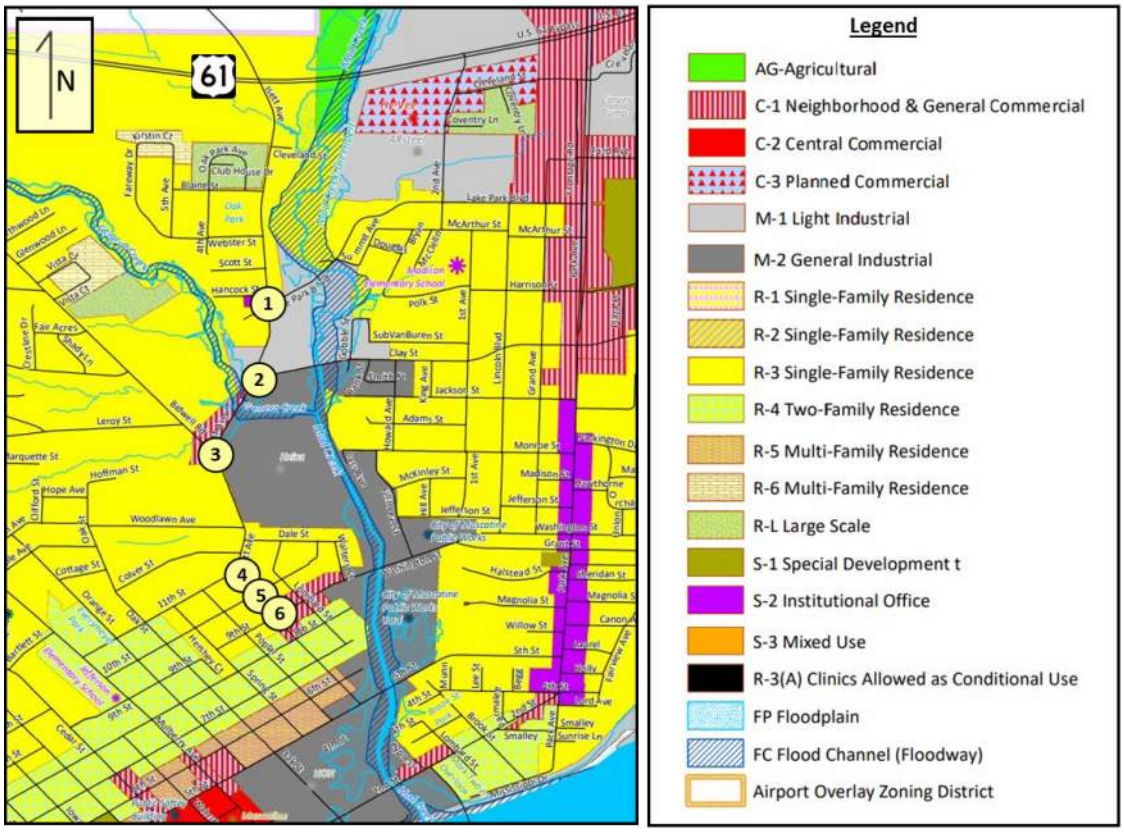
The study corridor of Isett Avenue/Cypress Street is primarily a north/south minor arterial facility with an urban four-lane undivided cross section between the intersections with Lake Park Boulevard and Bidwell Road that transitions to a two-lane undivided cross section north of Lake Park Boulevard and approximately 400 feet south of Bidwell Road. The corridor is a designated truck route. The posted speed limit along this section of Isett Avenue/Cypress Street is 25 mph. Street lighting is provided along the study roadway. Pedestrian sidewalk accommodations are provided along the east and west sides of the roadway south of Clay Street but are not present between Lake Park Boulevard and Clay Street.

The six study intersections along the Isett Avenue/Cypress Street corridor include:

1. Isett Avenue & Lake Park Boulevard (Two-way Stop Control)
2. Isett Avenue & Clay Street (All-way Stop Control)
3. Isett Avenue & Bidwell Road (Traffic Signal Control)
4. Isett Avenue/Cypress Street & E 11th Street (Two-way Stop Control)
5. Cypress Street & E 10th Street (Two-way Stop Control)
6. Cypress Street & E 9th Street (All-way Stop Control)

The surrounding land uses are primarily zoned residential, however there are commercial zoned lands to the west and industrial zoned lands to the east of Isett Avenue. The HJ Heinz Company has a manufacturing plant located to the east of Isett Avenue with a controlled pedestrian crossing located approximately 380 feet south of the Isett Avenue & Bidwell Road intersection. More commercially zoned land exists at the intersection of Cypress Street & E 9th Street.

Exhibit 2: City of Muscatine Zoning District Map



STUDY AREA FIELD REVIEW

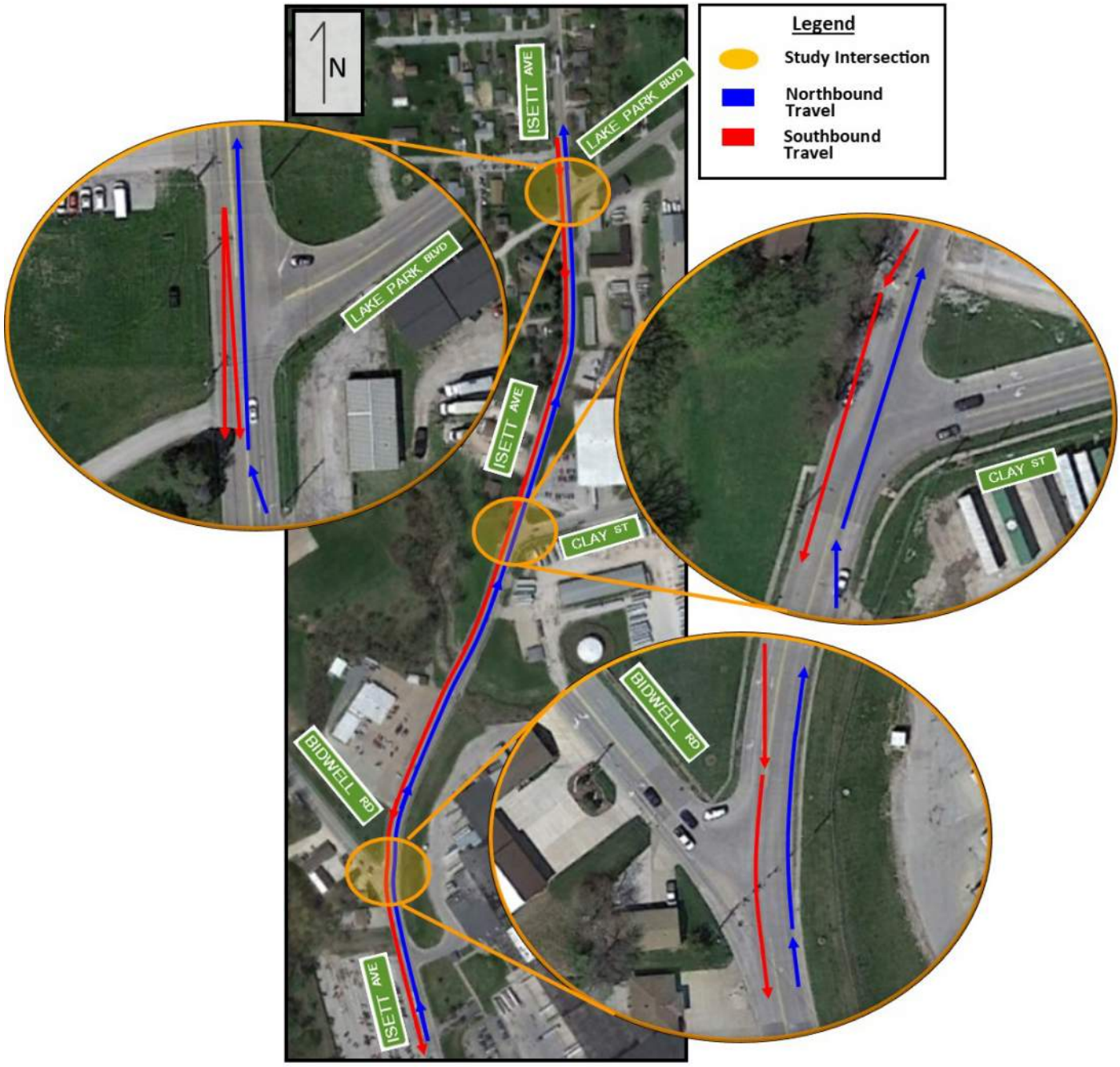
HR Green staff conducted field reviews of the surrounding area to gather general information about the study intersections and the study area. The field reviews included conversations with the City of Muscatine and Iowa DOT representatives, and site observations. The following are observational notes for the study corridor and each intersection to gain better understanding of the existing roadway geometry, lane configurations, traffic patterns, and overall safety concerns at and near the study area.

Isett Avenue Corridor

The Isett Avenue corridor exists as a four-lane cross section between the intersections with Lake Park Boulevard and Bidwell Road. Within this segment of Isett Avenue, intersection turning movements are accommodated by lane drops, where one travel lane is designated as a turn lane. Intersection lane drops present a driver with a high judgment, complex driving situation that may require a driver to change lanes to continue in their intended direction of travel. A southbound vehicle may need to change lanes at Clay Street and again at Bidwell Avenue to maintain a southbound direction. A northbound vehicle may need to change lanes at Clay Street and at Lake Park Boulevard to maintain a northbound direction. **Exhibit 3** displays the lane changes that may be necessary.

Unexpected lane changes can create safety hazards and impede traffic flows, especially with unfamiliar drivers, while drivers familiar with the area often preposition ahead of lane drops thereby reducing the overall capacity of the roadway.

Exhibit 3: Isett Avenue Corridor Lane Drops



Study Intersection: Isett Avenue & Lake Park Boulevard (Stop Control)

Isett Avenue & Lake Park Boulevard is a skewed, three-legged intersection with minor street stop control on Lake Park Boulevard as indicated in **Exhibit 4**. The roadway cross section near this study intersection is approximately 38 feet wide on Isett Avenue, and approximately 32 feet wide on Lake Park Boulevard with curb and gutter on all approaches. The north leg of Isett Avenue provides a two-lane cross section, and the south leg provides a four-lane cross-section. Lake Park Boulevard provides a two-lane cross section.

The southbound approach of Isett Avenue provides a shared through/left-turn lane with two southbound receiving lanes and the northbound approach provides a single through lane and a dedicated right-turn lane/lane drop with a single northbound receiving lane. The westbound approach of Lake Park Boulevard provides a single shared use lane, however the avalable throat width provides sufficient space for two vehicles to queue side by side. A painted stop bar exists on the westbound approach. There are no sidewalk accommodations within the intersection area with existing sidewalks terminating approximately 90 feet to the north.

Major land uses surrounding this study intersection are mostly residential with commercial on the west side of the roadway and industrial on the southeast quadrant.

Exhibit 4: Isett Avenue & Lake Park Boulevard Intersection Features

Study Intersection: Isett Avenue & Clay Street (Stop Control)

Isett Avenue & Clay Street is a skewed, three-legged intersection with all-way stop control as indicated in **Exhibit 5**. The roadway cross section near this study intersection is approximately 40 feet wide on Isett Avenue, and approximately 38 feet wide on Clay Street with curb and gutter on all approaches. Isett Avenue provides a four-lane cross-section. Clay Street provides a two-lane cross section.

The southbound approach of Isett Avenue provides a single through lane and a dedicated left-turn lane and the northbound approach provides a single through lane and a dedicated right-turn lane. The westbound approach of Clay Street provides a dedicated left turn lane and a dedicated right turn lane. Painted stop bars exist on all approach legs with significant pavement marking fading on the Isett Avenue approaches. There are existing sidewalk accommodations on the south leg of the intersection and on the south side of Clay Street but there is no existing sidewalk connection to the north between Clay Street and Lake Park Boulevard.

Major land uses surrounding this study intersection are industrial to the east of Isett Avenue and commercial on the west side of the roadway.

Exhibit 5: Isett Avenue & Clay Street Intersection Features

Study Intersection: Isett Avenue & Bidwell Road (Traffic Signal)

The intersection of Isett Avenue & Bidwell Road is a three-legged, at-grade signalized intersection with the west leg at a skewed angle as indicated in **Exhibit 6**. The roadway cross section near this study intersection is approximately 40 feet wide on Isett Avenue, and approximately 38 feet wide on Bidwell Road with curb and gutter on all approaches. Both Isett Avenue and Bidwell Road provide a four-lane cross section.

This intersection functions under traffic signal control provided by a span-wire and wooden pole structure. The northbound approach provides a single through lane and dedicated left-turn. The southbound approach also provides a single through lane and dedicated right-turn lane. The eastbound approach provides a dedicated left-turn and right-turn lane. No painted stop bars exist on the Isett Avenue approach legs. However, there are faded stop bar pavement markings on the eastbound leg of Bidwell Road, approximately 70 feet from the Isett Avenue traveled way. There are existing sidewalk accommodations north of the intersection, along the north side of Bidwell Road and along the east side of Isett Avenue to the south.

Major land uses surrounding this study intersection are commercial to the west and industrial to the east of the intersection. The HJ Heinz manufacturing plant is located to the southeast of this intersection with a signalized pedestrian crossing located approximately 380 feet south on Isett Avenue.

Exhibit 6: Isett Avenue & Bidwell Road Intersection Features

Study Intersection: Isett Avenue/Cypress Street & E 11th Street (Stop Control)

Isett Avenue/Cypress Street & E 11th Street is a three-legged intersection with minor street stop control on E 11th Street as indicated in **Exhibit 7**. Isett Avenue joins the intersection from the northeast at a skewed angle. The roadway cross section near this study intersection is approximately 32 feet wide on Isett Avenue and Cypress Street, and approximately 26 feet wide on E 11th Street with curb and gutter on all approaches.

A single travel lane is provided on all legs of this intersection. On-street parking exists along the east side of Isett Avenue and Cypress Street with parking restrictions in place in close proximity to the intersection. There are sidewalk pedestrian accommodations with curb ramps at all quadrants of the intersection. There are painted pavement markings on the E 11th Street approach leg including a stop bar located approximately 50 feet from the Isett Avenue/Cypress Street traveled way and a broken line located approximately 16 feet from the edge of traveled way.

Major land uses surrounding this study intersection are entirely residential.

Exhibit 7: Isett Avenue/Cypress Street & E 11th Street Intersection Features

Study Intersection: Cypress Street & E 10th Street (Stop Control)

Cypress Street & E 10th Street is a four-legged interesction with minor street stop control on E 10th Street as indicated in **Exhibit 8**. The roadway cross section near this study intersection is approximately 32 feet wide on Cypress Street, and approximately 28 feet wide on E 10th Street with curb and gutter on all approaches.

A single travel lane is provided on all legs of this intersection. On-street parking exists along the east side of Cypress Street. There are sidewalk pedestrian accommodations with curb ramps at all quadrants of the intersection. No painted stop bar pavement markings exist on the E 10th Street approach legs.

Major land uses surrounding this study intersection are entirely residential.

Exhibit 8: Cypress Street & E 10th Street Intersection Features

Study Intersection: Cypress Street & E 9th Street (Stop Control)

Cypress Street & E 9th Street is a four-legged intersection with all-way stop control as indicated in **Exhibit 9**. The roadway cross section near this study intersection is approximately 35 feet wide on Cypress Street, and approximately 27 feet wide on the west leg of E 9th Street and approximately 30 feet wide on the east leg of E 9th Street with curb and gutter on all approaches.

The south leg of Cypress Street contains a thru/left-turn lane and a dedicated right-turn lane. A single travel lane is provided on the north, east, and west legs of this intersection. On-street parking exists along E 9th Street with restrictions near the intersection. There are sidewalk pedestrian accommodations with curb ramps at all quadrants of the intersection. Stop bars exist on each intersection approach leg and show signs of wear.

Major land uses surrounding this study intersection are a mix of residential and commercial. A video rental store exists on the northeast quadrant and a car wash exists on the northwest quadrant.

Exhibit 9: Cypress Street & E 9th Street Intersection Features

SIGHT DISTANCE REVIEW

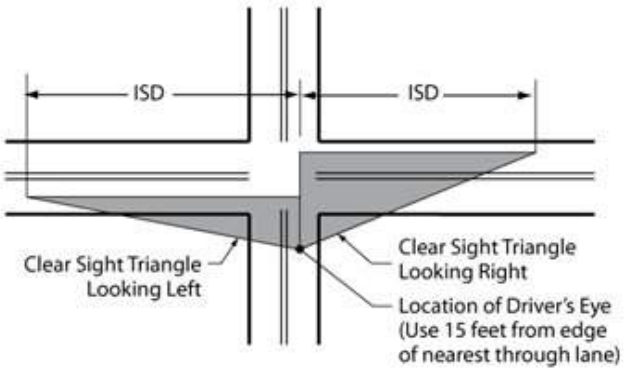
Sight distance is a measure of the length of roadway that is visible to the driver. The roadway design should consider the driver's ability to see ahead a sufficient distance to safely operate a vehicle in order to avoid striking an unexpected object in the traveled way. Four aspects of sight distance are considered for safe and efficient roadway design: stopping sight distance, decision sight distance, intersection sight distance, and passing sight distance. With respect to the study needs, only intersection sight distance will be discussed within this report.

Intersection Sight Distance

Specified areas along the approach to an intersection should be clear of obstructions that might block the driver's view of potential conflicting vehicles. These areas are known as clear sight triangles. The dimensions of the sight triangles depend on the design speeds of the intersecting roadways and type of traffic control used at the intersection.

Ideally, the vertical profiles of the intersecting roadways will allow for the recommended sight distance for drivers on the intersection approaches. It is also preferred that obstructions such as buildings, parked cars, roadside structures, hedges, trees, walls, and the terrain itself do not exist within the sight triangle.

Sight distance triangles for the study intersections were derived and measured using Section 9.5, Intersection Sight Distance, of the 2018 Edition of "*A Policy on Geometric Design of Highways and Streets"* from the American Association of State Highway and Transportation Officials (AASHTO). The vertex of the sight triangles along the minor roads (stop-controlled approach) were located approximately 14.5 feet back from the edge of the major roads (uncontrolled approach) travel way. This position represents the typical position of the minor road driver's eye location when a vehicle is stopped, based on AASHTO guidance. It should be noted that the vertex of the sight triangle does not necessarily describe the location of painted stop lines, if they are present, but indicates the nearest location to the intersecting roadway of a typical stopped vehicle.



Intersections with All-way Stop Control or Traffic Signal Control must provide visibility to the first stopped vehicle on each approach and do not require additional sight distance measures. The intersections with Two-way Stop Control fall under Case B of traffic control types – Intersections with Stop Control on the Minor Road (Section 9.5.3 Intersection Control). Case B1 and B2 were analyzed to account for left turns and right turns from the minor road, respectively. Case B3, the crossing maneuver from the minor road, was analyzed using the same procedure as Case B2 based on AASHTO guidance. **Exhibit 10** shows the minimum intersection sight distances required for a minor approach based on applicable analysis design speeds on the major approach. The time gaps used in the calculation were based on the requirement of the minimum gap acceptance times for typical two-lane roadways documented in Chapter 6D, Sight Distance, of the Iowa DOT Design Manual, which added 0.5 seconds to AASHTO Green Book value for older drivers.

Exhibit 10: Minimum Intersection Sight Distances Based on Design Speed

Design Speed	Left Turn (Case B1)		Right Turn (Case B2)		Crossing (Case B3)	
	Passenger Car (ft.)	Single Unit Truck (ft.)	Passenger Car (ft.)	Single Unit Truck (ft.)	Passenger Car (ft.)	Single Unit Truck (ft.)
25	295	350	260	315	260	315
30	**355**	**420**	**310**	**375**	**310**	**375**
35	415	490	365	440	365	440
Time Gap	*8.0*	*9.5*	*7.0*	*8.5*	*7.0*	*8.5*

Condensed from AASHTO 2018 Edition of A Policy on Geometric Design of Highways and Streets Equation 9-1 and Iowa DOT Design Manual, Chapter 6D.

The analysis design speeds used in the determination of sight distances were defined by the major road approaching posted speed limit plus five (5) mph and are highlighted in **Exhibit 10.** If a speed transition occurs within a specific sight triangle, the highest posted speed limit plus five mph was utilized.

Clear sight triangles should provide the minimum sight distances as shown in **Exhibit 11** for a stopped vehicle on a minor approach to safely complete their movement (i.e.: turn left, right, or cross) at each study intersection. Red text indicates an available sight distance less than the required sight distance for the design vehicle. Ultimately, the line of sight for drivers looking to the north and south from the minor roads may be obstructed by common roadside objects, including utility poles and overgrown tree lines along either side of Isett Avenue/Cypress Street. These objects could result in insufficient sight distances, less than the required distances for passenger cars or trucks turning left, right or crossing the study intersections.

Exhibit 11: Isett Avenue/Cypress Street Intersection Sight Distances

Minor Road Intersection and Orientation	Turn from Minor Approach	Approach Design Speed Used (mph)	Intersection Sight Distance			
			Passenger Cars (ft.)		Single Unit Trucks (ft.)	
			Available	Required	Available	Required
Lake Park Boulevard Westbound	Left	**30**	>375	375	>445	445
	Crossing	**30**	NA	NA	NA	NA
	Right	**30**	>310	310	>375	375
E 11th Street Eastbound	Left	**30**	>355	355	>420	420
	Crossing	**30**	NA	NA	NA	NA
	Right	**30**	>310	310	>375	375
E 10th Street Eastbound	Left	**30**	>355	355	>420	420
	Crossing	**30**	NA	310	NA	375
	Right	**30**	>310	310	>375	375
E 10th Street Westbound	Left	**30**	>355	355	**365**	420
	Crossing	**30**	NA	310	NA	375
	Right	**30**	>310	310	>375	375

The results show that the corridor is largely flat with unrestricted sight lines. However, the E 10th Street approach demonstrated sight line limitations viewing to the north, especially from the westbound approach. This is due to the horizontal curve present at the intersection with E 11th Street which can obstruct the view of approaching vehicles. However, these findings represented the required sight

distance provided to a single unit truck design vehicle which is not likely to be found on this residential intersection approach.

At the intersection of E 11th Street & Isett Avenue/Cypress Street there was evidence that indicates a potential sight obstruction exists along the west side of Isett Avenue due to an off-street parking area located approximately 50 feet north of the intersection. When this parking space is occupied, the parked vehicle presents an obstruction that significantly reduces the available sight distance that a stopped vehicle on E 11th Street would have looking north along Isett Avenue. **Exhibit 12** illustrates the available sight distance triangle and potential sight obstruction.

Exhibit 12: Sight Obstruction at Isett Avenue &E 11th Street

A stopped vehicle on the E 11th Street approach would have adequate sight lines to view approaching vehicles from Isett Avenue due to the parking restrictions that exist near this intersection, however this parking space nullifies any benefit that is achieved from the parking restrictions. To gain an acceptable view of approaching vehicles, a driver would have to advance past the stop sign, stop bars, and almost into the vehicle path of oncoming motorists. The following **Exhibit 13** demonstrates the necessary vehicle position on E 11th Street with a parked vehicle (left image) and without a parked vehicle (right image).

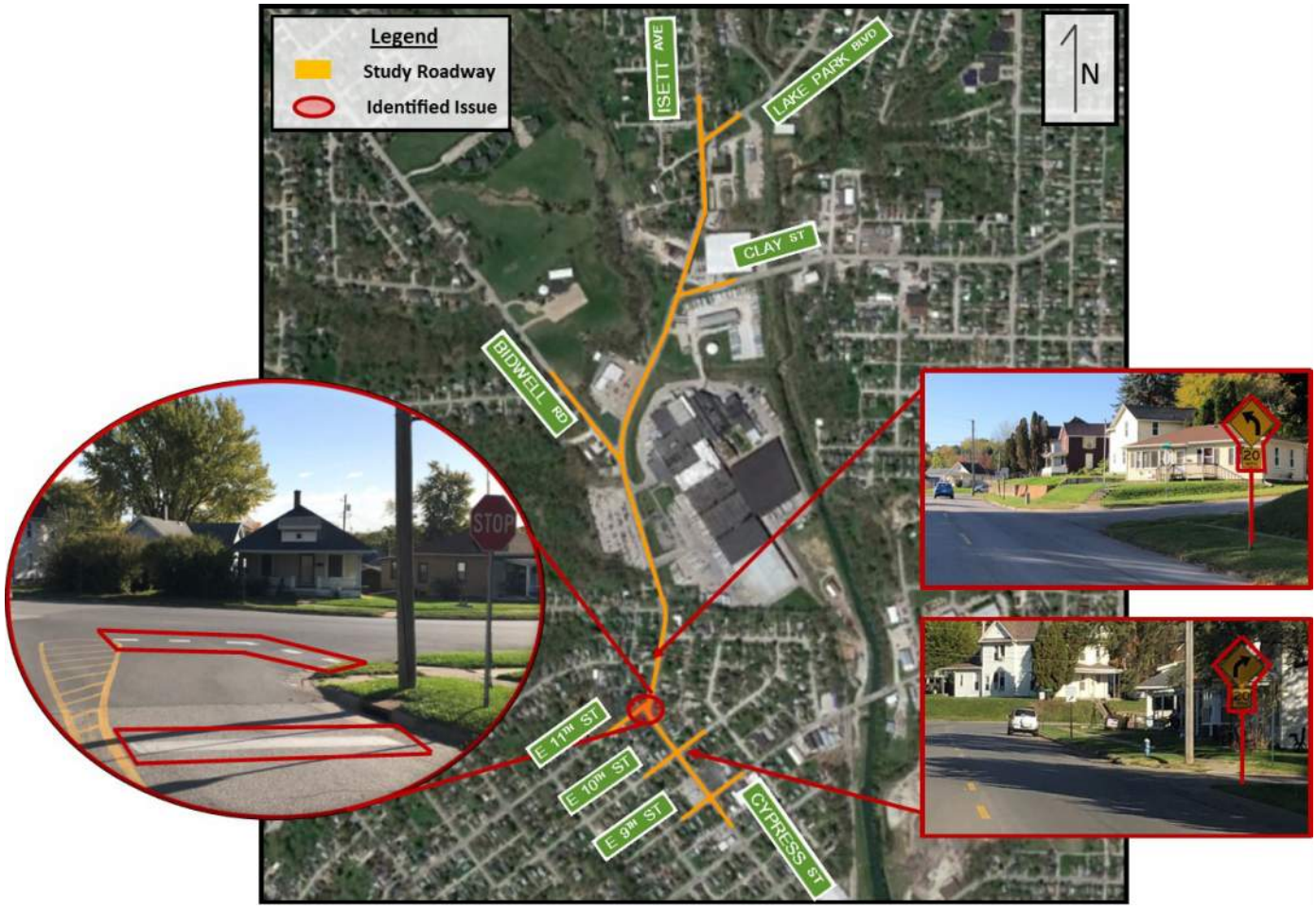
Exhibit 13: E 11th Street Viewing North

EXISTING SIGNAGE AND PAVEMENT MARKINGS REVIEW

The location, spacing, and condition of the existing traffic signs and pavement markings in the vicinity of the study intersections were reviewed to determine conformity to current design standards within the MUTCD and the Iowa DOT Traffic and Safety Manual. Refer to **Exhibit 14** to see the location of traffic signs or pavement markings along the study corridor and at study intersections that were identified to be out of compliance. The following are some observational notes based on the field review.

1. The Horizontal Warning (MUTCD, W1-2 and W13-1P) signs, located north and south of E 11th Street are approximately 350 feet upstream of the horizontal alignment shift at E 11th Street and placed on the near side of adjacent intersections.
2. The pavement marking at the E 11th Street approach include a stop line and a broken “stop line” nearer the intersecting roadway.

Exhibit 14: Existing Traffic Sign/Pavement Marking Issues



TRAFFIC HISTORY/INFORMATION

The 24-hour turning movement counts were collected on Tuesday, December 8th, 2020 and on Thursday, December 10th, 2020 for the study intersection along the Isett Avenue and Cypress Street corridor. These counts were organized in 15-minute intervals including breakouts of heavy vehicles, pedestrians, and bicycles.

The turning movement counts were collected during the current health pandemic (Covid-19) and may be affected by the associated traffic pattern disruptions. For that reason, a comparison to historical count data was performed. The Iowa DOT, in collaboration with the counties and municipalities, update and publish historic Annual Average Daily Traffic (AADT) Maps. The historic AADT counts from 2002 to 2018 were obtained and reviewed to identify historic traffic patterns and growth rates at specific locations within the study area. The historical traffic volumes can be seen in **Exhibit 15**.

Exhibit 15: Historic Annual Average Daily Traffic (2002 to 2018)

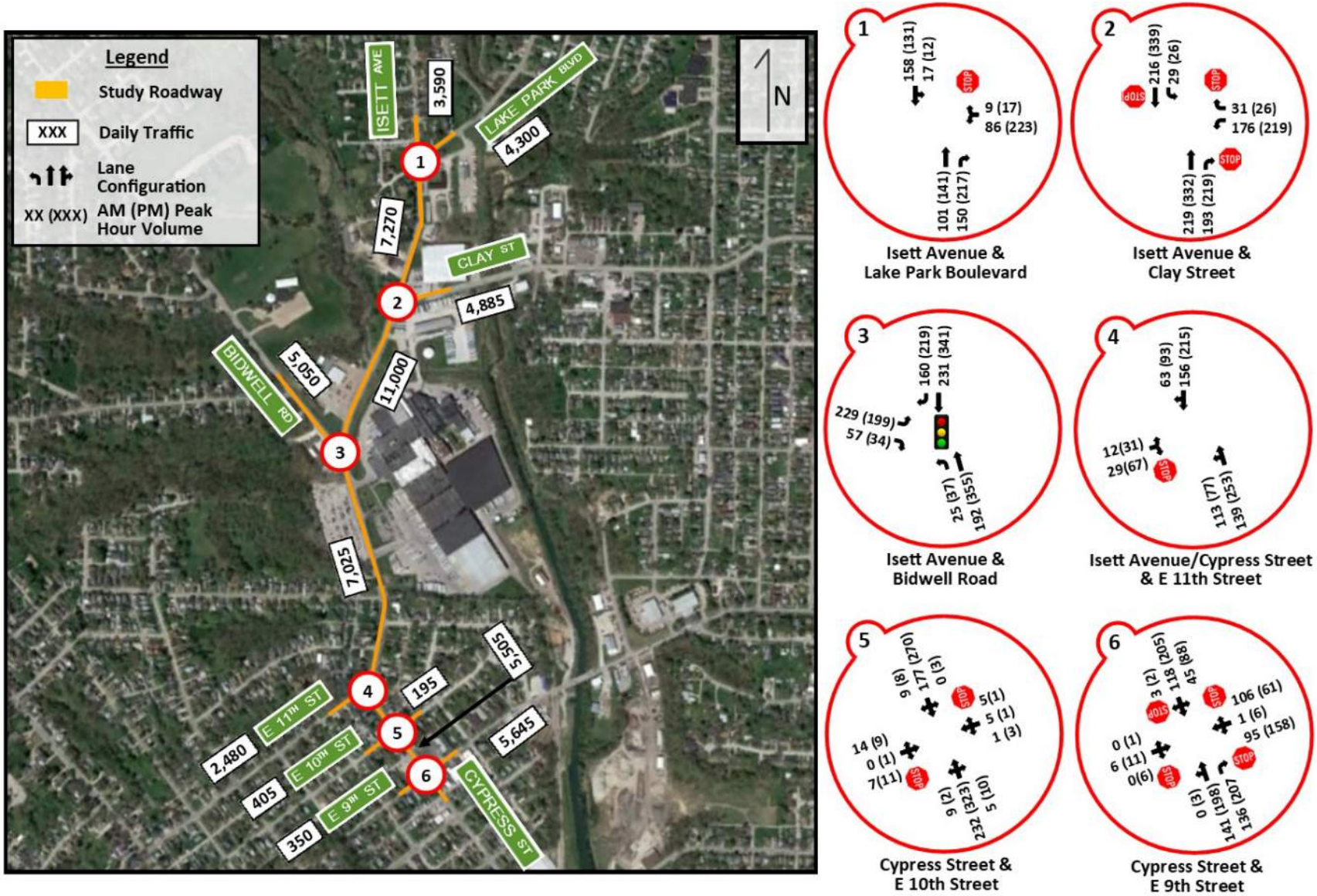
Year	Isett Avenue/Cypress Street					
	North of Lake Park Blvd	Between Lake Park Blvd and Clay St	Between Clay St and Bidwell Rd	Between Bidwell Rd and E 11th St	Between E 11th St and E 9th St	South of E 9th St
2002	3,490	7,800	13,600	9,100	-	10,600
2006	4,060	-	-	7,100	7,300	-
2010	4,530	8,000	9,100	7,500	6,300	9,500
2014	4,010	-	10,600	6,900	-	9,900
2018	4,600	-	12,300	-	8,500	11,800
2020*	***3,175***	***6,430***	***9,740***	***7,025***	***5,505***	***7,455***

** Annual Average Daily Traffic from Count Data*

The existing traffic patterns along the study corridor indicate that there may be reduced traffic volumes due to the ongoing health pandemic. Additional data provided by the Iowa DOT was used to establish the potential impact. The Iowa DOT maintains over 120 automatic traffic recorder sites throughout the state and have made data available that compare daily traffic changes from 2020 and 2019 by the classification of road system. The statewide average for the second week of December 2020 by City Streets showed a decline of 13% compared to the similar time period in 2019.

The 2020 AM and PM peak hour traffic volumes map, identified from the collected count data, was factored up to account for the decline in traffic volume due to the pandemic. The AM and PM peak hour volumes, representing the existing conditions, can be seen in **Exhibit 16**. Traffic volume count data can be found in **Appendix A**.

Exhibit 16: Study Area Existing Traffic Volumes



CRASH HISTORY/INFORMATION

HR Green compiled and reviewed crash data for all intersections within the study area to determine current crash trends and/or concerns. Crashes were analyzed for the five-year period between 2016-2020, using the crash data obtained from the Iowa Crash Analysis Tool (ICAT) application accessible through the Iowa DOT's website.

The following is a summary of the crash history for each study intersection. The crash report from ICAT for all studied intersections are contained in **Appendix B**.

The intersection crash rate per Million Entering Vehicle (MEV) was calculated for the study intersection based on the 2020 factored traffic volume data provided in the "Traffic History/Information" section of this report.

Study Intersection: Isett Avenue & Lake Park Boulevard

- 6 Total Crashes
  - 6/6 = Property Damage Only
    - → 3/6 = FTYROW: From Stop Sign
    - → 1/6 = Followed Too Close
    - → 1/6 = Ran Off Road
    - → 1/6 = Lost Control
- Manner of Collision
  - 3/6 = Broadside
  - 2/6 = Non-collision
  - 1/6 = Rear-end
- Crash Rate = 0.43 crashes per million entering vehicles

Crash Experience Legend
- Crash Severity
- → Major Cause

Year of Crash

2020	2
2019	0
2018	1
2017	1
2016	2

The crash data showed 6 reported intersection-related crashes at the Isett Avenue & Lake Park Boulevard intersection, with all 6 classified as Property Damage Only incidents. The primary cause of crash incidents was cited as a failure to yield right-of-way from a stop sign (50%). The predominant manner of crash at the study intersection was broadside crash incidents (50%).

The crash rate over the five most recent years was determined below the statewide average for a comparable road system and severity crash rate of 0.80 Crashes/MEV (City Street with City Street).

Study Intersection: Isett Avenue & Clay Street

- 3 Total Crashes
  - 3/3 = Property Damage Only
    - → 1/3 = FTYROW: Other
    - → 1/3 = Unknown
    - → 1/3 = Other
- Manner of Collision
  - 2/3 = Sideswipe, Same Direction
  - 1/3 = Broadside
- Crash Rate = 0.14 crashes per million entering vehicles

Year of Crash

2020	0
2019	3
2018	0
2017	0
2016	0

The crash data showed 3 reported intersection-related crashes at the of Isett Avenue & Clay Street intersection, with all 3 classified as Property Damage Only incidents. The

primary cause of crash incidents was undetermined with inadequate report data. The predominant manner of crash at the study intersection was sideswipe, same direction crash incidents (66%).

The crash rate over the five most recent years was determined below the statewide average for a comparable road system and severity crash rate of 0.80 Crashes/MEV (City Street with City Street).

Study Intersection: Isett Avenue & Bidwell Road

- 4 Total Crashes
  - 1/4 = Minor Injury
    - → 1/1 = FTYROW: Making Left Turn
  - 1/4 = Possible/Unknown Injury
    - → 1/1 = Failed to Keep in Proper Lane
  - 2/4 = Property Damage Only
    - → 1/2 = Ran Traffic Signal
    - → 1/2 = Lost Control
- Manner of Collision
  - 2/4 = Angle, Oncoming Left Turn
  - 1/4 = Broadside
  - 1/4 = Sideswipe, Same Direction
- Crash Rate = 0.18 crashes per million entering vehicles

Year of Crash	
2020	0
2019	2
2018	1
2017	1
2016	0

The crash data showed 4 reported intersection-related crashes at the Isett Avenue & Bidwell Road intersection, with 2 (50%) Property Damage Only, 1 (25%) Minor Injury, and 1 (25%) Possible Injury incidents. There was no primary cause of crash incidents with each cause of crash incident unique. The predominant manner of crash at the study intersection was angle, oncoming left turn crash incidents (50%).

The crash rate over the five most recent years was determined below the statewide average for a comparable road system and severity crash rate of 0.80 Crashes/MEV (City Street with City Street).

Study Intersection: Isett Avenue/Cypress Street & E 11th Street

- 5 Total Crashes
  - 1/5 = Possible/Unknown Injury
    - → 1/1 = Driver Distraction
  - 4/5 = Property Damage Only
    - → 1/4 = Made Improper Turn
    - → 1/4 = Failed to Keep in Proper Lane
    - → 1/4 = Lost Control
    - → 1/4 = Unknown
- Manner of Collision
  - 2/5 = Angle, Oncoming Left Turn
  - 1/5 = Rear End
  - 1/5 = Broadside
  - 1/5 = Sideswipe, Opposite Direction
- Crash Rate = 0.36 crashes per million entering vehicles

Year of Crash	
2020	1
2019	1
2018	1
2017	0
2016	2

The crash data showed 5 reported intersection-related crashes at the Isett Avenue/Cypress Street & E 11th Street intersection, with 4 (80%) Property Damage Only, and 1 (20%) Possible Injury incidents. There was no primary cause of crash incidents with each cause of crash incident unique. The predominant manner of crash at the study intersection was angle, oncoming left turn crash incidents (40%).

The crash rate over the five most recent years was determined below the statewide average for a comparable road system and severity crash rate of 0.80 Crashes/MEV (City Street with City Street).

Study Intersection: Cypress Street & E 10th Street

- 0 Total Crashes

Study Intersection: Cypress Street & E 9th Street

- 4 Total Crashes
  - 4/4 = Property Damage Only
    - → 2/4 = Other
    - → 1/4 = FTYROW: From Stop Sign
    - → 1/4 = Ran Off Road
- Manner of Collision
  - 3/4 = Broadside
  - 1/4 = Rear End
- Crash Rate = 0.21 crashes per million entering vehicles

Year of Crash	
2020	1
2019	3
2018	0
2017	0
2016	0

The crash data showed 4 reported intersection-related crashes at the Cypress Street & E 9th Street intersection, with all 4 classified as Property Damage Only incidents. There was no primary cause of crash incidents with each cause of crash incident unique. The predominant manner of crash at the study intersection was broadside crash incidents (75%).

The crash rate over the five most recent years was determined below the statewide average for a comparable road system and severity crash rate of 0.80 Crashes/MEV (City Street with City Street).

Study Corridor: Isett Avenue/Cypress Street from Lake Park Boulevard to E 9th Street

- 7 Total Crashes
  - 2/7 = Minor Injury
    - → 1/2 = Driver Distraction
    - → 1/2 = Other
  - 2/7 = Possible/Unknown Injury
    - → 1/2 = Followed Too Close
    - → 1/2 = Ran Off Road
  - 3/7 = Property Damage Only
    - → 1/3 = Swerving/Evasive Action
    - → 1/3 = Passing
    - → 1/3 = Ran Traffic Signal
- Manner of Collision
  - 3/7 = Non-collision

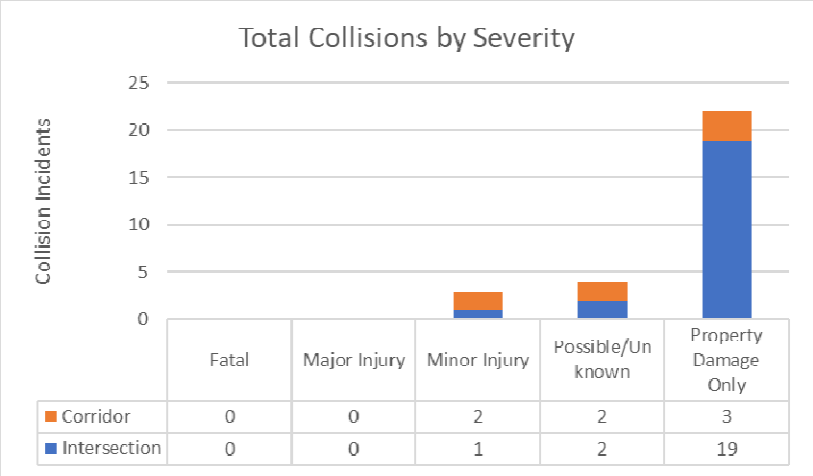
Year of Crash	
2020	1
2019	0
2018	3
2017	3
2016	0

- 2/7 = Rear-end
- 1/7 = Sideswipe, same direction
- 1/7 = Angle, oncoming left-turn

The crash data showed that an additional 7 crashes were reported along the study corridor of Isett Avenue and Cypress Street between the intersection with Lake Park Boulevard and E 9th Street. Of these incidents, there were 3 (42.9%) Property Damage Only, 2 (28.6%) Minor Injury, and 2 (28.6%) Possible Injury incidents. There was no primary cause of crash incidents with each cause of crash incident unique. The predominant manner of crash at the study intersection was non-collision crash incidents (42.9%) followed by rear-end crash incidents (28.6%). Of the 7 crash incidents that occurred along the study corridors, the highest crash frequency of 6 (85.7% of total) occurred on Isett Avenue, between Bidwell Road and E 11th Street.

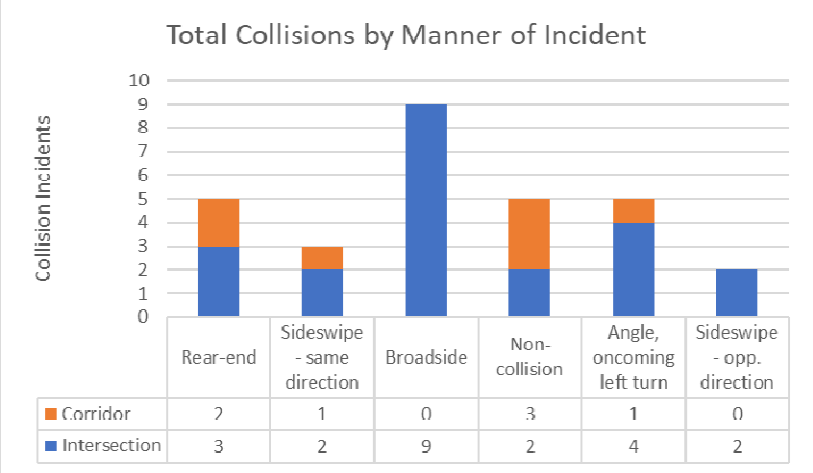
Overall, there was a total of 29 crashes that occurred within the study area. Of these incidents, there were 0 fatal incidents (0%), 0 major injury incidents (0 %), 3 minor injury incidents (10.3%), 4 possible/unknown injury incidents (13.8%), and 22 property damage only incidents (75.9%). All intersections were determined to have crash rates below the statewide average.

Exhibit 17: Total Study Area Collision Incidents by Severity



	Fatal	Major Injury	Minor Injury	Possible/Unknown	Property Damage Only
Corridor	0	0	2	2	3
Intersection	0	0	1	2	19

Exhibit 18: Total Study Area Collision Incidents by Manner



	Rear-end	Sideswipe - same direction	Broadside	Non-collision	Angle, oncoming left turn	Sideswipe - opp. direction
Corridor	2	1	0	3	1	0
Intersection	3	2	9	2	4	2

EXISTING TRAFFIC OPERATIONS

Intersection level of service (LOS) is primarily a function of peak hour turning movement volumes, intersection lane configuration, and traffic control. For intersection analysis, the Highway Capacity Manual (HCM) defines LOS in terms of the average control delay at the intersection in seconds per vehicle. The results of a HCM analysis are typically presented in the form of a letter grade (A-F) that provides a qualitative estimate of the operational efficiency or effectiveness of the corridor. Much like an academic report card, LOS A represents the best range of operating conditions (i.e., motorists experiencing little delay or congestion) and LOS F represents the worst (i.e., extreme delay or severe congestion).

Exhibit 19 defines the control delay range corresponding to each LOS for intersection locations. At intersections, LOS E is considered to be at capacity and, typically, LOS D is considered acceptable operations in urban environments. For un-signalized intersections, the worst-case stop-controlled LOS is reported. For instance, if an intersection experienced LOS D on one approach and LOS B on another, the LOS D would be reported for the intersection.

Exhibit 19: Level of Service Delay Criteria

Level of Service (LOS)	Control Delay (seconds/vehicle)	
	Signalized Intersection	Un-signalized Intersection
A	≤ 10	≤ 10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80 or V/C > 1.00	>50 or V/C > 1.00

Source: Highway Capacity Manual, 6th Edition.

Traffic models for the study area intersections were created using Synchro/SimTraffic software. Intersection reports from the Synchro and SimTraffic software are available in **Appendix C**. Traffic models were created for the following traffic control scenarios:

The Existing Condition road network included the Isett Avenue/Cypress Street corridor between and including the intersections of Lake Park Boulevard and E 9th Street. Intersection capacity and queueing analysis considered year 2020 traffic volumes, and the existing lane configurations and intersection traffic control. **Exhibit 20** show the delay, LOS and expected queues for the critical movement at each intersection during the AM and PM peak hours.

Exhibit 20: Existing Condition Analysis

Intersection	2020 Capacity Analysis											
	Control Type	Time of Day	EB Leg		WB Leg		NB Leg		SB Leg		Intersection LOS / Delay (sec/veh)	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay		
Isett Avenue & Lake Park Boulevard	**TWSC**	**AM**	-	-	B	12.5	A	0	A	1.2	**B**	**12.5**
		MID	-	-	B	12.1	A	0	A	1.0	**B**	**12.1**
		PM	-	-	C	15.2	A	0	A	1.0	**C**	**15.2**
Isett Avenue & Clay Street	**AWSC**	**AM**	-	-	C	17.6	B	13.5	B	14.8	**B**	**15.0**
		MID	-	-	B	12.6	B	11.5	B	12.6	**B**	**12.1**
		PM	-	-	C	18.4	C	15.8	C	23.1	**C**	**18.8**
Isett Avenue & Bidwell Road	**Signal**	**AM**	B	16.7	-	-	A	7.1	A	5.4	**A**	**9.6**
		MID	B	15.7	-	-	A	5.7	A	4.1	**A**	**7.0**
		PM	B	17.2	-	-	A	7.3	A	5.0	**A**	**8.4**
Isett Avenue/ Cypress Street & E 11th Street	**TWSC**	**AM**	B	13.1	-	-	A	4.5	A	0	**B**	**13.1**
		MID	B	11.8	-	-	A	1.7	A	0	**B**	**11.8**
		PM	B	14.3	-	-	A	2.8	A	0	**B**	**14.3**
Cypress Street & E 10th Street	**TWSC**	**AM**	B	13.4	B	12.4	A	0.4	A	0	**B**	**13.4**
		MID	B	12.0	B	13.2	A	0.3	A	0.2	**B**	**13.2**
		PM	B	14.2	C	15.5	A	0.1	A	0.2	**C**	**15.5**
Cypress Street & E 9th Street	**AWSC**	**AM**	A	8.8	B	11.1	A	9.6	B	10.5	**B**	**10.3**
		MID	A	8.6	B	10.6	A	9.7	B	10.6	**B**	**10.2**
		PM	B	10.2	B	14.6	B	12.6	C	18.5	**B**	**14.9**

Results of the Existing Conditions capacity analysis shows acceptable levels of traffic operations (LOS C or better) for all vehicle movements and approaches at the study intersections during the AM, Mid-Day, and PM peak periods. The PM peak hour experienced LOS C at several intersections, but overall delays remained low.

CONSIDERED OPTIONS

Concerns and observations were noted at the study intersections as a part of the field review and have been described in the previous sections. The following section explores options that were considered and may be of interest for implementation within the study area to improve the safety and operational efficiency at the study intersections. The following considered options are not definite recommendations, but rather items that may have associated benefits as well as potential disadvantages and is therefore only a list of options in no particular order that are deemed worthy of further consideration. Final recommendations for the study intersections can be found within the "Recommended Improvements" section of this report.

Signing Improvements

Sign Sheeting Upgrade

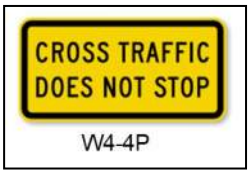
The current signage may be inconsistent and no longer meet the minimum retroreflectivity standards of the MUTCD. The service life of signs varies by sheeting material and environmental exposure, however, expected service life is typically between 10 to 15 years. All traffic signs at the study intersections should be evaluated and deficient signage should be replaced with signs that conform to the current standards as outlined in the 2009 MUTCD.

Sign Placement and Spacing Adjustment

Traffic signs should be used uniformly and spaced a sufficient distance apart to allow appropriate decision making. The Iowa DOT Traffic and Safety Manual recommends a minimum distance of 300 feet for longitudinal sign spacing of signs on two-lane and four-lane undivided roadways. However, due to the urban characteristics of the study intersections, reduced minimal longitudinal sign spacing of 3 to 5 times the posted speed limit would be deemed acceptable. Therefore, the acceptable minimal longitudinal sign spacing within the study area would be between 75 to 175 feet. Nonetheless, it should be noted that MUTCD Section 2C.05: Placement of Warning Signs states that "*warning signs should not be placed too far in advance of the condition, such that drivers might tend to forget the warning because of other driving distractions, especially in urban areas*".

Per these guidelines, it is proposed that the Horizontal Alignment (MUTCD, W1-2) sign and speed plaque (W13-1P) be relocated to within 200 feet of the intersection with E 11th Street for the northbound and southbound traffic. It is also proposed that these signs be replaced with Combination Horizontal Alignment/Intersection (MUTCD, W1-10) Warning signs. The W1-10 signs better communicate the existing intersection geometry that exists. The Horizontal Warning signs should be placed a minimum of 100 feet in advance of the curve. The current location of these signs, on the near side corner of adjacent intersections, is approximately 350 feet from the curve and their effectiveness can be enhanced by moving them closer to the horizontal shift. If necessary, the existing Truck Route (MUCTD, R14-1) signs can be replaced with the W1-10 sign and relocated at a location that meets the minimal longitudinal sign spacing requirements.

Additional Sign Considerations



To increase drivers' awareness on a minor street approach of the uncontrolled approaches on the major roadway, a Cross Traffic Does Not Stop (MUTCD, W4-4P) plaque could be considered for addition to the existing Stop sign(s) on the minor roadway legs of the intersection. According to the MUTCD, the Cross Traffic Does Not Stop plaque may be used in combination with a Stop sign to indicate conditions are present that could cause a driver to misinterpret the intersection as an all-way stop. While this is not a required sign by MUTCD or Iowa DOT standards, it is a proven low-cost countermeasure to reduce future crash potential.

At the E 11th Street intersection with Isett Avenue/Cypress Street, a Cross Traffic Does Not Stop (MUTCD, W4-4P) plaque could be considered for addition to the existing Stop sign located on the eastbound approach of E 11th Street. This treatment could also be considered at the Lake Park Boulevard intersection with Isett Avenue as an addition to the existing Stop sign located on the westbound leg of Lake Park Boulevard.

Sight Distance Obstruction Modification

At the eastbound approach of the E 11th Street & Isett Avenue/Cypress Street intersection, a sight line obstruction exists to the north of the intersection due to permitted off-street parking along the west shoulder of Isett Avenue. Any parked vehicle at this location creates a sight line obstruction limiting the visibility of oncoming southbound motorists on Isett Avenue from vehicles on the E 11th Street approach.

The sight line obstruction could be minimized with the removal or relocation of these parking spaces from this area. A physical barrier may be constructed such as the implementation of curb and gutter.

Pavement Marking Improvements

Stop line/Stop bar Modifications

The MUTCD states, "*Stop lines should be used to indicate the point behind which vehicles are required to stop in compliance with a traffic control signal*." While painted stop lines are not required, they provide a benefit by demonstrating a visual cue to motorists of the intended stop position. Staging vehicles at appointed locations on an intersection approach ensures that drivers are provided a clear view of traffic signal faces and can be particularly helpful to accommodate left-turning heavy vehicles, which have wide turning paths, and encroaching vehicles can limit these maneuvers.

Painted stop lines should consist of a solid line that is 12 to 24 inches wide and white in color. Stop lines should be placed a minimum of 4 feet in advance of a painted crosswalk or, in the absence of a painted crosswalk, should be placed a minimum of 4 feet from the edge of the intersecting traveled way. The stop line should be placed at the desired stopping point but not more than 30 feet from the intersecting traveled way.

The Isett Avenue & Bidwell Road intersection does not contain stop lines on the Isett Avenue approach legs. The Bidwell Road approach leg has a painted stop line; however, it is located approximately 70 feet from the intersection travel way of Isett Avenue. Painted stop lines should be added to the Isett Avenue approach legs and the Bidwell Road stop line should be relocated to within 30 feet of the nearest edge of traveled way. Care should be taken to ensure that heavy vehicle turning movements are maintained when placing stop line pavement markings (e.g., do not place stopped vehicles in the path of turning trucks).

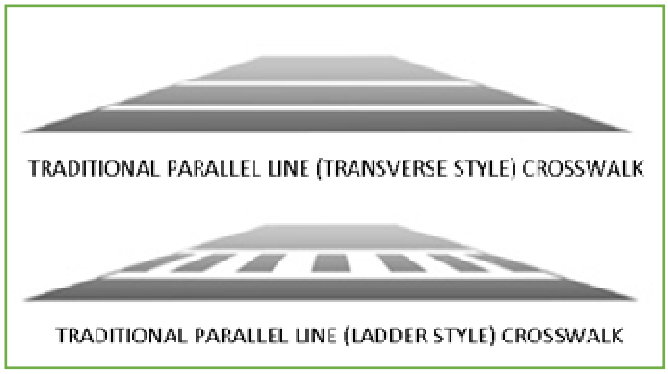
The Isett Avenue/Cypress Street & E 11th Street intersection contains a series of pavement markings on the minor approach leg of E 11th Street that includes a stop line located approximately 50 feet from the Isett Avenue/Cypress Street traveled way and a broken "stop" line located approximately 16 feet from the edge of traveled way. The MUTCD does not recognize this style of pavement marking for use as a secondary stop line. This pavement marking should be removed. The stop line can be relocated nearer the intended stop location for vehicles on the E 11th Street approach leg. By relocating the stop line nearer the intersection roadways, the available intersection sight distances will be improved.

As noted in the field review, the existing stop lines (or stop bars) for many of the intersection approaches within the study area were observed to be deteriorated with faded or nonexistent pavement markings. Exposure to environmental conditions and traffic as well as normal aging will cause pavement markings to deteriorate and fade over time. It is proposed that the City of Muscatine include the pavement markings as part of the City pavement marking painting program. If necessary, fresh paint should be applied and other improvements made to keep the pavement markings near this intersection in good condition.

Higher grade pavement markings, as well as permanent tape marking products, which require grooving of pavement, could also be explored. These products have higher initial cost; however, they are expected to last longer with enhanced visibility.

Crosswalk Modifications

Crosswalk pavement markings provide guidance for pedestrians who are crossing a roadway segment by defining and delineating paths across approaches of intersections. In conjunction with signs and other measures, crosswalk pavement markings assist to alert drivers of a designated crossing point across the roadway.



A research study[1] completed in 2006 at Iowa State University found that the use of ladder style parallel line provided a greater amount of remaining target value over time than the traditional transverse style parallel line pavement markings. Thus, it is proposed that the City of Muscatine consider improving the current condition of the crosswalk pavement markings and considers adopting the use of ladder style crosswalks, especially near mid-block crossing locations. Furthermore, the layout can accommodate typical vehicle wheel paths between the longitudinal markings, which should decrease maintenance.

The design recommendations from the MUTCD states that when transverse crosswalk lines are used, they shall consist of solid white lines and not be less than six inches in width or greater than 24 inches in width. For the ladder style applications, it is proposed that the longitudinal lines should be 12 to 24 inches wide and separated by gaps of 12 to

[1] Neal Hawkins and Hillary Isebrands, 2006, Internal Staff Review for Six Selected Pedestrian Crossing Locations, Center for Transportation Research and Education, Iowa State University

60 inches. The gap between the longitudinal lines should not exceed 2.5 times the width of the longitudinal lines.

Intersection Geometric Improvements

4-Lane to 3-Lane Roadway Conversion

The Isett Avenue corridor between Lake Park Boulevard and Woodlawn Avenue (approximately 600 feet north of E 11th Street) through the City of Muscatine has been identified as a candidate for a potential four-lane to three-lane reconfiguration within the April 2017 Iowa DOT document titled, "Statewide Screening for Potential Lane Reconfiguration". A continuous 3-lane undivided roadway includes one travel lane in each direction and a center two-way left turn lane. When evaluating approximations of whether a 3-lane undivided roadway will adequately accommodate certain ADT or peak hour volumes, the Federal Highway Administration[2] notes the following planning-level thresholds:

- ADT of less than 20,000 vehicles per day
- Peak hour volumes[3]:
    - *Probably feasible* at or below 750 vehicles per hour per direction
    - *Consider cautiously* between 750-875 vehicles per hour per direction during peak hour
    - *Feasibility less likely* above 875 vehicles per hour per direction during the peak hour

The existing ADT and peak hour volumes along the Isett Avenue corridor within the study area fall within these recommended thresholds. All entering segment ADT volumes are less than 20,000 vehicles per day. Additionally, the peak hour volumes at the intersections within the corridor fall below the 750 vehicles per hour per direction threshold listed above.

The continuous 3-Lane undivided build scenario utilizes the existing cross-section to provide a separated two-way left-turn lane into all minor cross-street and driveway access locations while a dedicated left turn lane is provided at major cross streets along Isett Avenue. The Crash Modification Factor Clearinghouse lists a crash reduction factor of 47% for converting four-lane roadways to three-lane roadways with center turn lane based on a study by Persaud, et al[4].

Two-way left turn lanes remove conflicts with opposing left-turning vehicles by aligning the opposing vehicles movements and improve safety by reducing sight line obstructions to through vehicles. At intersections along a four-lane undivided corridor, opposing left-turning vehicles assume a greater risk due to the possibility of hidden vehicles in the outer lanes which may be blocked from view, as seen in **Exhibit 21**.

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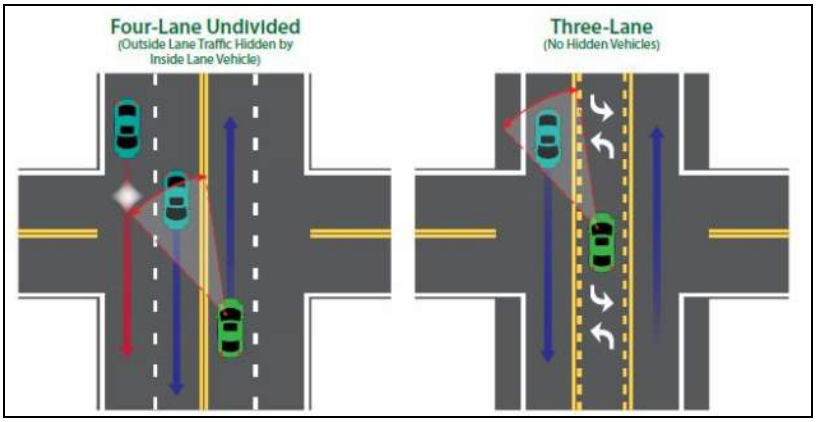
[2] *Road Diet Information Guide.* Federal Highway Administration. November 2014. http://safety.fhwa.dot.gov/road_diets/info_guide/

[3] Knapp, Welch, and Witmer. *Converting Four-Lane Undivided Roadways to a Three-Lane Cross Section: Factors to Consider*. Center for Transportation Research and Education, Iowa State University, and Iowa DOT. 1999. Reference within FHWA *Road Diet Information Guide*.

[4] Persaud, B., Lana, B., Lyon, C., and Bhim, R. "Comparison of empirical Bayes and full Bayes approaches for before-after road safety evaluations." Accident Analysis & Prevention, Vol. 42, Issue 1, pp. 38-43 (2010)

Exhibit 21: Opposing Direction Left-Turn Movements



Reproduced from the FHWA Road Diet Information Guide

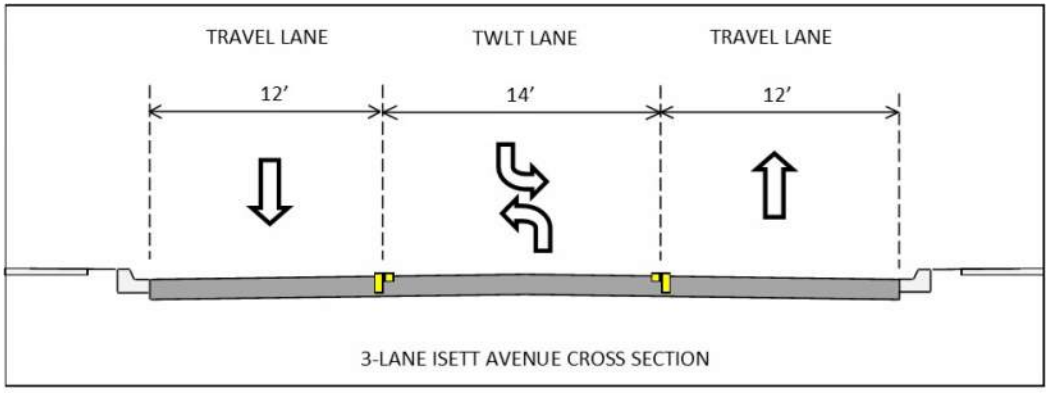
The following improvements/considerations were included in the 4-Lane to 3-Lane Build scenario:

- Add continuous center two-way left-turn lane through the Isett Avenue corridor.
- Add dedicated left-turn lanes (traditional left-turn bays/pockets) at the northbound/southbound approaches of applicable study area intersections along the Isett Avenue corridor.
- Optimize traffic cycle lengths, splits and offsets for the Isett Avenue & Bidwell Road intersection traffic signal.

The Isett Avenue corridor, within the conversion limits, has an approximately 38-foot width cross section which narrows as it nears Woodlawn Avenue. It is possible to implement a continuous 3-lane cross section, without the need to construct new pavement, through the application of appropriate pavement markings. The available roadway cross-section on Isett Avenue provides options for redistributing the travel lanes. A 3-lane cross section concept with 12-foot wide thru lanes and a 14-foot wide center two-way left turn lane was developed for further consideration by the City.

Exhibit 22 depicts the potential lane configurations of the 3-lane Isett Avenue cross section.

Exhibit 22: Potential 3-Lane Isett Avenue Cross Section



Traffic models for the 4-Lane to 3-Lane Build Concept were created using Synchro/SimTraffic software. Intersection reports from the Synchro and SimTraffic software are available in **Appendix C**.

The Build Condition road network included the Isett Avenue/Cypress Street corridor between and including the intersections of Lake Park Boulevard and E 9th Street. Intersection capacity and queueing analysis considered year 2020 traffic volumes, existing intersection traffic control, and the converted three-lane cross section between Lake Park Boulevard and Woodlawn Avenue. The results of the 3-Lane Isett Avenue intersection capacity analysis are documented in **Exhibit 23**.

Exhibit 23: Three-Lane Concept Condition Analysis

Intersection	2020 Capacity Analysis											
	Control Type	Time of Day	EB Leg		WB Leg		NB Leg		SB Leg		Intersection LOS / Delay (sec/veh)	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay		
Isett Avenue & Lake Park Boulevard	**TWSC**	**AM**	-	-	B	11.9	A	0	A	1.2	**B**	**11.9**
		MID	-	-	B	11.8	A	0	A	1.0	**B**	**11.8**
		PM	-	-	B	14.2	A	0	A	1.0	**B**	**14.2**
Isett Avenue & Clay Street	**AWSC**	**AM**	-	-	C	17.6	B	13.5	B	14.8	**B**	**15.0**
		MID	-	-	B	12.6	B	11.5	B	12.6	**B**	**12.1**
		PM	-	-	C	18.4	C	15.8	C	23.1	**C**	**18.8**
Isett Avenue & Bidwell Road	**Signal**	**AM**	C	23.2	-	-	A	6.8	A	9.9	**B**	**13.6**
		MID	C	22.2	-	-	A	4.9	A	7.9	**A**	**9.6**
		PM	C	23.2	-	-	A	6.7	A	9.7	**B**	**11.8**
Isett Avenue/ Cypress Street & E 11th Street	**TWSC**	**AM**	B	13.1	-	-	A	4.5	A	0	**B**	**13.1**
		MID	B	11.8	-	-	A	1.7	A	0	**B**	**11.8**
		PM	B	14.3	-	-	A	2.8	A	0	**B**	**14.3**
Cypress Street & E 10th Street	**TWSC**	**AM**	B	13.4	B	12.4	A	0.4	A	0	**B**	**13.4**
		MID	B	12.0	B	13.2	A	0.3	A	0.2	**B**	**13.2**
		PM	B	14.2	C	15.5	A	0.1	A	0.2	**C**	**15.5**
Cypress Street & E 9th Street	**AWSC**	**AM**	A	8.8	B	11.1	A	9.6	B	10.5	**B**	**10.3**
		MID	A	8.6	B	10.6	A	9.7	B	10.6	**B**	**10.2**
		PM	B	10.2	B	14.6	B	12.6	C	18.5	**B**	**14.9**

Results of the Build Conditions capacity analysis shows that the study intersections generally operate at LOS C or better across all peak hours in the three-lane cross section condition. Intersection impacts were limited to Isett Avenue between Lake Park Boulevard and Bidwell Road with no delay changes experienced at intersections to the south.

Generally, the capacity analysis results indicated that the traffic operations of the three-lane cross section design were similar to that of the current four-lane cross section condition with no significant capacity changes. Although the capacity analysis results indicate similar traffic operations between the three- and four-lane conditions through the study corridor, the conversion to a three-lane cross section would offer many benefits along the Isett Avenue corridor, including but not limited to the following:

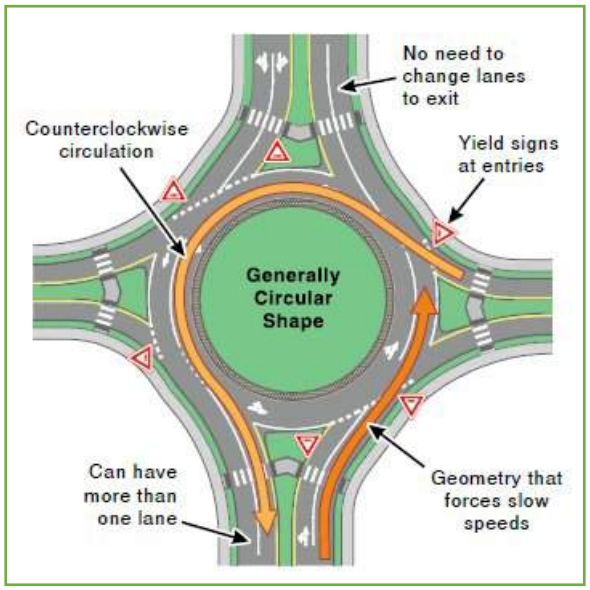
- Reduces pedestrian crossing distances across Isett Avenue.
- Improves pedestrian comfort and safety, both along and across the corridor.
- One lane in each direction would decrease/eliminate the dangerous overtaking scenarios. Overtaking is when a large vehicle is traveling in the outside lane and a smaller vehicle is traveling at a higher speed in the inside travel lane. A

pedestrian or stopped vehicle along a side street may not notice the smaller vehicle, or its higher rate of speed, due to the vehicle being blocked by the slower moving large vehicle.

- One lane in each direction would offer safety benefits for vehicles making a left turn from Isett Avenue. Not only would the turning vehicles enjoy the benefit of a dedicated turn lane by removing them from the through lane(s), but the vehicle would also have fewer Isett Avenue approach lanes to interpret.
- As a result of the benefits listed above, the number of failure to yield caused crashes and broadside manner of crash as well as rear-end crashes along the study corridor may be reduced.

Roundabout Geometry

An alternative to the existing Isett Avenue & Bidwell Road intersection geometry includes replacing the current intersection with a single lane entry roundabout. Roundabouts improve traffic flow by allowing continuous flow traffic to enter the intersection. At a roundabout, all entering vehicles yield to traffic circulating the roundabout. Although each entering vehicle is required to slow down, the time stopped while waiting is significantly reduced.



Roundabouts improve safety by reducing the number of conflict points between vehicle paths. According to NCHRP Report 572: Applying Roundabouts in the United States (2007)[5], roundabouts have been shown to reduce total crashes by 35% and injury crashes by 76% when compared to previously stop controlled or signalized intersections. The reduction in crashes is accomplished by eliminating severe crash types including head-on crashes, right-angle “broadside” crashes and left turning crashes.

A roundabout concept at Isett Avenue & Bidwell Road could be implemented as a long-term solution to help improve traffic flow at the intersection. This would most likely require a complete reconstruction of the existing intersection, resulting in higher construction costs and increased complexity of construction staging/maintenance of traffic. Existing vertical grades at the intersection must be regraded to provide adequate approach profiles at each intersection leg and maximize visibility of the central island and curbs. The circulating path and traversable apron would need to be designed to accommodate the existing truck traffic.

Additional intersection lighting may be necessary. Furthermore, the geometric footprint of the roundabout may potentially cause right-of-way and access impacts to the surrounding properties that may require additional measures to address. The

[5] Rodegerdts, L. A., Blogg, M., Wemple, E., Myers, E., Kyte, M., Dixon, M., List, G., Flannery, A., Troutbeck, R., Brilon, W., Wu, N., Persaud, B., Lyon, C., Harkey, D., and Carter, D., "NCHRP Report 572: Applying Roundabouts in the United States." Washington, D.C., Transportation Research Board, National Research Council, (2007).

implementation of a roundabout at this location may be cost-prohibitive. Further study would be necessary.

E 11th Street Intersection

The intersection of Isett Avenue/Cypress Street & E 11th Street features a horizontal curve that is interrupted midway by an intersection which presents some unique operational and safety issues. Horizontal curves increase roadway departure events compared to tangent roadways. Intersections placed on horizontal curves further increase crash risks due to the difficulty in recognizing vehicle movements at these locations. One way that this can occur is from a stopped vehicle on the major road waiting to make a left turn at the intersection resulting in a rear-end incident. Another common method is when drivers on the minor road fail to interpret oncoming vehicle movements from the major roadway and entering the roadway in an unsafe manner.

The Isett Avenue/Cypress Street & E 11th Street intersection does not have a crash rate above the statewide average for a comparable road system and severity crash rate. However, the five-year crash history did reveal crash instances that could be considered a result of the intersection and horizontal curve geometry. One crash incident included a rear end crash involving three vehicles and three other crash incidents involved a failure to safely negotiate the curve and included collisions with vehicles stopped at the E 11th Street intersection.

Some common low-cost options to reduce crash frequency at locations with intersections on a horizontal curve include providing a left-turn lane from the major roadway, moving the stop bar forward to improve the line of sight of vehicles on the minor roadway, increasing sight distance from the minor road through parking restrictions and trimming vegetation, and installing horizontal curve warning signs. Several of these low-cost improvements have been discussed previously for consideration at this location.

If low-cost options cannot address the safety concerns that exist, more intensive mitigation measures can be considered. This could include closing access at the intersection to eliminate the conflicting movements. If the E 11th Street approach were closed, traffic could be routed along the parallel roadway of E 10th Street.

Exhibit 24: Potential E 11th Street Closure

In addition to the benefits that can be seen from the reduction in vehicle conflicts the closure of E 11th Street would provide the opportunity to sign the horizontal curve using Chevron (MUTCD, W1-8) warning signs to guide vehicles through the curve.

Lake Park Boulevard Realignment

The existing intersection of Isett Avenue & Lake Park Boulevard is a skewed, three-legged intersection with minor street stop control on Lake Park Boulevard. The preferred design angle for intersections is 90 degrees. Crash frequency has been shown to increase at skewed intersections. A long-term goal should be the realignment of skewed intersections.

Relocating the intersection to the north would align the east leg of the intersection with the existing Hancock Street intersection on the west leg thereby improving intersection spacing. Reconstructing the intersection would remove the skewed angle and improve available sight lines to stopped vehicles attempting to enter through traffic and extend the visibility of approaching traffic to any potential conflicts.

It is understood that this improvement would require substantial geometric modifications and would likely require right-of-way acquisition with any affected property owners. For this reason, this option may be cost prohibitive. A comprehensive study of right-of-way, grades, and existing utilities would be necessary.

Exhibit 25: Potential Lake Park Boulevard Realignment

Traffic Signal Improvements

Timing Parameters - Yellow/All-Red Times

The current traffic signal timing plan at Isett Avenue & Bidwell Road may benefit from a signal timing optimization/retiming review and should be considered as part of any roadway improvement project. Signal retiming is a process that optimizes the operation of a signalized intersection through a variety of low-cost methods, including the development and implementation of new signal timing parameters, phasing sequences, and improved control strategies. Signal retiming is considered one of the most cost-effective ways to improve traffic flow along a corridor. Traffic signal retiming can significantly reduce delays and stops experienced by motorists, which can improve safety and reduce fuel consumption and emissions.

As part of the signal timing evaluation, new timings were developed for the yellow and all-red signal parameters. The purpose of the yellow phase interval is to alert drivers that their right-of-way is ending, allowing the driver to come to a stop or continue safely through the intersection. The purpose of the all-red phase interval is to allow vehicles that may have entered the intersection during the yellow phase an opportunity to clear any points of conflict before allowing opposing movements the right-of-way. Insufficient yellow time intervals can influence the possibility of rear-end crashes and insufficient all-red time intervals can influence the possibility of broadside crashes. From review of Section 4D.26 of the 2009 MUTCD and Chapter 10 of the 2013 ITE Traffic Control Devices Handbook, the study intersection should have a minimum of the following yellow and all-red timings:

- NB/SB Approaches along Isett Avenue
    - Yellow: 3.4 seconds
    - All-Red: 2.6 seconds
- NB/SB Left-turn Movements along Isett Avenue
    - Yellow: 3.0 seconds
    - All-Red: 2.3 seconds
- EB/WB Movements along Bidwell Road
    - Yellow: 3.0 seconds
    - All-Red: 2.3 seconds

The updated yellow and all-red times at the Isett Avenue & Bidwell Road intersection traffic signal could aid in progression through the corridor and has the potential to assist with reducing the crash frequency.

Traffic Signal Infrastructure

The traffic signal infrastructure at the intersection of Isett Avenue & Bidwell Road could be upgraded to current standards of practice. The existing traffic signal infrastructure makes use of a wood pole and span wire design that provides a cost-effective solution for signalization but limits the size, orientation, and longitudinal placement of traffic signal heads. The list below contains items that should be considered under further study of the proposed traffic signal system.

- Signal Poles - Evaluate potential conversion of span wire traffic signal infrastructure to traffic signal pole upright and mast arm infrastructure. The placement of traffic signal poles should consider the intersection approach sight angles to maximize traffic signal head visibility. Chapter 4D of the MUTCD should be used as reference.
- Vehicle Signal Heads – The following items should be studied further:
    - Use of LED signal heads to reduce energy consumption.
    - Evaluate the future needs/impacts of changing to a protected-permissive flashing yellow phase for the northbound approach left-turn movements.
- Pedestrian Signal Heads – If traffic signal improvements are made, pedestrians should be accommodated. Use symbol indications to provide a clearer intent of the message and increase recognition. Also, use of a countdown display in order to inform pedestrians of the number of seconds remaining in the pedestrian change interval should be used.

- Cabinet Equipment - Evaluate necessary cabinet components to determine future needs if flashing yellow left-turn signal heads are implemented.
- Detection Equipment – Evaluate required vehicle detection components in conjunction with other traffic system improvements to ensure compatibility.

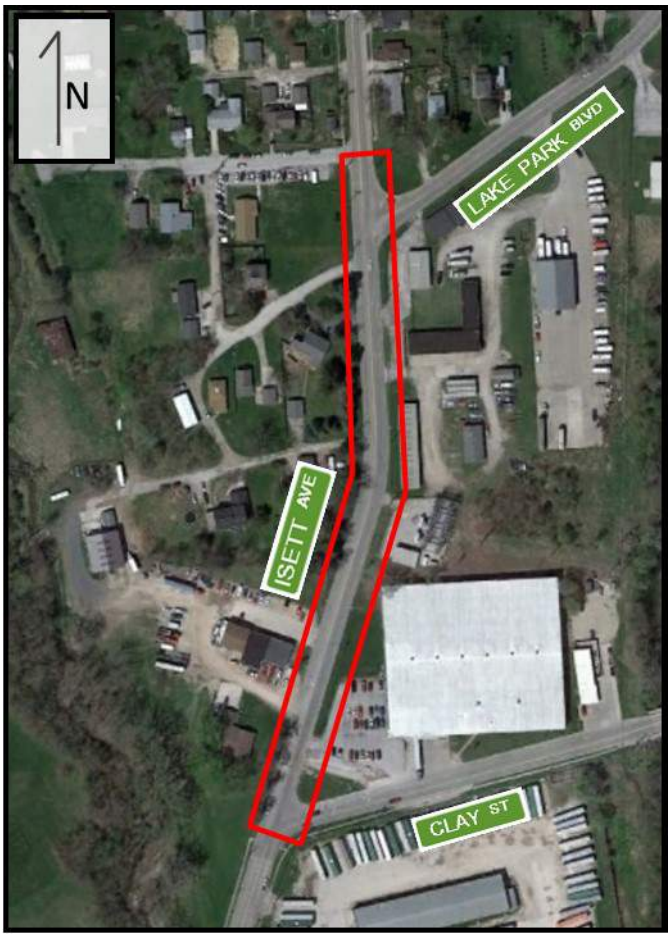
The potential 4-Lane to 3-Lane roadway conversion would require the relocation of traffic signal heads to align with the revised lane geometry and updates to the existing infrastructure could be considered at that time.

With any potential traffic signal modification such as installation/relocation of a traffic signal pole/pedestrian pole, consideration should be given to Section 12A-2 of the Iowa DOT Design Manual regarding accessible sidewalk requirements. Section 12A-2 contains requirements based upon the *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (July 26th, 2011) (PROWAG).*

Sidewalk Connectivity

The existing sidewalk network runs along the east side and west side of Isett Avenue/Cypress Street within the study area. However, there exists a disconnect in the continuity of the sidewalk system between the intersections of Clay Street and Lake Park Boulevard. By providing an extension of the sidewalk between these two intersections it would increase the overall connectivity of the City of Muscatine and enhance the safety of pedestrians utilizing Isett Avenue.

Exhibit 26: Sidewalk Connectivity Needs



ADA-Compliant Sidewalk Ramps and Landing Areas

Newly constructed sidewalk facilities must adhere to the latest requirements found in Chapter 12 of the Iowa DOT Design Manual, which was developed based on the *Americans with Disabilities Act Accessibilities Guidelines* (ADAAG) and the *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* (PROWAG) documents. These requirements ensure that pedestrian routes are accessible to persons with disabilities and include standard applications for geometry and safety.

Curb ramps provide individuals with disabilities access to pedestrian street crossings and are required for new construction or when alterations are made to existing pedestrian routes. Ramps must provide adequate turning space and follow guidelines for maximum slope. In addition, curb ramps must provide detectable warning surfaces, such as tactile pad treatment, to indicate curb edge boundaries to pedestrians with impaired vision. Ultimately, it is proposed that all existing sidewalk ramps and crosswalks (marked and unmarked) that are along the pedestrian routes be scheduled to update to include the latest ADAAG and PROWAG requirements. It should be noted that if changes are implemented to the pedestrian circulation path within the study area, the sidewalk ramps should be designed according to the ADA compliant standards in the Iowa DOT Design Manual to include proper pavement slope, turning space and a detectable warning surface. The City is encouraged to engage conversations with their local Iowa DOT District Office to begin/advance the development of the City's ADA Transition Plan document.

Vegetation Maintenance

The Federal Highway Administration has published a manual entitled, *Vegetation Control for Safety: A Guide for Local Highway and Street Maintenance Personnel.* In this manual a couple goals were stated: Keeping signs visible to drivers and keeping road users (vehicles, bicycles and pedestrians) visible to drivers. These goals are very important to the safety of the traveling public. The manual also emphasizes the importance of maintaining clear sight lines through the maintenance of vegetation around a roadway. To assist with roadway safety, maintenance schedules should be defined and managed to proactively address any potential hazard. The maintenance schedule should include mowing and brush cutting of vegetation along City roadways before vegetation becomes overgrown and adversely impacts the roadway users.

RECOMMENDED IMPROVEMENTS

This report provided an evaluation of the potential operational and safety improvements to the Isett Avenue and Cypress Street corridors and associated intersections located in the City of Muscatine. Through conversations with City of Muscatine, Iowa DOT staff and field review observations, the primary concerns within the study area were identified:

- Feasibility of reconfiguring the existing four-lane undivided roadway to a three-lane undivided cross section.
- Recommendations for traffic control and potential geometric improvements at the intersection of Isett Avenue & Bidwell Road.
- Available sight distance at the Isett Avenue/Cypress Street & E 11th Street intersection approaches.

Several options for improvements within the study area were considered based on the field observations and results of the analysis. The following is a list of recommended improvements anticipated to increase the overall safety and traffic operation near the study intersections. These recommendations are categorized into short-term and long-term improvement solutions. The short-term options are assumed to be inexpensive, and able to be implemented in a short amount of time. Whereas the long-term options are assumed to be more costly, and require relatively more time, detailed planning, and resources to help address future traffic and safety concerns.

It should be noted that the implementation of the short-term recommendations may alleviate the concerns to the extent that the long-term recommendation may become unnecessary. The following recommendations are anticipated to improve the overall safety of users at the intersection. Refer to the Considered Options section of the report for more details.

Short Term Recommendations

- Study Corridors: Isett Avenue and Cypress Street
  - Replace signs that fail to meet minimum retroreflective, consistency, and conspicuity standards outlined in the MUTCD.
  - Adopt the use of ladder style crosswalks at marked locations.
- Study Intersection: Isett Avenue & Bidwell Road
  - Evaluate/update traffic signal timing parameters.
- Study Intersection: Isett Avenue/Cypress Street & E 11th Street
  - Repaint the existing E 11th Street stop line nearer the intersection (recommended within 15 feet of the intersecting roadway).
  - Replace the existing Horizontal Alignment (MUTCD, W1-2) sign with a Combination Horizontal Alignment/Intersection (MUTCD, W1-10) sign and speed plaque (W13-1P) and relocate to within 200 feet of the intersection with E 11th Street for northbound and southbound traffic.
  - Trim and maintain all trees within approximately 500 feet of this study intersection.
  - Remove the off-street parking located north of this intersection.

Long Term Recommendations

- Study Corridor: Isett Avenue
  - Restripe the corridor from a 4-lane cross section to a 3-lane cross section between Lake Park Boulevard and Bidwell Road.
- Study Intersection: Lake Park Boulevard
  - Consider reconstructing the east leg roadway alignment.
- Study Intersection: Isett Avenue & Bidwell Road
  - Consider replacing the traffic signal span wire with a traffic signal pole and mast arm installation.

PLANNING LEVEL OPINION OF PROBABLE COSTS

An order of magnitude opinion of probable cost for the short term and long term recommended improvements presented above is included in **Exhibit 27** below.

Exhibit 27: Planning Level Opinion of Probable Costs Summary

	Cost Estimate	Notes
SHORT TERM:		
Replace/Relocate Existing Corridor Signing (Per Sign)	$200 - $300	Construction costs only
Relocate Stop Bar Pavement Markings (Per Approach)	$200 - $300	Construction costs only
Update Crosswalk Pavement Markings	$200 - $300 per leg	Construction costs only
Curb and Gutter to Eliminate Off-Street Parking	-	Further study necessary
Traffic Signal Timing Evaluation	-	Further study necessary
LONG TERM:		
ADA-Compliant Sidewalk Ramps	$750 - $1,500 per ramp	Construction costs only
4-Lane to 3-Lane Conversion	-	Further Study Necessary
Traffic Signal Infrastructure Evaluation/Upgrade	-	Further study necessary
Roadway Reconstruction at Lake Park Boulevard	-	Further study necessary
NOTES: * This opinion represents approximate construction quantities only and does not provide a detailed list of expected project pay items. The opinion is to be used as a planning number only. Actual costs may vary, as detailed design plans are prepared. * Cost do not include any permanent right-of-way and temporary construction easement costs.		

POTENTIAL FUNDING SOURCES

Many funding sources may be available while pursuing funding for elements of the project recommendations.

TSIP

Funding for traffic safety improvements on public roads under county, city or state jurisdiction may be available through the Iowa DOT Traffic Safety Improvement Program (TSIP). The application deadline for TSIP funding is August 15th of each year. The crash history for the study corridor showed a lower rate than the statewide average, which would likely make it difficult for the corridor to compete for site specific funding due to crash history. However, the traffic control devices category for funding includes the "purchase of materials for installation of new traffic control devices such as signs or signals, or replacement of obsolete signs or signals". TSIP funding may be applicable for the installation of a traffic signal or corridor signage. Site-specific funding cannot exceed $500,000 per project. Application forms are available from the Iowa DOT, and application is made to the Iowa DOT Office of Traffic and Safety.

Local RUTF

Funding for roadway facility improvements by public entities with public road jurisdiction may be available through the local Road Use Tax Fund (RUTF). This program could potentially aid in the construction of roadway improvements along the study corridors. Additional information regarding the local RUTF can be found here:
https://iowadot.gov/about/HighwayFinance

Sign Replacement Program for Cities and Counties

The Iowa Department of Transportation Office of Traffic and Safety offers financial assistance for the replacement of damaged, worn out, obsolete or substandard signs and signposts for cities and counties in Iowa. The program is intended for the replacement of existing signs and not for the purchase of new signs for locations that do not currently have a sign. The annual grant maximum is $5,000 for cities and $10,000 for counties. Grantees may apply for the sign replacement grant one year after their last grant was approved. Only one grant application may be submitted per application year. Grantees will be required to purchase the replacement signs. Reimbursement for the approved signs will be made upon notification of the signs being installed along with a copy of the invoice and proof of invoice payment.

Further information related to the Sign Replacement Program for Cities and Counties is available on the Iowa DOT website at https://iowadot.gov/traffic/Traffic-and-Safety-programs/sign-replacement-program

Further information on potential Iowa DOT funding sources is available on the Iowa DOT website at https://iowadot.gov/pol_leg_services/funding-guide. Information sheets on each of the Iowa DOT programs mentioned are provided in **Appendix D** of this report.

Appendix A – Traffic Volume Data

Isett Avenue & Lake Park Boulevard - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Lake Park Boulevard					Isett Avenue					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2020-12-08 12:00AM	2	0	0	**2**	0	0	5	0	**5**	0	1	1	0	**2**	0	**9**
12:15AM	2	0	0	**2**	0	1	2	0	**3**	0	2	3	0	**5**	0	**10**
12:30AM	5	0	0	**5**	0	0	2	0	**2**	0	3	1	0	**4**	0	**11**
12:45AM	0	0	0	**0**	0	0	0	0	**0**	0	1	3	0	**4**	0	**4**
Hourly Total	9	0	0	**9**	0	1	9	0	**10**	0	7	8	0	**15**	0	**34**
1:00AM	2	0	0	**2**	0	0	1	0	**1**	0	2	1	0	**3**	0	**6**
1:15AM	2	0	0	**2**	0	0	2	0	**2**	0	4	0	0	**4**	0	**8**
1:30AM	1	0	0	**1**	0	1	1	0	**2**	0	2	3	0	**5**	0	**8**
1:45AM	4	0	0	**4**	0	0	1	0	**1**	0	1	3	0	**4**	0	**9**
Hourly Total	9	0	0	**9**	0	1	5	0	**6**	0	9	7	0	**16**	0	**31**
2:00AM	1	0	0	**1**	0	0	0	0	**0**	0	1	0	0	**1**	0	**2**
2:15AM	2	0	0	**2**	0	0	0	0	**0**	0	3	0	0	**3**	0	**5**
2:30AM	2	0	0	**2**	0	0	1	0	**1**	0	0	2	0	**2**	0	**5**
2:45AM	0	0	0	**0**	0	0	0	0	**0**	0	0	2	0	**2**	0	**2**
Hourly Total	5	0	0	**5**	0	0	1	0	**1**	0	4	4	0	**8**	0	**14**
3:00AM	1	0	0	**1**	0	0	2	0	**2**	0	1	1	0	**2**	0	**5**
3:15AM	1	0	0	**1**	0	0	0	0	**0**	0	6	0	0	**6**	0	**7**
3:30AM	2	0	0	**2**	0	1	1	0	**2**	0	2	3	0	**5**	0	**9**
3:45AM	4	0	0	**4**	0	0	1	0	**1**	0	3	4	0	**7**	0	**12**
Hourly Total	8	0	0	**8**	0	1	4	0	**5**	0	12	8	0	**20**	0	**33**
4:00AM	2	0	0	**2**	0	0	0	0	**0**	1	4	5	0	**9**	0	**11**
4:15AM	4	0	0	**4**	0	0	0	0	**0**	0	3	7	0	**10**	0	**14**
4:30AM	10	0	0	**10**	0	0	3	0	**3**	0	2	7	0	**9**	0	**22**
4:45AM	10	1	0	**11**	0	0	0	0	**0**	0	7	14	0	**21**	0	**32**
Hourly Total	26	1	0	**27**	0	0	3	0	**3**	1	16	33	0	**49**	0	**79**
5:00AM	8	1	0	**9**	0	0	5	0	**5**	0	5	4	0	**9**	0	**23**
5:15AM	7	0	0	**7**	0	0	1	0	**1**	0	5	8	0	**13**	0	**21**
5:30AM	13	1	0	**14**	0	0	2	0	**2**	0	11	12	0	**23**	0	**39**
5:45AM	17	1	0	**18**	0	1	7	0	**8**	0	9	12	0	**21**	0	**47**
Hourly Total	45	3	0	**48**	0	1	15	0	**16**	0	30	36	0	**66**	0	**130**
6:00AM	9	0	0	**9**	0	0	4	0	**4**	0	10	19	0	**29**	0	**42**
6:15AM	5	0	0	**5**	0	0	7	0	**7**	0	7	19	0	**26**	0	**38**
6:30AM	15	1	0	**16**	0	0	9	0	**9**	0	16	20	0	**36**	0	**61**
6:45AM	28	2	0	**30**	0	2	5	0	**7**	0	17	16	0	**33**	0	**70**
Hourly Total	57	3	0	**60**	0	2	25	0	**27**	0	50	74	0	**124**	0	**211**
7:00AM	18	1	0	**19**	0	3	7	0	**10**	0	12	19	0	**31**	0	**60**
7:15AM	20	0	0	**20**	0	0	12	0	**12**	0	22	12	0	**34**	0	**66**
7:30AM	40	4	0	**44**	0	5	15	0	**20**	0	24	22	0	**46**	0	**110**
7:45AM	47	8	0	**55**	0	3	18	0	**21**	0	36	22	0	**58**	0	**134**
Hourly Total	125	13	0	**138**	0	11	52	0	**63**	0	94	75	0	**169**	0	**370**
8:00AM	29	3	0	**32**	0	0	21	0	**21**	0	38	29	0	**67**	0	**120**
8:15AM	24	0	0	**24**	0	0	22	0	**22**	0	35	16	0	**51**	0	**97**
8:30AM	15	1	0	**16**	0	1	12	0	**13**	0	26	15	0	**41**	0	**70**
8:45AM	21	2	0	**23**	0	2	4	0	**6**	0	21	19	0	**40**	0	**69**
Hourly Total	89	6	0	**95**	0	3	59	0	**62**	0	120	79	0	**199**	0	**356**
9:00AM	20	0	0	**20**	0	1	18	0	**19**	0	27	13	0	**40**	0	**79**
9:15AM	20	2	0	**22**	0	3	27	0	**30**	0	17	21	0	**38**	0	**90**
9:30AM	24	2	0	**26**	0	4	14	0	**18**	0	19	17	0	**36**	0	**80**
9:45AM	23	0	0	**23**	0	4	16	0	**20**	0	18	22	0	**40**	0	**83**
Hourly Total	87	4	0	**91**	0	12	75	0	**87**	0	81	73	0	**154**	0	**332**
10:00AM	17	4	0	**21**	0	6	16	0	**22**	0	19	23	0	**42**	0	**85**
10:15AM	25	0	0	**25**	0	3	23	0	**26**	0	27	26	0	**53**	0	**104**

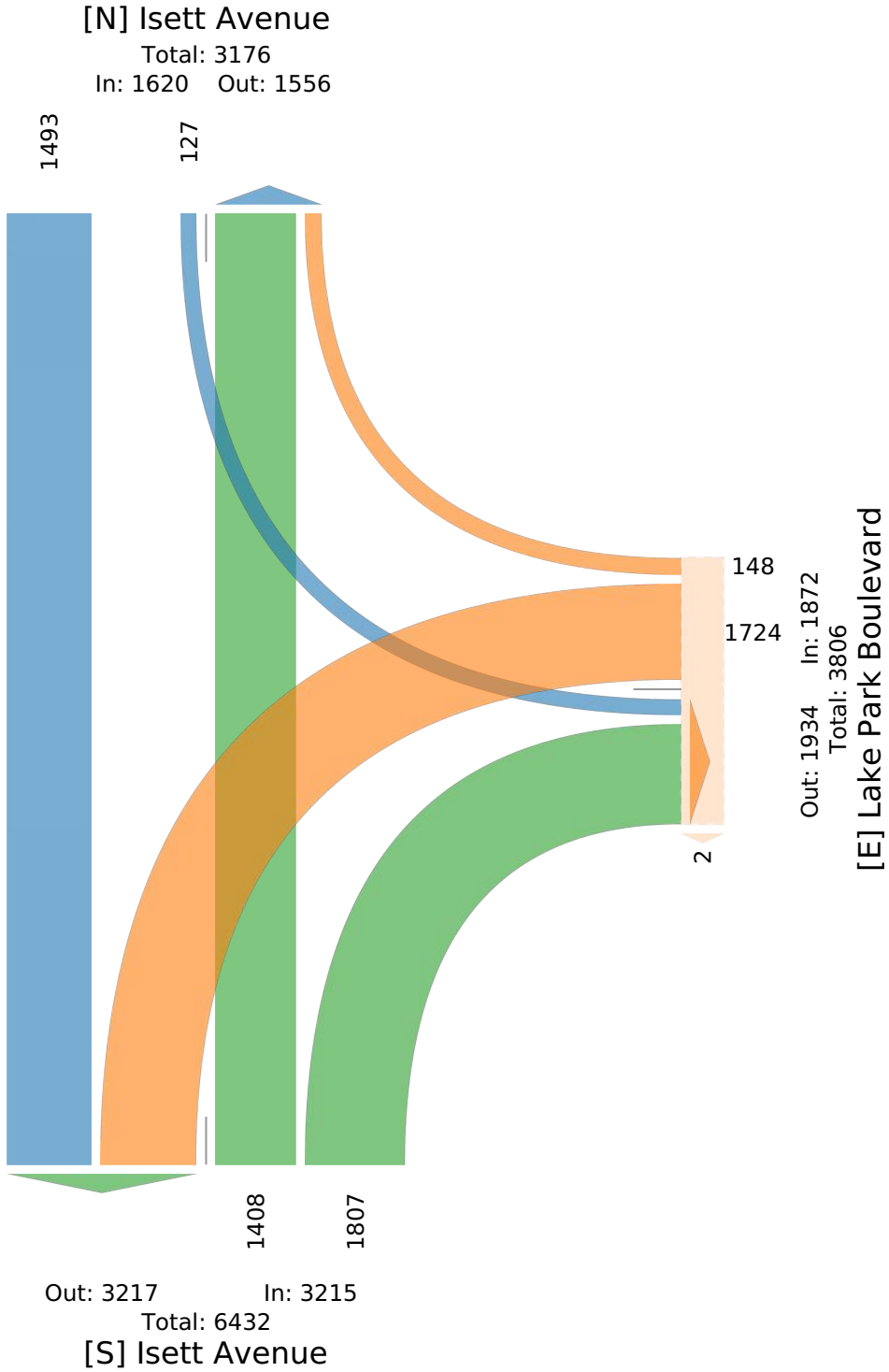
Leg	Isett Avenue					Lake Park Boulevard					Isett Avenue					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
10:30AM	21	4	0	**25**	0	3	20	0	**23**	1	35	18	0	**53**	0	**101**
10:45AM	19	0	0	**19**	0	0	29	0	**29**	0	28	19	0	**47**	0	**95**
Hourly Total	82	8	0	**90**	0	12	88	0	**100**	1	109	86	0	**195**	0	**385**
11:00AM	20	4	0	**24**	0	1	33	0	**34**	0	26	27	0	**53**	0	**111**
11:15AM	23	4	0	**27**	0	1	24	0	**25**	0	42	22	0	**64**	0	**116**
11:30AM	20	1	0	**21**	0	2	35	0	**37**	0	28	23	0	**51**	0	**109**
11:45AM	23	3	0	**26**	0	5	31	0	**36**	0	33	18	0	**51**	0	**113**
Hourly Total	86	12	0	**98**	0	9	123	0	**132**	0	129	90	0	**219**	0	**449**
12:00PM	17	0	0	**17**	0	6	42	0	**48**	0	41	28	0	**69**	0	**134**
12:15PM	26	3	0	**29**	0	1	27	0	**28**	0	25	25	0	**50**	0	**107**
12:30PM	22	3	0	**25**	0	4	32	0	**36**	0	25	17	0	**42**	0	**103**
12:45PM	19	3	0	**22**	0	2	20	0	**22**	0	38	14	0	**52**	0	**96**
Hourly Total	84	9	0	**93**	0	13	121	0	**134**	0	129	84	0	**213**	0	**440**
1:00PM	23	1	0	**24**	0	6	33	0	**39**	0	30	25	0	**55**	0	**118**
1:15PM	22	5	0	**27**	0	2	31	0	**33**	0	36	28	0	**64**	0	**124**
1:30PM	19	5	0	**24**	0	5	41	0	**46**	0	32	19	0	**51**	0	**121**
1:45PM	27	1	0	**28**	0	1	29	0	**30**	0	23	23	0	**46**	0	**104**
Hourly Total	91	12	0	**103**	0	14	134	0	**148**	0	121	95	0	**216**	0	**467**
2:00PM	26	1	0	**27**	0	3	29	0	**32**	0	42	21	0	**63**	0	**122**
2:15PM	29	4	0	**33**	0	2	32	0	**34**	0	36	29	0	**65**	0	**132**
2:30PM	34	1	0	**35**	0	0	26	0	**26**	0	32	19	0	**51**	0	**112**
2:45PM	31	3	0	**34**	0	1	46	0	**47**	0	37	20	0	**57**	0	**138**
Hourly Total	120	9	0	**129**	0	6	133	0	**139**	0	147	89	0	**236**	0	**504**
3:00PM	25	3	0	**28**	0	1	45	0	**46**	0	39	30	0	**69**	0	**143**
3:15PM	24	4	0	**28**	0	1	47	0	**48**	0	43	33	0	**76**	0	**152**
3:30PM	27	3	0	**30**	0	4	35	0	**39**	0	50	36	0	**86**	0	**155**
3:45PM	34	3	0	**37**	0	4	54	0	**58**	0	48	25	0	**73**	0	**168**
Hourly Total	110	13	0	**123**	0	10	181	0	**191**	0	180	124	0	**304**	0	**618**
4:00PM	31	1	0	**32**	0	6	61	0	**67**	0	51	31	0	**82**	0	**181**
4:15PM	32	5	0	**37**	0	5	50	0	**55**	0	47	28	0	**75**	0	**167**
4:30PM	33	2	0	**35**	0	5	39	0	**44**	0	40	29	0	**69**	0	**148**
4:45PM	26	1	0	**27**	0	2	36	0	**38**	0	43	27	0	**70**	0	**135**
Hourly Total	122	9	0	**131**	0	18	186	0	**204**	0	181	115	0	**296**	0	**631**
5:00PM	29	3	0	**32**	0	5	57	0	**62**	0	42	33	0	**75**	0	**169**
5:15PM	19	2	0	**21**	0	4	53	0	**57**	0	33	27	0	**60**	0	**138**
5:30PM	26	4	0	**30**	0	2	43	0	**45**	0	33	20	0	**53**	0	**128**
5:45PM	33	4	0	**37**	0	4	35	0	**39**	0	34	25	0	**59**	0	**135**
Hourly Total	107	13	0	**120**	0	15	188	0	**203**	0	142	105	0	**247**	0	**570**
6:00PM	21	1	0	**22**	0	0	33	0	**33**	0	29	26	0	**55**	0	**110**
6:15PM	16	2	0	**18**	0	1	28	0	**29**	0	21	21	0	**42**	0	**89**
6:30PM	17	0	0	**17**	0	0	27	0	**27**	0	23	15	0	**38**	0	**82**
6:45PM	19	1	0	**20**	0	3	23	0	**26**	0	21	14	0	**35**	0	**81**
Hourly Total	73	4	0	**77**	0	4	111	0	**115**	0	94	76	0	**170**	0	**362**
7:00PM	18	1	0	**19**	0	2	24	0	**26**	0	24	10	0	**34**	0	**79**
7:15PM	18	0	0	**18**	0	0	24	0	**24**	0	18	9	0	**27**	0	**69**
7:30PM	13	3	0	**16**	0	3	23	0	**26**	0	12	18	0	**30**	0	**72**
7:45PM	13	0	0	**13**	0	1	13	0	**14**	0	16	11	0	**27**	0	**54**
Hourly Total	62	4	0	**66**	0	6	84	0	**90**	0	70	48	0	**118**	0	**274**
8:00PM	11	0	0	**11**	0	0	21	0	**21**	0	7	11	0	**18**	0	**50**
8:15PM	10	0	0	**10**	0	3	11	0	**14**	0	7	9	0	**16**	0	**40**
8:30PM	6	1	0	**7**	0	2	11	0	**13**	0	6	7	0	**13**	0	**33**
8:45PM	7	1	0	**8**	0	0	5	0	**5**	0	12	7	0	**19**	0	**32**
Hourly Total	34	2	0	**36**	0	5	48	0	**53**	0	32	34	0	**66**	0	**155**
9:00PM	9	0	0	**9**	0	0	12	0	**12**	0	5	13	0	**18**	0	**39**
9:15PM	9	0	0	**9**	0	0	14	0	**14**	0	6	7	0	**13**	0	**36**
9:30PM	8	1	0	**9**	0	0	7	0	**7**	0	7	8	0	**15**	0	**31**
9:45PM	7	0	0	**7**	0	3	6	0	**9**	0	4	5	0	**9**	0	**25**
Hourly Total	33	1	0	**34**	0	3	39	0	**42**	0	22	33	0	**55**	0	**131**
10:00PM	2	0	0	**2**	0	0	10	0	**10**	0	6	6	0	**12**	0	**24**
10:15PM	3	1	0	**4**	0	1	9	0	**10**	0	4	4	0	**8**	0	**22**

Leg Direction	Isett Avenue Southbound					Lake Park Boulevard Westbound					Isett Avenue Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
10:30PM	5	0	0	**5**	0	0	4	0	**4**	0	7	7	0	**14**	0	**23**
10:45PM	8	0	0	**8**	0	0	3	0	**3**	0	4	2	0	**6**	0	**17**
Hourly Total	18	1	0	**19**	0	1	26	0	**27**	0	21	19	0	**40**	0	**86**
11:00PM	3	0	0	**3**	0	0	4	0	**4**	0	2	4	0	**6**	0	**13**
11:15PM	3	0	0	**3**	0	0	3	0	**3**	0	2	4	0	**6**	0	**12**
11:30PM	4	0	0	**4**	0	0	3	0	**3**	0	1	3	0	**4**	0	**11**
11:45PM	1	0	0	**1**	0	0	4	0	**4**	0	2	2	0	**4**	0	**9**
Hourly Total	11	0	0	**11**	0	0	14	0	**14**	0	7	13	0	**20**	0	**45**
Total	1493	127	0	**1620**	0	148	1724	0	**1872**	2	1807	1408	0	**3215**	0	**6707**
% Approach	92.2%	7.8%	0%	**-**	-	7.9%	92.1%	0%	**-**	-	56.2%	43.8%	0%	**-**	-	**-**
% Total	22.3%	1.9%	0%	**24.2%**	-	2.2%	25.7%	0%	**27.9%**	-	26.9%	21.0%	0%	**47.9%**	-	**-**
Lights	1319	123	0	**1442**	-	143	1687	0	**1830**	-	1791	1218	0	**3009**	-	6281
% Lights	88.3%	96.9%	0%	**89.0%**	-	96.6%	97.9%	0%	**97.8%**	-	99.1%	86.5%	0%	**93.6%**	-	93.6%
Articulated Trucks	135	2	0	**137**	-	1	2	0	**3**	-	0	143	0	**143**	-	283
% Articulated Trucks	9.0%	1.6%	0%	**8.5%**	-	0.7%	0.1%	0%	**0.2%**	-	0%	10.2%	0%	**4.4%**	-	4.2%
Buses and Single-Unit Trucks	39	2	0	**41**	-	4	35	0	**39**	-	16	47	0	**63**	-	143
% Buses and Single-Unit Trucks	2.6%	1.6%	0%	**2.5%**	-	2.7%	2.0%	0%	**2.1%**	-	0.9%	3.3%	0%	**2.0%**	-	2.1%
Pedestrians	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Isett Avenue & Lake Park Boulevard - TMC
Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Lake Park Boulevard - TMC

Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

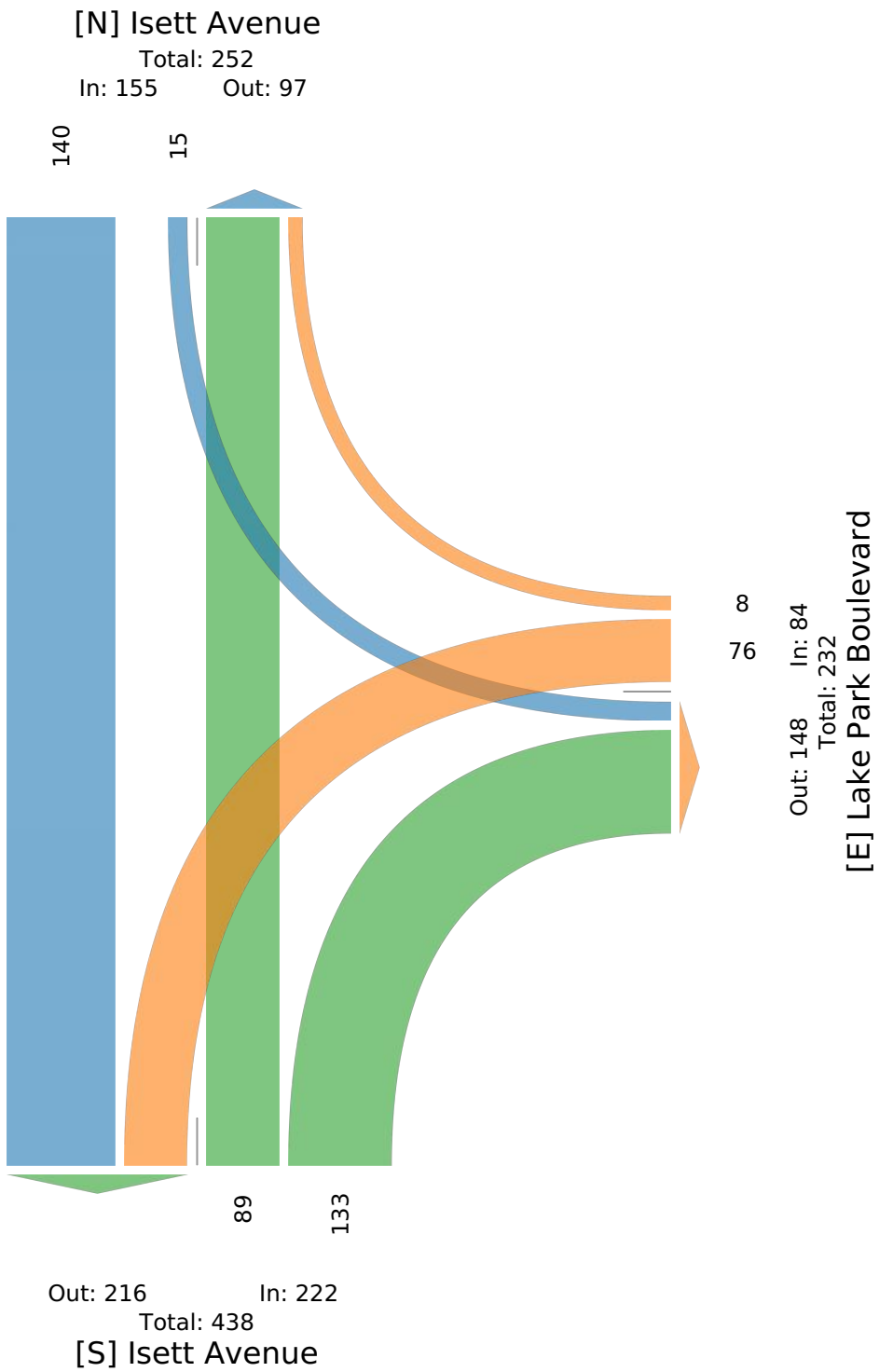
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg / Direction	Isett Avenue Southbound					Lake Park Boulevard Westbound					Isett Avenue Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 7:30AM	40	4	0	**44**	0	5	15	0	**20**	0	24	22	0	**46**	0	**110**
7:45AM	47	8	0	**55**	0	3	18	0	**21**	0	36	22	0	**58**	0	**134**
8:00AM	29	3	0	**32**	0	0	21	0	**21**	0	38	29	0	**67**	0	**120**
8:15AM	24	0	0	**24**	0	0	22	0	**22**	0	35	16	0	**51**	0	**97**
Total	140	15	0	**155**	0	8	76	0	**84**	0	133	89	0	**222**	0	**461**
% Approach	90.3%	9.7%	0%	**-**	-	9.5%	90.5%	0%	**-**	-	59.9%	40.1%	0%	**-**	-	**-**
% Total	30.4%	3.3%	0%	**33.6%**	-	1.7%	16.5%	0%	**18.2%**	-	28.9%	19.3%	0%	**48.2%**	-	**-**
PHF	0.745	0.469	-	**0.705**	-	0.400	0.864	-	**0.955**	-	0.875	0.767	-	**0.828**	-	0.860
Lights	124	15	0	**139**	-	5	70	0	**75**	-	131	77	0	**208**	-	422
% Lights	88.6%	100%	0%	**89.7%**	-	62.5%	92.1%	0%	**89.3%**	-	98.5%	86.5%	0%	**93.7%**	-	91.5%
Articulated Trucks	11	0	0	**11**	-	0	2	0	**2**	-	0	6	0	**6**	-	19
% Articulated Trucks	7.9%	0%	0%	**7.1%**	-	0%	2.6%	0%	**2.4%**	-	0%	6.7%	0%	**2.7%**	-	4.1%
Buses and Single-Unit Trucks	5	0	0	**5**	-	3	4	0	**7**	-	2	6	0	**8**	-	20
% Buses and Single-Unit Trucks	3.6%	0%	0%	**3.2%**	-	37.5%	5.3%	0%	**8.3%**	-	1.5%	6.7%	0%	**3.6%**	-	4.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Isett Avenue & Lake Park Boulevard - TMC
Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Lake Park Boulevard - TMC

Tue Dec 8, 2020
Midday Peak (11:15 AM - 12:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

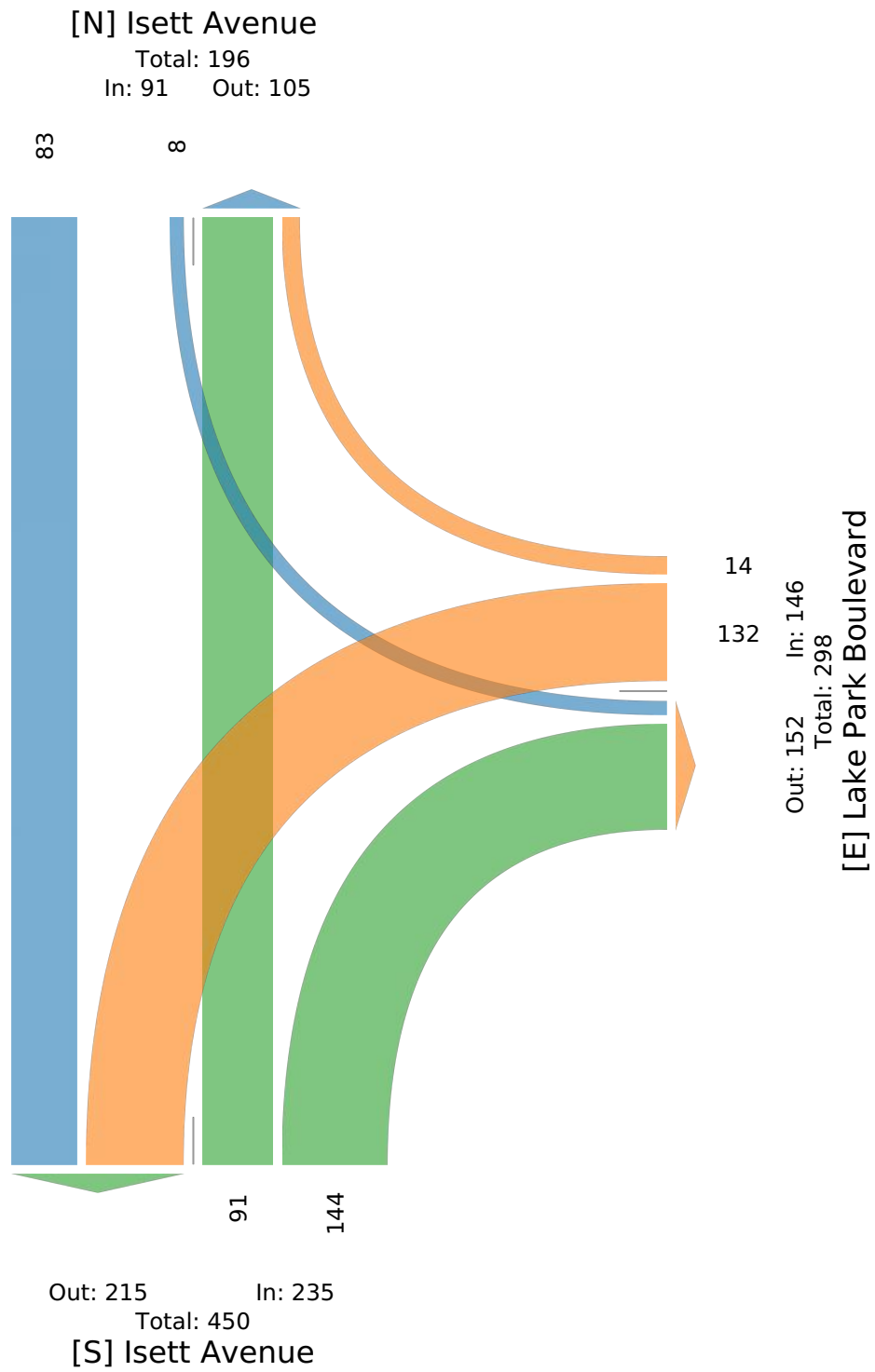
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Lake Park Boulevard					Isett Avenue					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 11:15AM	23	4	0	**27**	0	1	24	0	**25**	0	42	22	0	**64**	0	**116**
11:30AM	20	1	0	**21**	0	2	35	0	**37**	0	28	23	0	**51**	0	**109**
11:45AM	23	3	0	**26**	0	5	31	0	**36**	0	33	18	0	**51**	0	**113**
12:00PM	17	0	0	**17**	0	6	42	0	**48**	0	41	28	0	**69**	0	**134**
Total	83	8	0	**91**	0	14	132	0	**146**	0	144	91	0	**235**	0	**472**
% Approach	91.2%	8.8%	0%	**-**	-	9.6%	90.4%	0%	**-**	-	61.3%	38.7%	0%	**-**	-	**-**
% Total	17.6%	1.7%	0%	**19.3%**	-	3.0%	28.0%	0%	**30.9%**	-	30.5%	19.3%	0%	**49.8%**	-	**-**
PHF	0.902	0.500	-	**0.843**	-	0.583	0.786	-	**0.760**	-	0.857	0.813	-	**0.851**	-	0.881
Lights	72	8	0	**80**	-	14	128	0	**142**	-	141	74	0	**215**	-	437
% Lights	86.7%	100%	0%	**87.9%**	-	100%	97.0%	0%	**97.3%**	-	97.9%	81.3%	0%	**91.5%**	-	92.6%
Articulated Trucks	8	0	0	**8**	-	0	0	0	**0**	-	0	12	0	**12**	-	20
% Articulated Trucks	9.6%	0%	0%	**8.8%**	-	0%	0%	0%	**0%**	-	0%	13.2%	0%	**5.1%**	-	4.2%
Buses and Single-Unit Trucks	3	0	0	**3**	-	0	4	0	**4**	-	3	5	0	**8**	-	15
% Buses and Single-Unit Trucks	3.6%	0%	0%	**3.3%**	-	0%	3.0%	0%	**2.7%**	-	2.1%	5.5%	0%	**3.4%**	-	3.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Isett Avenue & Lake Park Boulevard - TMC
Tue Dec 8, 2020
Midday Peak (11:15 AM - 12:15 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Lake Park Boulevard - TMC

Tue Dec 8, 2020
PM Peak (3:30 PM - 4:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

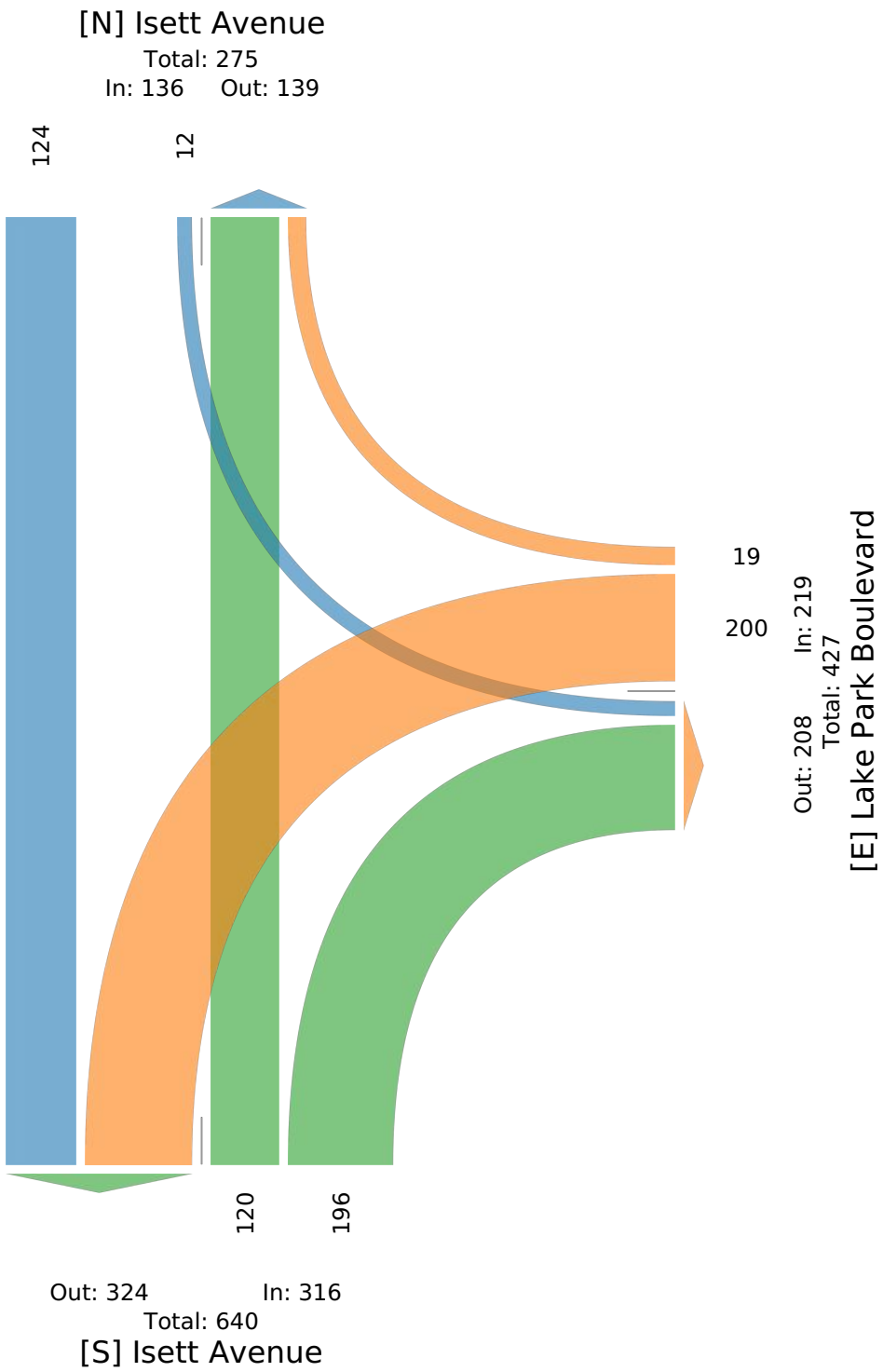
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Lake Park Boulevard					Isett Avenue					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 3:30PM	27	3	0	**30**	0	4	35	0	**39**	0	50	36	0	**86**	0	**155**
3:45PM	34	3	0	**37**	0	4	54	0	**58**	0	48	25	0	**73**	0	**168**
4:00PM	31	1	0	**32**	0	6	61	0	**67**	0	51	31	0	**82**	0	**181**
4:15PM	32	5	0	**37**	0	5	50	0	**55**	0	47	28	0	**75**	0	**167**
Total	124	12	0	**136**	0	19	200	0	**219**	0	196	120	0	**316**	0	**671**
% Approach	91.2%	8.8%	0%	**-**	-	8.7%	91.3%	0%	**-**	-	62.0%	38.0%	0%	**-**	-	**-**
% Total	18.5%	1.8%	0%	**20.3%**	-	2.8%	29.8%	0%	**32.6%**	-	29.2%	17.9%	0%	**47.1%**	-	**-**
PHF	0.912	0.600	-	**0.919**	-	0.792	0.820	-	**0.817**	-	0.961	0.833	-	**0.919**	-	0.927
Lights	115	11	0	**126**	-	18	197	0	**215**	-	194	105	0	**299**	-	640
% Lights	92.7%	91.7%	0%	**92.6%**	-	94.7%	98.5%	0%	**98.2%**	-	99.0%	87.5%	0%	**94.6%**	-	95.4%
Articulated Trucks	9	0	0	**9**	-	0	0	0	**0**	-	0	8	0	**8**	-	17
% Articulated Trucks	7.3%	0%	0%	**6.6%**	-	0%	0%	0%	**0%**	-	0%	6.7%	0%	**2.5%**	-	2.5%
Buses and Single-Unit Trucks	0	1	0	**1**	-	1	3	0	**4**	-	2	7	0	**9**	-	14
% Buses and Single-Unit Trucks	0%	8.3%	0%	**0.7%**	-	5.3%	1.5%	0%	**1.8%**	-	1.0%	5.8%	0%	**2.8%**	-	2.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Isett Avenue & Lake Park Boulevard - TMC
Tue Dec 8, 2020
PM Peak (3:30 PM - 4:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804225, Location: 41.443694, -91.041877

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Clay Street					Isett Avenue					
Direction	Southwestbound					Westbound					Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
2020-12-08 12:00AM	6	1	0	**7**	0	0	0	0	**0**	0	2	2	0	**4**	0	**11**
12:15AM	3	1	0	**4**	0	2	2	0	**4**	0	1	3	0	**4**	0	**12**
12:30AM	5	2	0	**7**	0	0	3	0	**3**	0	0	5	0	**5**	0	**15**
12:45AM	0	0	0	**0**	0	0	2	0	**2**	0	2	3	0	**5**	0	**7**
Hourly Total	14	4	0	**18**	0	2	7	0	**9**	0	5	13	0	**18**	0	**45**
1:00AM	3	0	0	**3**	0	0	5	0	**5**	0	2	3	0	**5**	0	**13**
1:15AM	4	0	0	**4**	0	0	1	0	**1**	0	0	4	0	**4**	0	**9**
1:30AM	2	0	0	**2**	0	1	0	0	**1**	0	2	4	0	**6**	0	**9**
1:45AM	5	0	0	**5**	0	1	1	0	**2**	0	0	3	0	**3**	0	**10**
Hourly Total	14	0	0	**14**	0	2	7	0	**9**	0	4	14	0	**18**	0	**41**
2:00AM	1	0	0	**1**	0	0	2	0	**2**	0	0	1	0	**1**	0	**4**
2:15AM	1	1	0	**2**	0	0	1	0	**1**	0	0	4	0	**4**	0	**7**
2:30AM	3	0	0	**3**	0	0	0	0	**0**	0	2	1	0	**3**	0	**6**
2:45AM	0	0	0	**0**	0	0	2	0	**2**	0	2	2	0	**4**	0	**6**
Hourly Total	5	1	0	**6**	0	0	5	0	**5**	0	4	8	0	**12**	0	**23**
3:00AM	3	0	0	**3**	0	0	1	0	**1**	0	2	2	0	**4**	0	**8**
3:15AM	1	0	0	**1**	0	0	1	0	**1**	0	2	6	0	**8**	0	**10**
3:30AM	3	0	0	**3**	0	0	1	0	**1**	0	3	5	0	**8**	0	**12**
3:45AM	4	1	0	**5**	0	0	1	0	**1**	0	4	7	0	**11**	0	**17**
Hourly Total	11	1	0	**12**	0	0	4	0	**4**	0	11	20	0	**31**	0	**47**
4:00AM	1	0	0	**1**	0	1	0	0	**1**	1	3	8	0	**11**	0	**13**
4:15AM	3	0	0	**3**	0	0	2	0	**2**	0	7	13	0	**20**	0	**25**
4:30AM	11	1	0	**12**	0	0	6	0	**6**	0	9	6	0	**15**	0	**33**
4:45AM	8	1	0	**9**	0	3	6	0	**9**	0	6	17	0	**23**	0	**41**
Hourly Total	23	2	0	**25**	0	4	14	0	**18**	1	25	44	0	**69**	0	**112**
5:00AM	11	0	0	**11**	0	1	6	0	**7**	0	1	9	0	**10**	0	**28**
5:15AM	11	0	0	**11**	0	1	6	0	**7**	0	5	15	0	**20**	0	**38**
5:30AM	14	0	0	**14**	0	2	7	0	**9**	0	7	24	0	**31**	0	**54**
5:45AM	21	1	0	**22**	0	3	12	0	**15**	0	7	17	0	**24**	0	**61**
Hourly Total	57	1	0	**58**	0	7	31	0	**38**	0	20	65	0	**85**	0	**181**
6:00AM	10	3	0	**13**	0	4	5	0	**9**	0	11	23	0	**34**	0	**56**
6:15AM	13	0	0	**13**	0	1	4	0	**5**	0	13	25	0	**38**	0	**56**
6:30AM	17	4	0	**21**	0	7	7	0	**14**	0	9	29	0	**38**	0	**73**
6:45AM	30	7	0	**37**	0	3	8	0	**11**	0	17	28	0	**45**	0	**93**
Hourly Total	70	14	0	**84**	0	15	24	0	**39**	0	50	105	0	**155**	0	**278**
7:00AM	22	3	0	**25**	0	4	12	0	**16**	0	11	31	0	**42**	0	**83**
7:15AM	25	3	0	**28**	0	6	14	0	**20**	0	26	28	0	**54**	0	**102**
7:30AM	50	6	0	**56**	0	6	32	0	**38**	0	31	41	0	**72**	0	**166**
7:45AM	58	8	0	**66**	0	10	61	0	**71**	0	54	46	0	**100**	0	**237**
Hourly Total	155	20	0	**175**	0	26	119	0	**145**	0	122	146	0	**268**	0	**588**
8:00AM	42	6	0	**48**	0	6	40	0	**46**	0	55	64	0	**119**	0	**213**
8:15AM	41	6	0	**47**	0	5	23	0	**28**	0	31	43	0	**74**	0	**149**
8:30AM	21	4	0	**25**	0	2	18	0	**20**	0	26	41	0	**67**	0	**112**
8:45AM	20	5	0	**25**	0	3	19	0	**22**	0	23	36	0	**59**	0	**106**
Hourly Total	124	21	0	**145**	0	16	100	0	**116**	0	135	184	0	**319**	0	**580**
9:00AM	34	3	0	**37**	0	4	24	0	**28**	0	21	37	0	**58**	0	**123**
9:15AM	42	2	0	**44**	0	2	12	0	**14**	0	17	34	0	**51**	0	**109**
9:30AM	35	5	0	**40**	0	3	20	0	**23**	0	18	32	0	**50**	0	**113**
9:45AM	38	1	0	**39**	0	2	17	0	**19**	0	39	41	0	**80**	0	**138**
Hourly Total	149	11	0	**160**	0	11	73	0	**84**	0	95	144	0	**239**	0	**483**
10:00AM	31	2	0	**33**	0	6	23	0	**29**	0	25	36	0	**61**	0	**123**
10:15AM	46	0	0	**46**	0	4	17	0	**21**	0	22	46	0	**68**	0	**135**

Leg	Isett Avenue					Clay Street					Isett Avenue					
Direction	Southwestbound					Westbound					Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
10:30AM	38	2	0	**40**	0	3	24	0	**27**	1	29	50	0	**79**	0	**146**
10:45AM	41	2	0	**43**	0	6	33	0	**39**	0	31	41	0	**72**	0	**154**
Hourly Total	156	6	0	**162**	0	19	97	0	**116**	1	107	173	0	**280**	0	**558**
11:00AM	49	4	0	**53**	0	5	33	0	**38**	0	41	46	0	**87**	0	**178**
11:15AM	44	6	0	**50**	0	4	19	0	**23**	0	31	59	0	**90**	0	**163**
11:30AM	44	6	0	**50**	0	6	40	0	**46**	1	30	44	0	**74**	0	**170**
11:45AM	54	5	0	**59**	0	3	26	0	**29**	0	32	47	0	**79**	1	**167**
Hourly Total	191	21	0	**212**	0	18	118	0	**136**	1	134	196	0	**330**	1	**678**
12:00PM	54	3	0	**57**	0	6	42	0	**48**	0	41	60	0	**101**	0	**206**
12:15PM	49	4	0	**53**	0	6	29	0	**35**	0	35	47	0	**82**	0	**170**
12:30PM	52	2	0	**54**	0	3	44	0	**47**	0	30	41	0	**71**	0	**172**
12:45PM	34	5	0	**39**	0	2	37	0	**39**	0	44	46	0	**90**	0	**168**
Hourly Total	189	14	0	**203**	0	17	152	0	**169**	0	150	194	0	**344**	0	**716**
1:00PM	46	4	0	**50**	0	10	38	0	**48**	0	21	43	0	**64**	0	**162**
1:15PM	55	2	1	**58**	0	9	37	0	**46**	0	38	54	0	**92**	0	**196**
1:30PM	50	6	0	**56**	0	3	36	0	**39**	0	41	48	0	**89**	0	**184**
1:45PM	51	4	0	**55**	0	3	29	0	**32**	0	35	40	0	**75**	0	**162**
Hourly Total	202	16	1	**219**	0	25	140	0	**165**	0	135	185	0	**320**	0	**704**
2:00PM	49	5	0	**54**	0	4	33	0	**37**	0	47	60	0	**107**	0	**198**
2:15PM	58	3	0	**61**	0	6	56	0	**62**	0	48	62	0	**110**	0	**233**
2:30PM	55	1	0	**56**	0	9	62	0	**71**	0	29	43	0	**72**	0	**199**
2:45PM	79	4	0	**83**	0	6	33	0	**39**	0	36	51	0	**87**	0	**209**
Hourly Total	241	13	0	**254**	0	25	184	0	**209**	0	160	216	0	**376**	0	**839**
3:00PM	65	8	0	**73**	0	5	49	0	**54**	0	41	63	0	**104**	0	**231**
3:15PM	68	5	0	**73**	0	5	49	0	**54**	0	51	74	0	**125**	0	**252**
3:30PM	58	3	0	**61**	0	7	46	0	**53**	0	57	75	0	**132**	0	**246**
3:45PM	87	7	0	**94**	0	4	58	0	**62**	0	40	72	0	**112**	0	**268**
Hourly Total	278	23	0	**301**	0	21	202	0	**223**	0	189	284	0	**473**	0	**997**
4:00PM	87	8	0	**95**	0	7	41	0	**48**	0	46	73	0	**119**	0	**262**
4:15PM	73	8	0	**81**	0	3	46	0	**49**	0	34	70	0	**104**	0	**234**
4:30PM	61	11	0	**72**	0	5	34	0	**39**	0	38	61	0	**99**	0	**210**
4:45PM	55	7	0	**62**	0	4	35	0	**39**	0	41	63	0	**104**	0	**205**
Hourly Total	276	34	0	**310**	0	19	156	0	**175**	0	159	267	0	**426**	0	**911**
5:00PM	78	6	0	**84**	0	4	64	0	**68**	0	36	73	0	**109**	0	**261**
5:15PM	72	4	0	**76**	0	4	46	0	**50**	0	38	57	0	**95**	0	**221**
5:30PM	65	2	0	**67**	0	4	37	0	**41**	0	30	46	0	**76**	0	**184**
5:45PM	64	2	0	**66**	0	4	26	0	**30**	0	32	55	0	**87**	0	**183**
Hourly Total	279	14	0	**293**	0	16	173	0	**189**	0	136	231	0	**367**	0	**849**
6:00PM	52	3	0	**55**	0	1	32	0	**33**	0	31	56	0	**87**	0	**175**
6:15PM	43	2	0	**45**	0	1	31	0	**32**	0	25	39	0	**64**	0	**141**
6:30PM	40	1	0	**41**	0	1	13	0	**14**	0	21	38	0	**59**	0	**114**
6:45PM	40	3	0	**43**	0	0	30	0	**30**	0	11	34	0	**45**	0	**118**
Hourly Total	175	9	0	**184**	0	3	106	0	**109**	0	88	167	0	**255**	0	**548**
7:00PM	43	1	0	**44**	0	0	20	0	**20**	0	18	33	0	**51**	1	**115**
7:15PM	41	0	0	**41**	0	1	18	0	**19**	0	18	26	0	**44**	1	**104**
7:30PM	34	1	0	**35**	0	0	22	0	**22**	0	15	29	0	**44**	0	**101**
7:45PM	26	1	0	**27**	0	1	13	0	**14**	0	18	28	0	**46**	1	**87**
Hourly Total	144	3	0	**147**	0	2	73	0	**75**	0	69	116	0	**185**	3	**407**
8:00PM	26	4	0	**30**	0	0	12	0	**12**	0	11	18	0	**29**	0	**71**
8:15PM	21	0	0	**21**	0	0	17	0	**17**	0	13	15	1	**29**	0	**67**
8:30PM	18	0	0	**18**	0	1	9	0	**10**	0	15	13	0	**28**	0	**56**
8:45PM	12	0	0	**12**	0	0	11	0	**11**	0	11	21	0	**32**	0	**55**
Hourly Total	77	4	0	**81**	0	1	49	0	**50**	0	50	67	1	**118**	0	**249**
9:00PM	20	0	0	**20**	0	1	15	0	**16**	0	9	16	0	**25**	0	**61**
9:15PM	24	0	0	**24**	0	0	9	0	**9**	0	6	15	0	**21**	0	**54**
9:30PM	12	3	0	**15**	0	2	13	0	**15**	0	10	12	0	**22**	0	**52**
9:45PM	14	1	0	**15**	0	2	10	0	**12**	0	3	8	0	**11**	0	**38**
Hourly Total	70	4	0	**74**	0	5	47	0	**52**	0	28	51	0	**79**	0	**205**
10:00PM	12	0	0	**12**	0	0	9	0	**9**	0	2	11	0	**13**	0	**34**
10:15PM	11	0	0	**11**	0	0	6	0	**6**	0	6	10	0	**16**	0	**33**

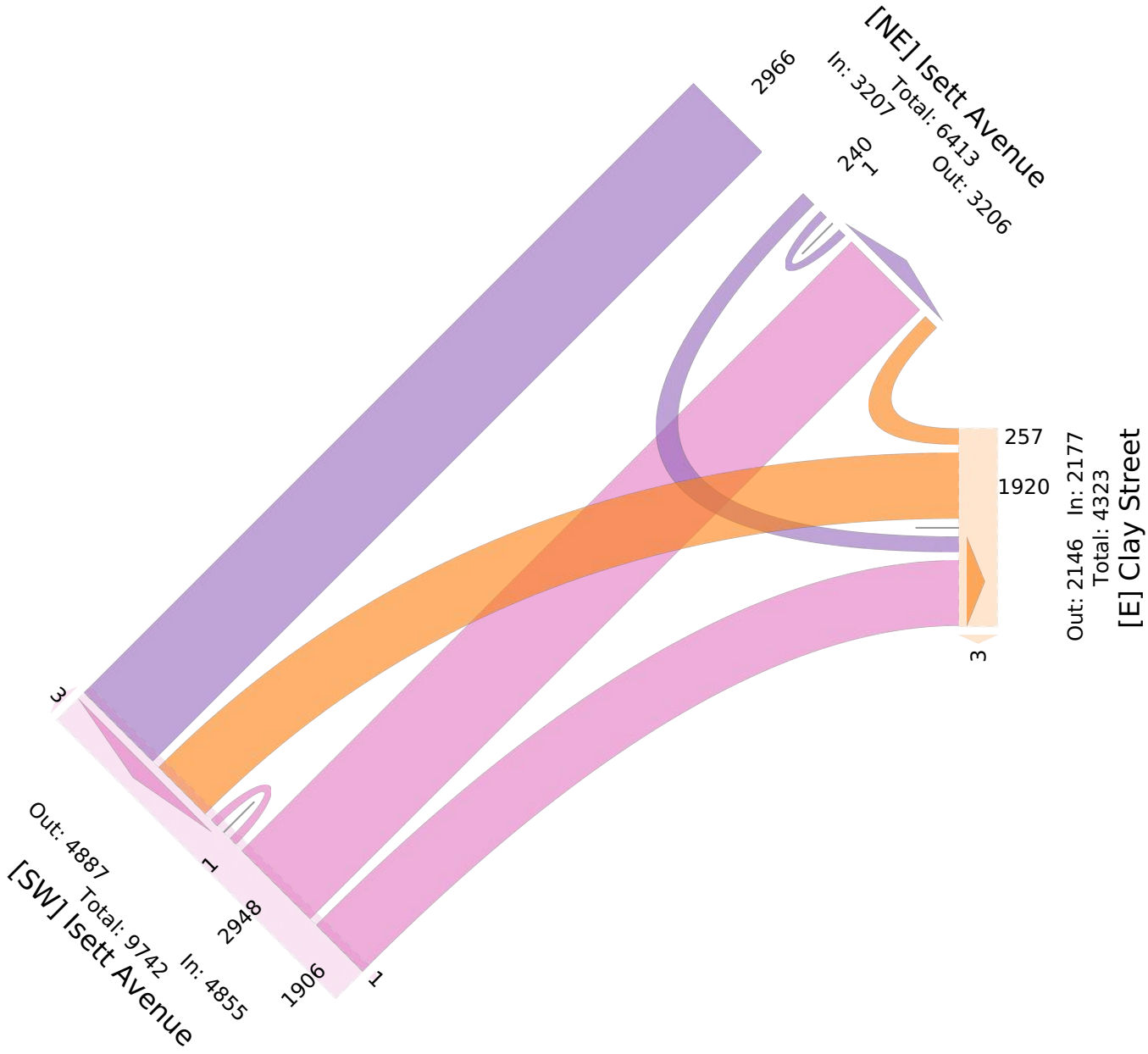
Leg Direction	Isett Avenue Southwestbound					Clay Street Westbound					Isett Avenue Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
10:30PM	10	0	0	**10**	0	3	7	0	**10**	0	4	11	0	**15**	0	**35**
10:45PM	10	0	0	**10**	0	0	4	0	**4**	0	3	5	0	**8**	0	**22**
Hourly Total	43	0	0	**43**	0	3	26	0	**29**	0	15	37	0	**52**	0	**124**
11:00PM	7	0	0	**7**	0	0	4	0	**4**	0	5	6	0	**11**	0	**22**
11:15PM	6	2	0	**8**	0	0	6	0	**6**	0	4	7	0	**11**	0	**25**
11:30PM	7	0	0	**7**	0	0	2	0	**2**	0	3	4	0	**7**	0	**16**
11:45PM	3	2	0	**5**	0	0	1	0	**1**	0	3	4	0	**7**	0	**13**
Hourly Total	23	4	0	**27**	0	0	13	0	**13**	0	15	21	0	**36**	0	**76**
Total	2966	240	1	**3207**	0	257	1920	0	**2177**	3	1906	2948	1	**4855**	4	**10239**
% Approach	92.5%	7.5%	0%	**-**	-	11.8%	88.2%	0%	**-**	-	39.3%	60.7%	0%	**-**	-	**-**
% Total	29.0%	2.3%	0%	**31.3%**	-	2.5%	18.8%	0%	**21.3%**	-	18.6%	28.8%	0%	**47.4%**	-	**-**
Lights	2784	222	1	**3007**	-	233	1880	0	**2113**	-	1880	2775	1	**4656**	-	9776
% Lights	93.9%	92.5%	100%	**93.8%**	-	90.7%	97.9%	0%	**97.1%**	-	98.6%	94.1%	100%	**95.9%**	-	95.5%
Articulated Trucks	122	13	0	**135**	-	14	6	0	**20**	-	4	126	0	**130**	-	285
% Articulated Trucks	4.1%	5.4%	0%	**4.2%**	-	5.4%	0.3%	0%	**0.9%**	-	0.2%	4.3%	0%	**2.7%**	-	2.8%
Buses and Single-Unit Trucks	60	5	0	**65**	-	10	34	0	**44**	-	22	47	0	**69**	-	178
% Buses and Single-Unit Trucks	2.0%	2.1%	0%	**2.0%**	-	3.9%	1.8%	0%	**2.0%**	-	1.2%	1.6%	0%	**1.4%**	-	1.7%
Pedestrians	-	-	-	-	0	-	-	-	-	3	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

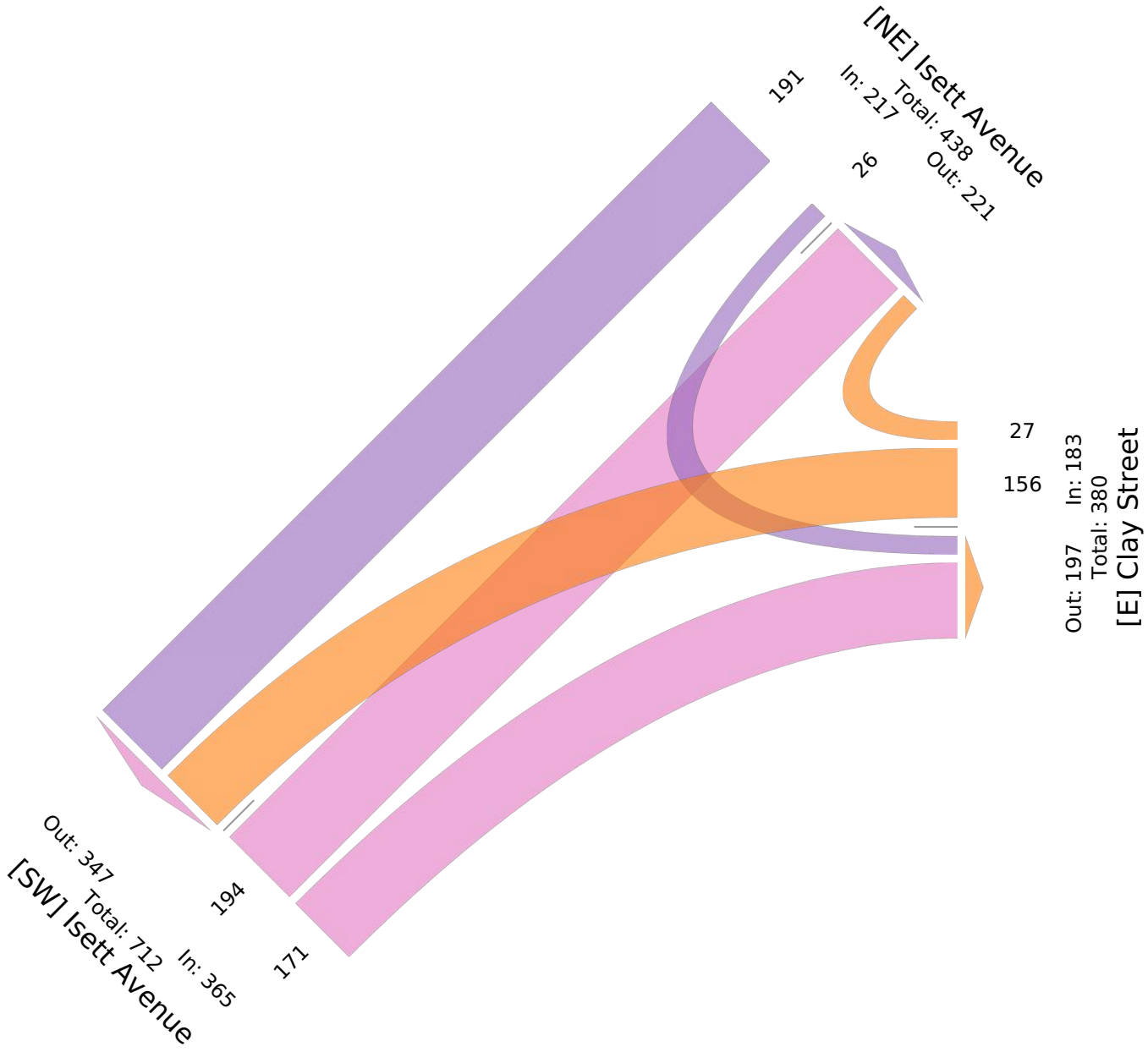
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Clay Street					Isett Avenue					
Direction	Southwestbound					Westbound					Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
2020-12-08 7:30AM	50	6	0	**56**	0	6	32	0	**38**	0	31	41	0	**72**	0	**166**
7:45AM	58	8	0	**66**	0	10	61	0	**71**	0	54	46	0	**100**	0	**237**
8:00AM	42	6	0	**48**	0	6	40	0	**46**	0	55	64	0	**119**	0	**213**
8:15AM	41	6	0	**47**	0	5	23	0	**28**	0	31	43	0	**74**	0	**149**
Total	191	26	0	**217**	0	27	156	0	**183**	0	171	194	0	**365**	0	**765**
% Approach	88.0%	12.0%	0%	**-**	-	14.8%	85.2%	0%	**-**	-	46.8%	53.2%	0%	**-**	-	**-**
% Total	25.0%	3.4%	0%	**28.4%**	-	3.5%	20.4%	0%	**23.9%**	-	22.4%	25.4%	0%	**47.7%**	-	**-**
PHF	0.823	0.813	-	**0.822**	-	0.675	0.639	-	**0.644**	-	0.777	0.758	-	**0.767**	-	0.807
Lights	171	25	0	**196**	-	22	145	0	**167**	-	166	185	0	**351**	-	714
% Lights	89.5%	96.2%	0%	**90.3%**	-	81.5%	92.9%	0%	**91.3%**	-	97.1%	95.4%	0%	**96.2%**	-	93.3%
Articulated Trucks	12	1	0	**13**	-	1	0	0	**1**	-	1	5	0	**6**	-	20
% Articulated Trucks	6.3%	3.8%	0%	**6.0%**	-	3.7%	0%	0%	**0.5%**	-	0.6%	2.6%	0%	**1.6%**	-	2.6%
Buses and Single-Unit Trucks	8	0	0	**8**	-	4	11	0	**15**	-	4	4	0	**8**	-	31
% Buses and Single-Unit Trucks	4.2%	0%	0%	**3.7%**	-	14.8%	7.1%	0%	**8.2%**	-	2.3%	2.1%	0%	**2.2%**	-	4.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Clay Street - TMC
Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

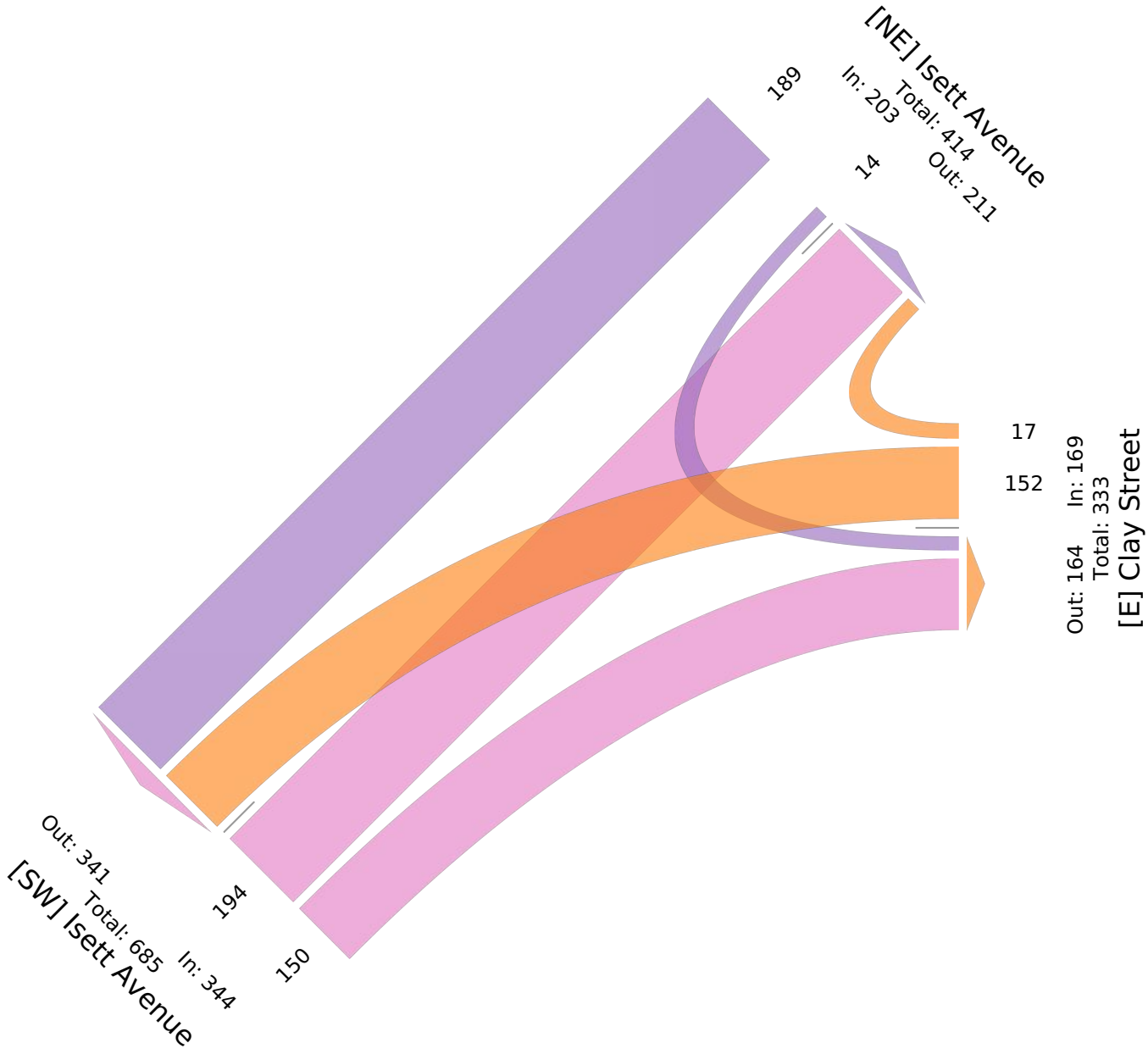
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Clay Street					Isett Avenue					
Direction	Southwestbound					Westbound					Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
2020-12-08 12:00PM	54	3	0	**57**	0	6	42	0	**48**	0	41	60	0	**101**	0	**206**
12:15PM	49	4	0	**53**	0	6	29	0	**35**	0	35	47	0	**82**	0	**170**
12:30PM	52	2	0	**54**	0	3	44	0	**47**	0	30	41	0	**71**	0	**172**
12:45PM	34	5	0	**39**	0	2	37	0	**39**	0	44	46	0	**90**	0	**168**
Total	189	14	0	**203**	0	17	152	0	**169**	0	150	194	0	**344**	0	**716**
% Approach	93.1%	6.9%	0%	**-**	-	10.1%	89.9%	0%	**-**	-	43.6%	56.4%	0%	**-**	-	**-**
% Total	26.4%	2.0%	0%	**28.4%**	-	2.4%	21.2%	0%	**23.6%**	-	20.9%	27.1%	0%	**48.0%**	-	**-**
PHF	0.875	0.700	-	**0.890**	-	0.708	0.864	-	**0.880**	-	0.852	0.808	-	**0.851**	-	0.869
Lights	177	13	0	**190**	-	17	148	0	**165**	-	148	179	0	**327**	-	682
% Lights	93.7%	92.9%	0%	**93.6%**	-	100%	97.4%	0%	**97.6%**	-	98.7%	92.3%	0%	**95.1%**	-	95.3%
Articulated Trucks	8	1	0	**9**	-	0	2	0	**2**	-	0	7	0	**7**	-	18
% Articulated Trucks	4.2%	7.1%	0%	**4.4%**	-	0%	1.3%	0%	**1.2%**	-	0%	3.6%	0%	**2.0%**	-	2.5%
Buses and Single-Unit Trucks	4	0	0	**4**	-	0	2	0	**2**	-	2	8	0	**10**	-	16
% Buses and Single-Unit Trucks	2.1%	0%	0%	**2.0%**	-	0%	1.3%	0%	**1.2%**	-	1.3%	4.1%	0%	**2.9%**	-	2.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Clay Street - TMC
Tue Dec 8, 2020
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
PM Peak (3:15 PM - 4:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

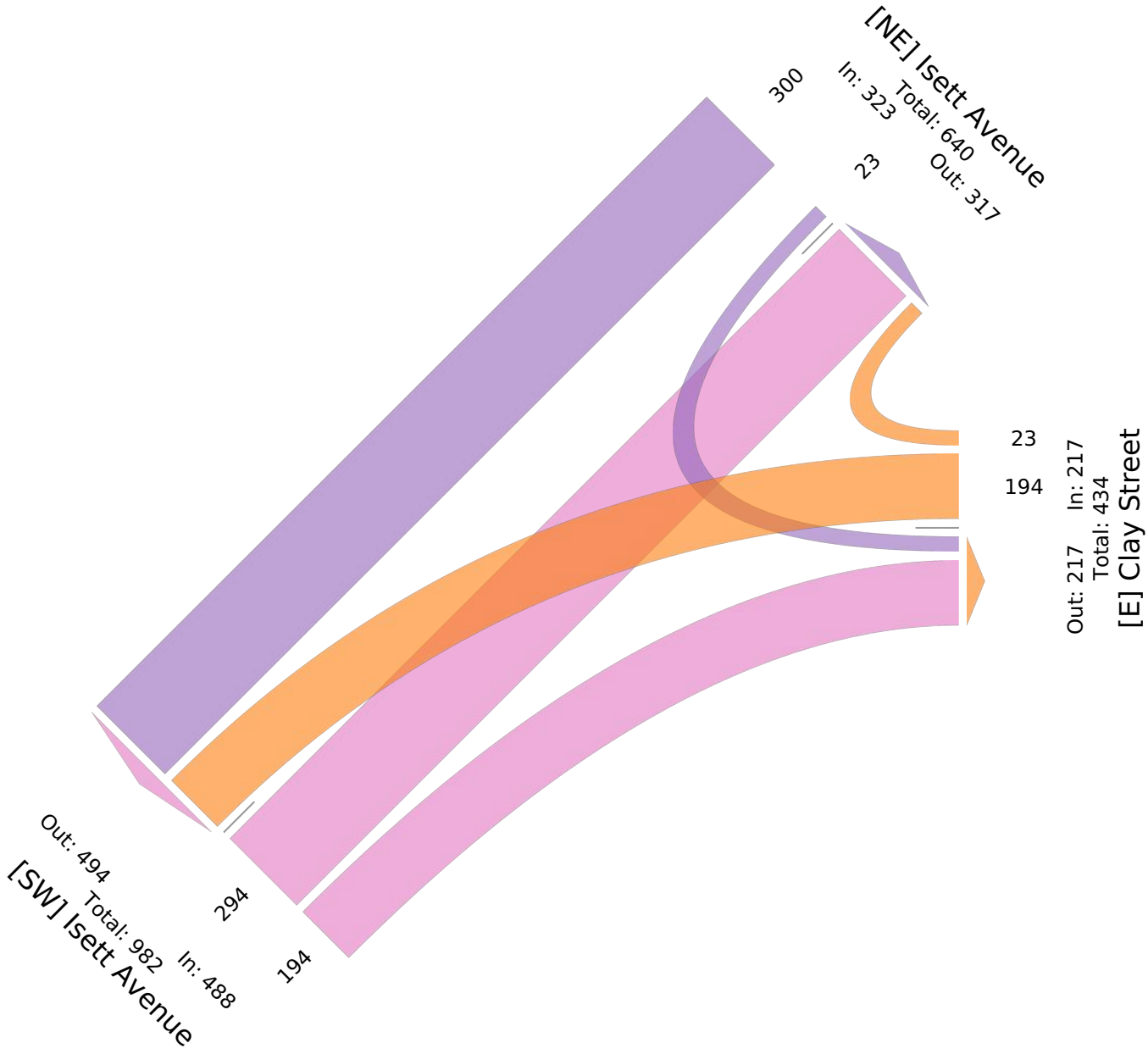
Leg	Isett Avenue					Clay Street					Isett Avenue					
Direction	Southwestbound					Westbound					Northeastbound					
Time	T	HL	U	**App**	Ped*	HR	BL	U	**App**	Ped*	BR	T	U	**App**	Ped*	**Int**
2020-12-08 3:15PM	68	5	0	**73**	0	5	49	0	**54**	0	51	74	0	**125**	0	**252**
3:30PM	58	3	0	**61**	0	7	46	0	**53**	0	57	75	0	**132**	0	**246**
3:45PM	87	7	0	**94**	0	4	58	0	**62**	0	40	72	0	**112**	0	**268**
4:00PM	87	8	0	**95**	0	7	41	0	**48**	0	46	73	0	**119**	0	**262**
Total	300	23	0	**323**	0	23	194	0	**217**	0	194	294	0	**488**	0	**1028**
% Approach	92.9%	7.1%	0%	**-**	-	10.6%	89.4%	0%	**-**	-	39.8%	60.2%	0%	**-**	-	**-**
% Total	29.2%	2.2%	0%	**31.4%**	-	2.2%	18.9%	0%	**21.1%**	-	18.9%	28.6%	0%	**47.5%**	-	**-**
PHF	0.862	0.719	-	**0.850**	-	0.821	0.836	-	**0.875**	-	0.851	0.980	-	**0.924**	-	0.959
Lights	289	22	0	**311**	-	21	190	0	**211**	-	189	279	0	**468**	-	990
% Lights	96.3%	95.7%	0%	**96.3%**	-	91.3%	97.9%	0%	**97.2%**	-	97.4%	94.9%	0%	**95.9%**	-	96.3%
Articulated Trucks	7	1	0	**8**	-	1	0	0	**1**	-	1	7	0	**8**	-	17
% Articulated Trucks	2.3%	4.3%	0%	**2.5%**	-	4.3%	0%	0%	**0.5%**	-	0.5%	2.4%	0%	**1.6%**	-	1.7%
Buses and Single-Unit Trucks	4	0	0	**4**	-	1	4	0	**5**	-	4	8	0	**12**	-	21
% Buses and Single-Unit Trucks	1.3%	0%	0%	**1.2%**	-	4.3%	2.1%	0%	**2.3%**	-	2.1%	2.7%	0%	**2.5%**	-	2.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Clay Street - TMC

Tue Dec 8, 2020
PM Peak (3:15 PM - 4:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804224, Location: 41.44096, -91.042421

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Bidwell Road - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	**App**	Ped*	T	BL	U	**App**	Ped*	BR	HL	U	**App**	Ped*	**Int**
2020-12-08 12:00AM	1	5	0	**6**	0	2	1	0	**3**	0	1	2	0	**3**	0	**12**
12:15AM	1	4	0	**5**	0	4	1	0	**5**	0	1	0	0	**1**	0	**11**
12:30AM	2	6	0	**8**	0	4	0	0	**4**	0	0	2	0	**2**	0	**14**
12:45AM	0	2	0	**2**	0	2	1	0	**3**	0	1	1	0	**2**	0	**7**
Hourly Total	4	17	0	**21**	0	12	3	0	**15**	0	3	5	0	**8**	0	**44**
1:00AM	2	6	0	**8**	0	5	0	0	**5**	0	0	0	0	**0**	0	**13**
1:15AM	1	3	0	**4**	0	4	1	0	**5**	0	0	0	0	**0**	0	**9**
1:30AM	3	0	0	**3**	0	5	1	0	**6**	0	0	1	0	**1**	0	**10**
1:45AM	1	4	0	**5**	0	3	0	0	**3**	0	2	1	0	**3**	0	**11**
Hourly Total	7	13	0	**20**	0	17	2	0	**19**	0	2	2	0	**4**	0	**43**
2:00AM	0	4	0	**4**	0	0	1	0	**1**	0	0	0	0	**0**	0	**5**
2:15AM	0	2	0	**2**	0	2	0	0	**2**	0	1	2	0	**3**	0	**7**
2:30AM	1	2	0	**3**	0	2	0	0	**2**	0	0	1	0	**1**	0	**6**
2:45AM	0	2	0	**2**	0	0	0	0	**0**	0	0	4	0	**4**	0	**6**
Hourly Total	1	10	0	**11**	0	4	1	0	**5**	0	1	7	0	**8**	0	**24**
3:00AM	0	3	0	**3**	0	3	1	0	**4**	0	0	2	0	**2**	0	**9**
3:15AM	1	2	0	**3**	0	6	1	0	**7**	0	1	1	0	**2**	0	**12**
3:30AM	0	4	0	**4**	0	6	2	0	**8**	0	0	2	0	**2**	0	**14**
3:45AM	0	5	0	**5**	0	9	1	0	**10**	0	5	2	0	**7**	0	**22**
Hourly Total	1	14	0	**15**	0	24	5	0	**29**	0	6	7	0	**13**	0	**57**
4:00AM	0	1	0	**1**	0	8	0	0	**8**	0	0	4	0	**4**	0	**13**
4:15AM	1	3	0	**4**	0	13	0	0	**13**	0	2	6	0	**8**	0	**25**
4:30AM	4	12	0	**16**	0	11	0	0	**11**	0	2	6	0	**8**	0	**35**
4:45AM	2	14	0	**16**	0	14	2	0	**16**	0	5	7	0	**12**	0	**44**
Hourly Total	7	30	0	**37**	0	46	2	0	**48**	0	9	23	0	**32**	0	**117**
5:00AM	1	15	0	**16**	0	10	1	0	**11**	0	4	2	0	**6**	1	**33**
5:15AM	5	10	0	**15**	0	12	2	0	**14**	0	4	7	0	**11**	0	**40**
5:30AM	3	20	0	**23**	0	23	0	0	**23**	0	5	8	0	**13**	0	**59**
5:45AM	5	28	0	**33**	0	17	1	0	**18**	0	6	9	0	**15**	0	**66**
Hourly Total	14	73	0	**87**	0	62	4	0	**66**	0	19	26	0	**45**	1	**198**
6:00AM	4	9	0	**13**	0	25	2	0	**27**	0	1	6	0	**7**	0	**47**
6:15AM	1	18	0	**19**	0	29	6	0	**35**	0	1	10	0	**11**	0	**65**
6:30AM	8	14	0	**22**	0	25	7	0	**32**	0	8	15	0	**23**	0	**77**
6:45AM	7	32	0	**39**	0	28	1	0	**29**	0	5	12	0	**17**	0	**85**
Hourly Total	20	73	0	**93**	0	107	16	0	**123**	0	15	43	0	**58**	0	**274**
7:00AM	8	26	0	**34**	0	22	1	0	**23**	0	2	21	0	**23**	0	**80**
7:15AM	14	23	0	**37**	0	37	4	0	**41**	0	9	19	0	**28**	0	**106**
7:30AM	38	46	0	**84**	0	34	4	0	**38**	0	18	39	0	**57**	0	**179**
7:45AM	46	69	0	**115**	0	55	10	0	**65**	0	12	49	0	**61**	0	**241**
Hourly Total	106	164	0	**270**	0	148	19	0	**167**	0	41	128	0	**169**	0	**606**
8:00AM	36	49	0	**85**	0	50	4	0	**54**	0	12	72	0	**84**	0	**223**
8:15AM	22	40	0	**62**	0	31	4	0	**35**	0	8	43	0	**51**	0	**148**
8:30AM	14	27	0	**41**	0	40	1	0	**41**	0	5	31	0	**36**	0	**118**
8:45AM	17	23	0	**40**	0	34	2	0	**36**	0	2	21	0	**23**	0	**99**
Hourly Total	89	139	0	**228**	0	155	11	0	**166**	0	27	167	0	**194**	0	**588**
9:00AM	19	41	0	**60**	0	30	3	0	**33**	0	3	28	0	**31**	0	**124**
9:15AM	23	34	0	**57**	0	34	4	0	**38**	0	4	18	0	**22**	0	**117**
9:30AM	17	38	0	**55**	0	30	4	0	**34**	0	3	22	0	**25**	0	**114**
9:45AM	23	32	0	**55**	0	54	6	0	**60**	0	4	29	0	**33**	0	**148**
Hourly Total	82	145	0	**227**	0	148	17	0	**165**	0	14	97	0	**111**	0	**503**
10:00AM	22	32	0	**54**	0	41	2	0	**43**	0	3	22	0	**25**	0	**122**
10:15AM	19	46	0	**65**	0	54	4	0	**58**	0	1	22	0	**23**	0	**146**

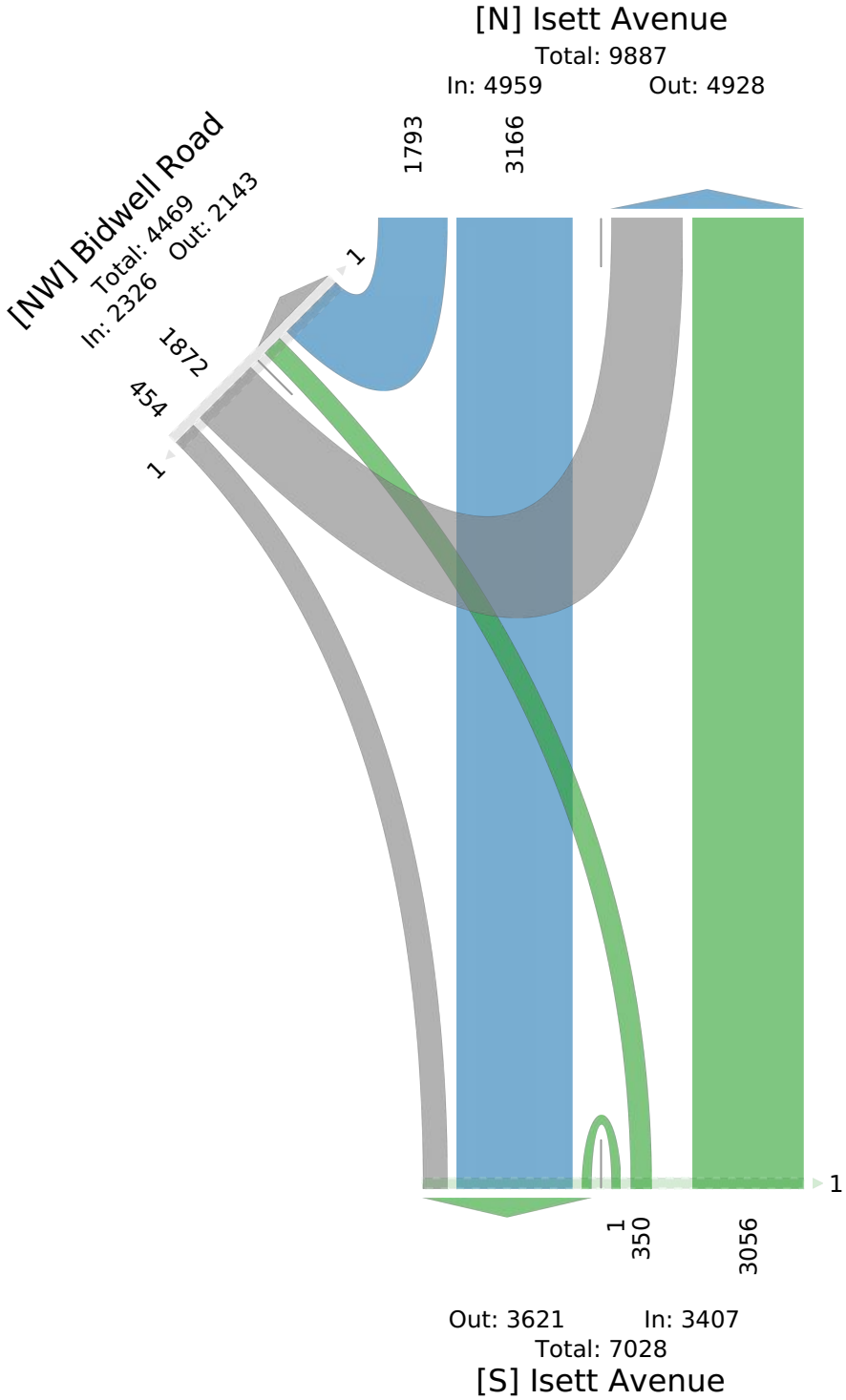
Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	App	Ped*	T	BL	U	App	Ped*	BR	HL	U	App	Ped*	Int
10:30AM	16	45	0	**61**	0	47	4	0	**51**	0	8	29	0	**37**	0	**149**
10:45AM	34	42	0	**76**	0	51	5	0	**56**	0	6	23	0	**29**	0	**161**
Hourly Total	91	165	0	**256**	0	193	15	0	**208**	0	18	96	0	**114**	0	**578**
11:00AM	31	52	0	**83**	0	62	4	0	**66**	0	6	28	0	**34**	0	**183**
11:15AM	28	35	0	**63**	0	57	3	0	**60**	0	5	32	0	**37**	0	**160**
11:30AM	32	59	0	**91**	0	48	10	0	**58**	0	5	27	0	**32**	0	**181**
11:45AM	32	48	0	**80**	0	49	3	0	**52**	0	9	35	0	**44**	0	**176**
Hourly Total	123	194	0	**317**	0	216	20	0	**236**	0	25	122	0	**147**	0	**700**
12:00PM	38	62	0	**100**	0	68	10	0	**78**	0	7	31	0	**38**	0	**216**
12:15PM	22	54	0	**76**	0	56	5	0	**61**	0	4	30	0	**34**	0	**171**
12:30PM	32	66	0	**98**	0	40	4	0	**44**	0	9	35	0	**44**	0	**186**
12:45PM	26	51	0	**77**	0	49	3	0	**52**	0	11	41	0	**52**	0	**181**
Hourly Total	118	233	0	**351**	0	213	22	0	**235**	0	31	137	0	**168**	0	**754**
1:00PM	32	54	0	**86**	0	43	5	0	**48**	0	8	29	0	**37**	0	**171**
1:15PM	31	60	0	**91**	0	51	2	0	**53**	0	7	38	0	**45**	0	**189**
1:30PM	27	57	0	**84**	0	53	2	0	**55**	0	7	38	0	**45**	0	**184**
1:45PM	30	51	0	**81**	0	41	7	0	**48**	0	11	33	0	**44**	0	**173**
Hourly Total	120	222	0	**342**	0	188	16	0	**204**	0	33	138	0	**171**	0	**717**
2:00PM	38	47	0	**85**	0	71	9	0	**80**	0	7	37	0	**44**	0	**209**
2:15PM	52	63	0	**115**	0	72	5	0	**77**	0	6	36	0	**42**	0	**234**
2:30PM	44	72	0	**116**	0	42	4	0	**46**	0	8	34	0	**42**	0	**204**
2:45PM	57	60	0	**117**	0	46	8	1	**55**	0	13	41	0	**54**	0	**226**
Hourly Total	191	242	0	**433**	0	231	26	1	**258**	0	34	148	0	**182**	0	**873**
3:00PM	47	62	0	**109**	0	59	10	0	**69**	0	12	48	0	**60**	0	**238**
3:15PM	49	72	0	**121**	0	83	9	0	**92**	0	6	39	0	**45**	0	**258**
3:30PM	39	66	0	**105**	0	74	13	0	**87**	0	9	61	0	**70**	0	**262**
3:45PM	66	80	0	**146**	0	83	4	0	**87**	0	6	33	0	**39**	0	**272**
Hourly Total	201	280	0	**481**	0	299	36	0	**335**	0	33	181	0	**214**	0	**1030**
4:00PM	40	84	0	**124**	0	74	7	0	**81**	0	9	43	0	**52**	0	**257**
4:15PM	47	71	0	**118**	0	65	6	0	**71**	0	6	43	0	**49**	0	**238**
4:30PM	35	63	0	**98**	0	65	9	0	**74**	0	7	32	0	**39**	0	**211**
4:45PM	36	57	0	**93**	0	70	8	0	**78**	0	9	38	0	**47**	0	**218**
Hourly Total	158	275	0	**433**	0	274	30	0	**304**	0	31	156	0	**187**	0	**924**
5:00PM	58	82	0	**140**	0	64	8	0	**72**	0	9	39	0	**48**	0	**260**
5:15PM	44	78	0	**122**	0	60	6	0	**66**	0	8	35	0	**43**	0	**231**
5:30PM	34	67	0	**101**	0	55	4	0	**59**	0	7	23	0	**30**	0	**190**
5:45PM	31	58	0	**89**	0	52	9	0	**61**	0	12	35	0	**47**	0	**197**
Hourly Total	167	285	0	**452**	0	231	27	0	**258**	0	36	132	0	**168**	0	**878**
6:00PM	39	52	0	**91**	0	52	9	0	**61**	0	4	34	0	**38**	0	**190**
6:15PM	29	47	0	**76**	0	43	4	0	**47**	0	7	26	0	**33**	0	**156**
6:30PM	20	36	0	**56**	0	47	7	0	**54**	0	4	13	0	**17**	0	**127**
6:45PM	18	54	0	**72**	0	32	7	0	**39**	0	8	13	0	**21**	0	**132**
Hourly Total	106	189	0	**295**	0	174	27	0	**201**	0	23	86	0	**109**	0	**605**
7:00PM	21	45	0	**66**	0	27	6	0	**33**	0	3	23	0	**26**	0	**125**
7:15PM	19	38	0	**57**	0	31	6	0	**37**	0	3	18	0	**21**	0	**115**
7:30PM	21	36	0	**57**	0	25	8	0	**33**	0	7	16	0	**23**	0	**113**
7:45PM	14	28	0	**42**	0	26	3	0	**29**	0	5	21	0	**26**	0	**97**
Hourly Total	75	147	0	**222**	0	109	23	0	**132**	0	18	78	0	**96**	0	**450**
8:00PM	16	23	0	**39**	0	20	2	0	**22**	0	4	11	0	**15**	0	**76**
8:15PM	12	29	0	**41**	0	15	3	0	**18**	0	7	14	0	**21**	0	**80**
8:30PM	11	19	0	**30**	0	23	3	0	**26**	0	3	6	0	**9**	0	**65**
8:45PM	6	18	0	**24**	0	22	4	0	**26**	0	3	11	0	**14**	0	**64**
Hourly Total	45	89	0	**134**	0	80	12	0	**92**	0	17	42	0	**59**	0	**285**
9:00PM	9	28	0	**37**	0	16	1	0	**17**	0	5	11	0	**16**	0	**70**
9:15PM	10	23	0	**33**	0	16	2	0	**18**	0	3	5	0	**8**	0	**59**
9:30PM	9	19	0	**28**	0	15	1	0	**16**	1	4	8	0	**12**	1	**56**
9:45PM	10	13	0	**23**	0	7	1	0	**8**	0	0	4	0	**4**	0	**35**
Hourly Total	38	83	0	**121**	0	54	5	0	**59**	1	12	28	0	**40**	1	**220**
10:00PM	9	16	0	**25**	0	15	0	0	**15**	0	1	3	0	**4**	0	**44**
10:15PM	4	15	0	**19**	0	13	1	0	**14**	0	2	3	0	**5**	0	**38**

Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	**App**	Ped*	T	BL	U	**App**	Ped*	BR	HL	U	**App**	Ped*	**Int**
10:30PM	3	14	0	**17**	0	8	2	0	**10**	0	1	5	0	**6**	0	**33**
10:45PM	2	12	0	**14**	0	7	1	0	**8**	0	0	3	0	**3**	0	**25**
Hourly Total	18	57	0	**75**	0	43	4	0	**47**	0	4	14	0	**18**	0	**140**
11:00PM	2	10	0	**12**	0	10	3	0	**13**	0	0	2	0	**2**	0	**27**
11:15PM	6	5	0	**11**	0	5	0	0	**5**	0	1	3	0	**4**	0	**20**
11:30PM	0	9	0	**9**	0	9	4	0	**13**	0	1	2	0	**3**	0	**25**
11:45PM	3	3	0	**6**	0	4	0	0	**4**	0	0	2	0	**2**	0	**12**
Hourly Total	11	27	0	**38**	0	28	7	0	**35**	0	2	9	0	**11**	0	**84**
Total	1793	3166	0	**4959**	0	3056	350	1	**3407**	1	454	1872	0	**2326**	2	**10692**
% Approach	36.2%	63.8%	0%	**-**	-	89.7%	10.3%	0%	**-**	-	19.5%	80.5%	0%	**-**	-	**-**
% Total	16.8%	29.6%	0%	**46.4%**	-	28.6%	3.3%	0%	**31.9%**	-	4.2%	17.5%	0%	**21.8%**	-	**-**
Lights	1752	2981	0	**4733**	-	2887	349	1	**3237**	-	451	1842	0	**2293**	-	10263
% Lights	97.7%	94.2%	0%	**95.4%**	-	94.5%	99.7%	100%	**95.0%**	-	99.3%	98.4%	0%	**98.6%**	-	96.0%
Articulated Trucks	0	128	0	**128**	-	129	0	0	**129**	-	0	1	0	**1**	-	258
% Articulated Trucks	0%	4.0%	0%	**2.6%**	-	4.2%	0%	0%	**3.8%**	-	0%	0.1%	0%	**0%**	-	2.4%
Buses and Single-Unit Trucks	41	57	0	**98**	-	40	1	0	**41**	-	3	29	0	**32**	-	171
% Buses and Single-Unit Trucks	2.3%	1.8%	0%	**2.0%**	-	1.3%	0.3%	0%	**1.2%**	-	0.7%	1.5%	0%	**1.4%**	-	1.6%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Bidwell Road - TMC
Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Bidwell Road - TMC

Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

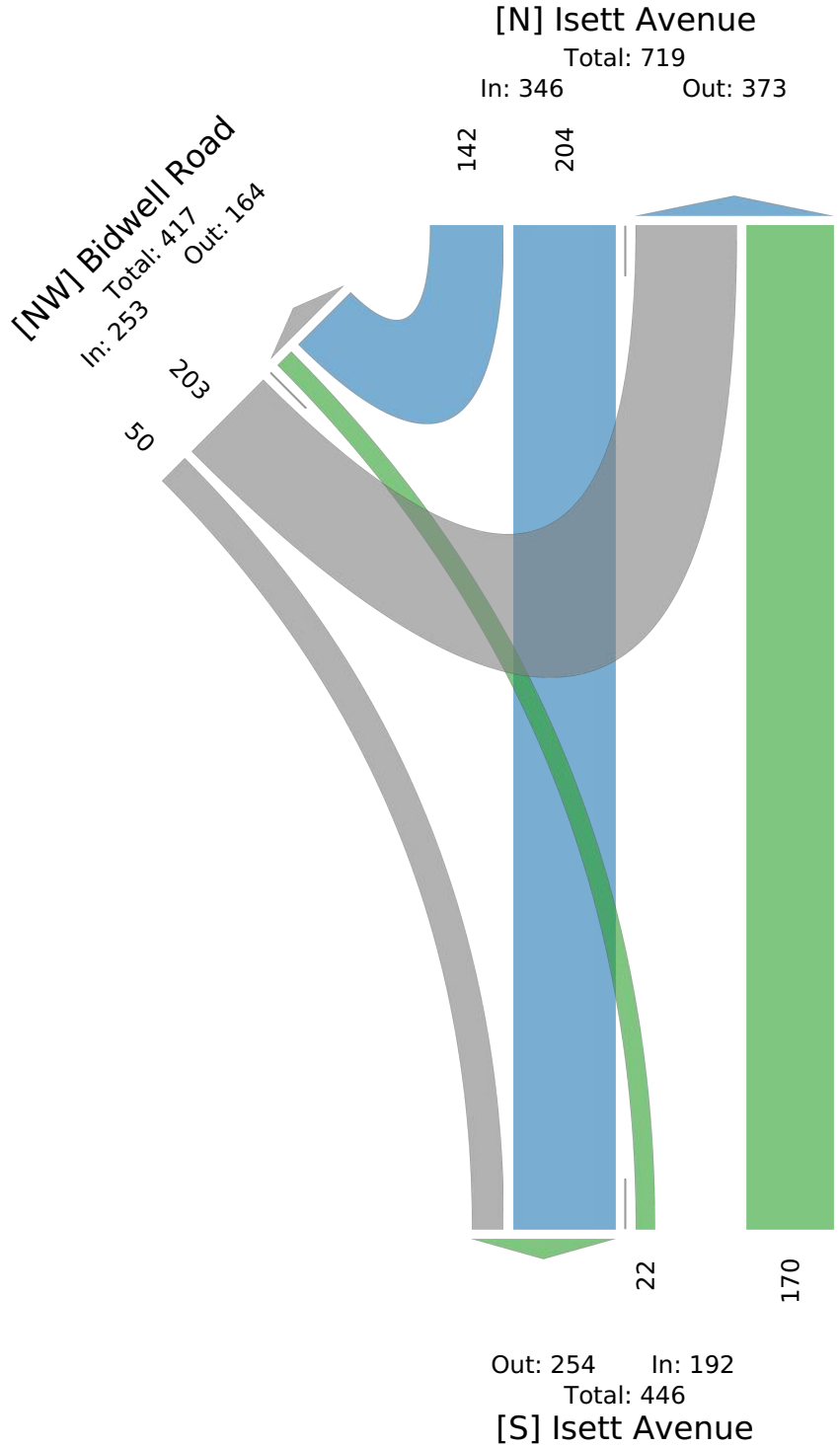
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	**App**	Ped*	T	BL	U	**App**	Ped*	BR	HL	U	**App**	Ped*	**Int**
2020-12-08 7:30AM	38	46	0	**84**	0	34	4	0	**38**	0	18	39	0	**57**	0	**179**
7:45AM	46	69	0	**115**	0	55	10	0	**65**	0	12	49	0	**61**	0	**241**
8:00AM	36	49	0	**85**	0	50	4	0	**54**	0	12	72	0	**84**	0	**223**
8:15AM	22	40	0	**62**	0	31	4	0	**35**	0	8	43	0	**51**	0	**148**
Total	142	204	0	**346**	0	170	22	0	**192**	0	50	203	0	**253**	0	**791**
% Approach	41.0%	59.0%	0%	**-**	-	88.5%	11.5%	0%	**-**	-	19.8%	80.2%	0%	**-**	-	**-**
% Total	18.0%	25.8%	0%	**43.7%**	-	21.5%	2.8%	0%	**24.3%**	-	6.3%	25.7%	0%	**32.0%**	-	**-**
PHF	0.772	0.739	**-**	**0.752**	-	0.773	0.550	**-**	**0.738**	-	0.694	0.705	**-**	**0.753**	-	0.821
Lights	137	177	0	**314**	-	165	21	0	**186**	-	50	195	0	**245**	-	745
% Lights	96.5%	86.8%	0%	**90.8%**	-	97.1%	95.5%	0%	**96.9%**	-	100%	96.1%	0%	**96.8%**	-	94.2%
Articulated Trucks	0	12	0	**12**	-	5	0	0	**5**	-	0	1	0	**1**	-	18
% Articulated Trucks	0%	5.9%	0%	**3.5%**	-	2.9%	0%	0%	**2.6%**	-	0%	0.5%	0%	**0.4%**	-	2.3%
Buses and Single-Unit Trucks	5	15	0	**20**	-	0	1	0	**1**	-	0	7	0	**7**	-	28
% Buses and Single-Unit Trucks	3.5%	7.4%	0%	**5.8%**	-	0%	4.5%	0%	**0.5%**	-	0%	3.4%	0%	**2.8%**	-	3.5%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Bidwell Road - TMC
Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Bidwell Road - TMC

Tue Dec 8, 2020
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

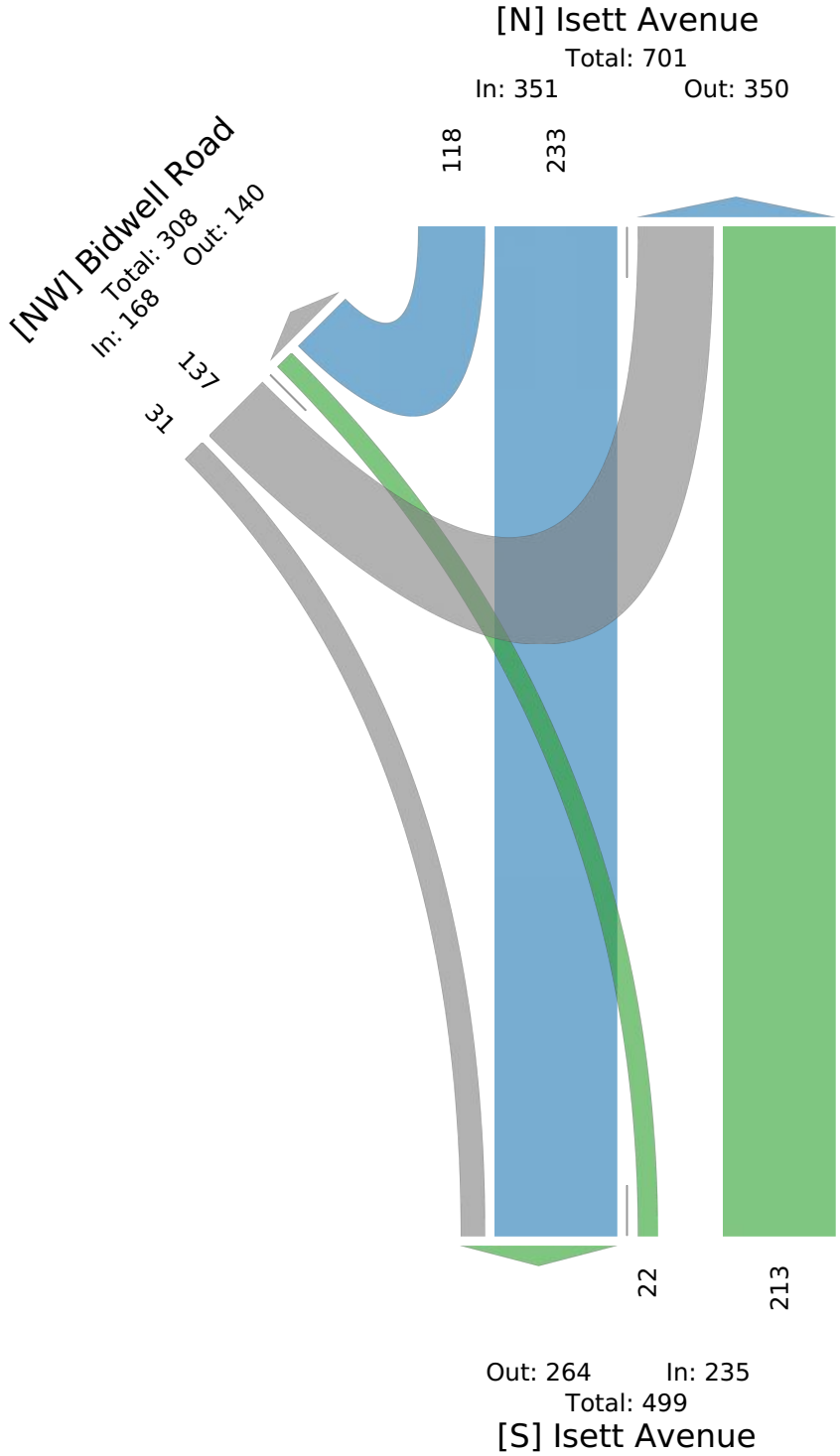
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	**App**	Ped*	T	BL	U	**App**	Ped*	BR	HL	U	**App**	Ped*	**Int**
2020-12-08 12:00PM	38	62	0	**100**	0	68	10	0	**78**	0	7	31	0	**38**	0	**216**
12:15PM	22	54	0	**76**	0	56	5	0	**61**	0	4	30	0	**34**	0	**171**
12:30PM	32	66	0	**98**	0	40	4	0	**44**	0	9	35	0	**44**	0	**186**
12:45PM	26	51	0	**77**	0	49	3	0	**52**	0	11	41	0	**52**	0	**181**
Total	118	233	0	**351**	0	213	22	0	**235**	0	31	137	0	**168**	0	**754**
% Approach	33.6%	66.4%	0%	**-**	-	90.6%	9.4%	0%	**-**	-	18.5%	81.5%	0%	**-**	-	**-**
% Total	15.6%	30.9%	0%	**46.6%**	-	28.2%	2.9%	0%	**31.2%**	-	4.1%	18.2%	0%	**22.3%**	-	**-**
PHF	0.776	0.883	-	**0.878**	-	0.783	0.550	-	**0.753**	-	0.705	0.835	-	**0.808**	-	0.873
Lights	115	219	0	**334**	-	198	22	0	**220**	-	31	135	0	**166**	-	720
% Lights	97.5%	94.0%	0%	**95.2%**	-	93.0%	100%	0%	**93.6%**	-	100%	98.5%	0%	**98.8%**	-	95.5%
Articulated Trucks	0	10	0	**10**	-	7	0	0	**7**	-	0	0	0	**0**	-	17
% Articulated Trucks	0%	4.3%	0%	**2.8%**	-	3.3%	0%	0%	**3.0%**	-	0%	0%	0%	**0%**	-	2.3%
Buses and Single-Unit Trucks	3	4	0	**7**	-	8	0	0	**8**	-	0	2	0	**2**	-	17
% Buses and Single-Unit Trucks	2.5%	1.7%	0%	**2.0%**	-	3.8%	0%	0%	**3.4%**	-	0%	1.5%	0%	**1.2%**	-	2.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Bidwell Road - TMC
Tue Dec 8, 2020
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Isett Avenue & Bidwell Road - TMC

Tue Dec 8, 2020
PM Peak (3:15 PM - 4:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

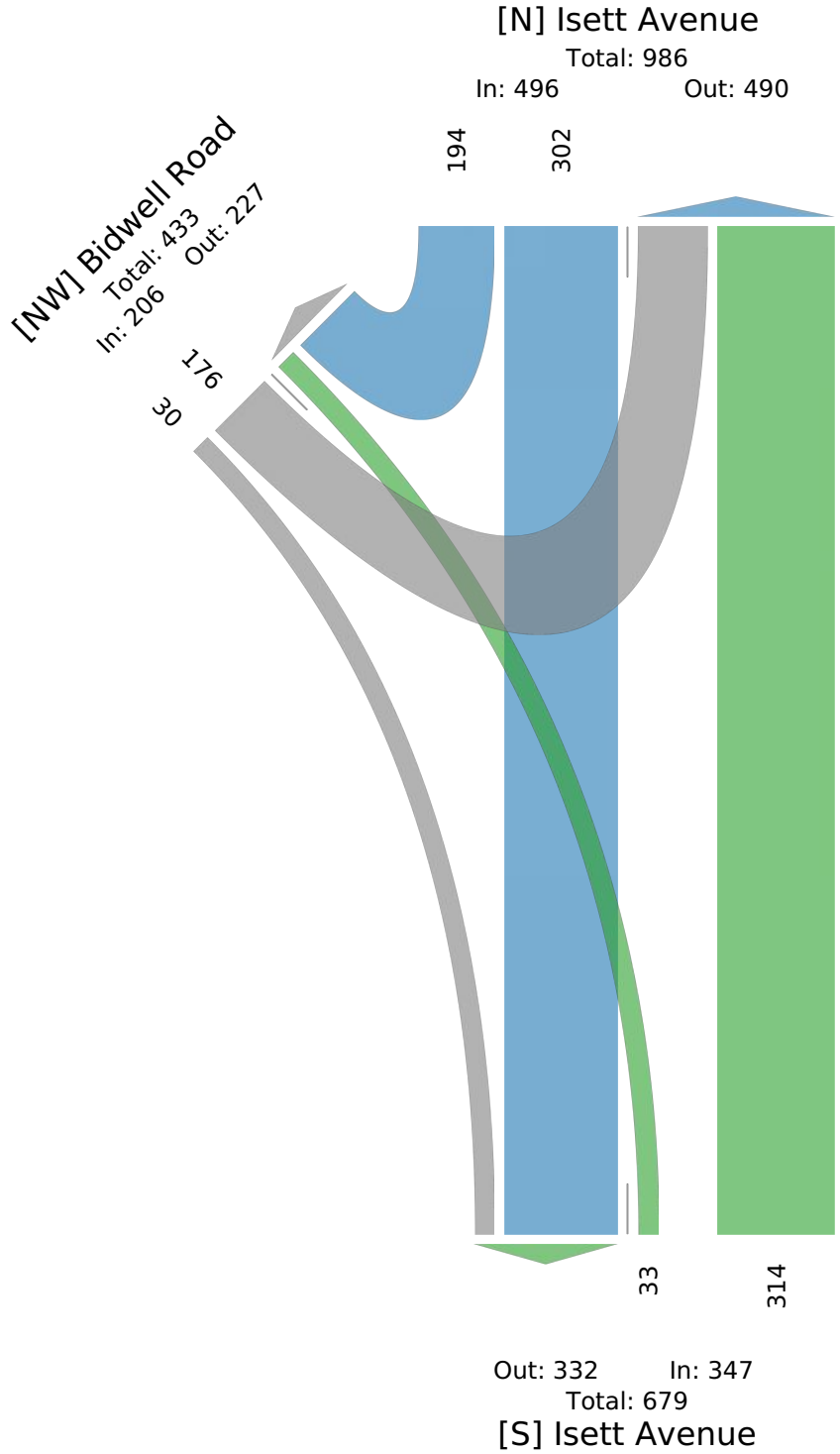
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Isett Avenue					Bidwell Road					
Direction	Southbound					Northbound					Southeastbound					
Time	HR	T	U	**App**	Ped*	T	BL	U	**App**	Ped*	BR	HL	U	**App**	Ped*	**Int**
2020-12-08 3:15PM	49	72	0	**121**	0	83	9	0	**92**	0	6	39	0	**45**	0	**258**
3:30PM	39	66	0	**105**	0	74	13	0	**87**	0	9	61	0	**70**	0	**262**
3:45PM	66	80	0	**146**	0	83	4	0	**87**	0	6	33	0	**39**	0	**272**
4:00PM	40	84	0	**124**	0	74	7	0	**81**	0	9	43	0	**52**	0	**257**
Total	194	302	0	**496**	0	314	33	0	**347**	0	30	176	0	**206**	0	**1049**
% Approach	39.1%	60.9%	0%	**-**	-	90.5%	9.5%	0%	**-**	-	14.6%	85.4%	0%	**-**	-	**-**
% Total	18.5%	28.8%	0%	**47.3%**	-	29.9%	3.1%	0%	**33.1%**	-	2.9%	16.8%	0%	**19.6%**	-	**-**
PHF	0.735	0.899	-	**0.849**	-	0.946	0.635	-	**0.943**	-	0.833	0.721	-	**0.736**	-	0.964
Lights	189	292	0	**481**	-	298	33	0	**331**	-	30	172	0	**202**	-	1014
% Lights	97.4%	96.7%	0%	**97.0%**	-	94.9%	100%	0%	**95.4%**	-	100%	97.7%	0%	**98.1%**	-	96.7%
Articulated Trucks	0	7	0	**7**	-	8	0	0	**8**	-	0	0	0	**0**	-	15
% Articulated Trucks	0%	2.3%	0%	**1.4%**	-	2.5%	0%	0%	**2.3%**	-	0%	0%	0%	**0%**	-	1.4%
Buses and Single-Unit Trucks	5	3	0	**8**	-	8	0	0	**8**	-	0	4	0	**4**	-	20
% Buses and Single-Unit Trucks	2.6%	1.0%	0%	**1.6%**	-	2.5%	0%	0%	**2.3%**	-	0%	2.3%	0%	**1.9%**	-	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, T: Thru, U: U-Turn

Isett Avenue & Bidwell Road - TMC
Tue Dec 8, 2020
PM Peak (3:15 PM - 4:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804223, Location: 41.4382, -91.043765

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 11th Street - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2020-12-08 12:00AM	0	5	0	**5**	0	3	0	0	**3**	0	0	0	0	**0**	0	**8**
12:15AM	2	2	0	**4**	0	3	0	0	**3**	0	0	0	0	**0**	0	**7**
12:30AM	2	4	0	**6**	0	2	0	0	**2**	0	0	0	0	**0**	0	**8**
12:45AM	2	1	0	**3**	0	1	2	0	**3**	0	0	0	0	**0**	0	**6**
Hourly Total	6	12	0	**18**	0	9	2	0	**11**	0	0	0	0	**0**	0	**29**
1:00AM	1	2	0	**3**	0	2	0	0	**2**	0	0	0	0	**0**	0	**5**
1:15AM	0	2	0	**2**	0	4	0	0	**4**	0	0	0	0	**0**	0	**6**
1:30AM	0	1	0	**1**	0	7	0	0	**7**	0	0	0	0	**0**	0	**8**
1:45AM	0	4	0	**4**	0	6	0	0	**6**	0	0	0	0	**0**	0	**10**
Hourly Total	1	9	0	**10**	0	19	0	0	**19**	0	0	0	0	**0**	0	**29**
2:00AM	3	4	0	**7**	0	1	0	0	**1**	0	2	0	0	**2**	0	**10**
2:15AM	0	4	0	**4**	0	2	0	0	**2**	0	1	0	0	**1**	0	**7**
2:30AM	0	0	0	**0**	0	3	1	0	**4**	0	0	0	0	**0**	0	**4**
2:45AM	0	1	0	**1**	0	2	0	0	**2**	0	0	0	0	**0**	0	**3**
Hourly Total	3	9	0	**12**	0	8	1	0	**9**	0	3	0	0	**3**	0	**24**
3:00AM	1	0	0	**1**	0	2	0	0	**2**	0	0	1	0	**1**	0	**4**
3:15AM	0	2	0	**2**	0	1	0	0	**1**	0	0	2	0	**2**	0	**5**
3:30AM	1	3	0	**4**	0	5	0	0	**5**	0	1	2	0	**3**	0	**12**
3:45AM	0	10	0	**10**	0	4	1	0	**5**	0	0	2	0	**2**	0	**17**
Hourly Total	2	15	0	**17**	0	12	1	0	**13**	0	1	7	0	**8**	0	**38**
4:00AM	0	1	0	**1**	0	7	0	0	**7**	0	0	0	0	**0**	0	**8**
4:15AM	1	4	0	**5**	0	5	0	0	**5**	0	1	3	0	**4**	0	**14**
4:30AM	0	10	0	**10**	0	9	1	0	**10**	0	1	0	0	**1**	0	**21**
4:45AM	1	8	0	**9**	0	11	3	0	**14**	0	2	1	0	**3**	0	**26**
Hourly Total	2	23	0	**25**	0	32	4	0	**36**	0	4	4	0	**8**	0	**69**
5:00AM	3	7	0	**10**	0	17	2	0	**19**	0	1	2	0	**3**	0	**32**
5:15AM	0	9	0	**9**	0	17	0	0	**17**	0	1	1	0	**2**	0	**28**
5:30AM	3	10	0	**13**	0	22	5	0	**27**	0	1	4	0	**5**	0	**45**
5:45AM	1	10	0	**11**	0	23	2	0	**25**	0	1	2	0	**3**	0	**39**
Hourly Total	7	36	0	**43**	0	79	9	0	**88**	0	4	9	0	**13**	0	**144**
6:00AM	3	13	0	**16**	0	13	3	0	**16**	0	3	1	0	**4**	0	**36**
6:15AM	0	20	0	**20**	0	18	6	0	**24**	0	0	0	0	**0**	0	**44**
6:30AM	4	14	0	**18**	0	11	6	0	**17**	0	2	5	0	**7**	0	**42**
6:45AM	3	17	0	**20**	0	23	9	0	**32**	0	4	3	0	**7**	0	**59**
Hourly Total	10	64	0	**74**	0	65	24	0	**89**	0	9	9	0	**18**	0	**181**
7:00AM	7	14	0	**21**	0	12	7	0	**19**	0	3	1	0	**4**	0	**44**
7:15AM	6	18	0	**24**	0	26	13	0	**39**	0	5	5	0	**10**	0	**73**
7:30AM	12	31	0	**43**	0	26	38	0	**64**	0	5	2	0	**7**	0	**114**
7:45AM	28	32	0	**60**	0	46	28	0	**74**	0	9	2	0	**11**	0	**145**
Hourly Total	53	95	0	**148**	0	110	86	0	**196**	0	22	10	0	**32**	0	**376**
8:00AM	12	40	0	**52**	0	31	25	0	**56**	0	6	5	0	**11**	0	**119**
8:15AM	4	35	1	**40**	0	20	9	0	**29**	0	6	2	0	**8**	0	**77**
8:30AM	7	21	0	**28**	0	27	5	0	**32**	0	4	5	0	**9**	0	**69**
8:45AM	3	15	0	**18**	0	18	10	0	**28**	0	7	1	0	**8**	0	**54**
Hourly Total	26	111	1	**138**	0	96	49	0	**145**	0	23	13	0	**36**	0	**319**
9:00AM	10	20	0	**30**	0	23	7	0	**30**	0	5	1	0	**6**	0	**66**
9:15AM	6	22	0	**28**	0	22	8	0	**30**	0	2	3	0	**5**	0	**63**
9:30AM	9	26	0	**35**	0	21	9	0	**30**	0	4	3	0	**7**	0	**72**
9:45AM	9	21	0	**30**	2	31	8	0	**39**	0	8	7	0	**15**	0	**84**
Hourly Total	34	89	0	**123**	2	97	32	0	**129**	0	19	14	0	**33**	0	**285**
10:00AM	4	22	0	**26**	5	29	7	0	**36**	0	10	2	0	**12**	0	**74**
10:15AM	7	28	0	**35**	0	35	9	0	**44**	0	6	3	0	**9**	0	**88**

Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
10:30AM	13	31	0	**44**	0	38	5	0	**43**	0	3	2	0	**5**	0	**92**
10:45AM	13	28	0	**41**	0	38	10	0	**48**	0	3	4	0	**7**	0	**96**
Hourly Total	37	109	0	**146**	5	140	31	0	**171**	0	22	11	0	**33**	0	**350**
11:00AM	13	25	0	**38**	0	53	11	0	**64**	0	1	3	0	**4**	0	**106**
11:15AM	8	26	0	**34**	0	38	9	0	**47**	0	3	6	0	**9**	0	**90**
11:30AM	16	35	0	**51**	0	41	6	0	**47**	0	6	4	0	**10**	0	**108**
11:45AM	7	42	0	**49**	0	38	7	0	**45**	0	6	5	0	**11**	0	**105**
Hourly Total	44	128	0	**172**	0	170	33	0	**203**	0	16	18	0	**34**	0	**409**
12:00PM	18	40	0	**58**	0	48	13	0	**61**	0	11	7	0	**18**	0	**137**
12:15PM	16	36	0	**52**	0	36	8	0	**44**	0	2	8	0	**10**	0	**106**
12:30PM	16	44	0	**60**	0	30	11	0	**41**	0	9	5	0	**14**	0	**115**
12:45PM	9	25	0	**34**	0	36	9	0	**45**	0	3	4	0	**7**	0	**86**
Hourly Total	59	145	0	**204**	0	150	41	0	**191**	0	25	24	0	**49**	0	**444**
1:00PM	17	33	0	**50**	0	35	5	0	**40**	0	4	4	0	**8**	0	**98**
1:15PM	12	42	0	**54**	0	47	13	0	**60**	1	5	3	0	**8**	0	**122**
1:30PM	8	37	0	**45**	0	37	12	0	**49**	0	9	8	0	**17**	0	**111**
1:45PM	18	32	0	**50**	0	36	11	0	**47**	0	8	4	0	**12**	0	**109**
Hourly Total	55	144	0	**199**	0	155	41	0	**196**	1	26	19	0	**45**	0	**440**
2:00PM	19	33	0	**52**	0	49	7	0	**56**	0	7	2	0	**9**	0	**117**
2:15PM	17	43	0	**60**	0	40	10	0	**50**	0	4	4	0	**8**	0	**118**
2:30PM	20	52	0	**72**	0	34	14	0	**48**	0	4	3	0	**7**	0	**127**
2:45PM	17	42	0	**59**	0	41	11	0	**52**	0	10	6	0	**16**	0	**127**
Hourly Total	73	170	0	**243**	0	164	42	0	**206**	0	25	15	0	**40**	0	**489**
3:00PM	20	51	0	**71**	0	42	21	0	**63**	0	15	6	0	**21**	0	**155**
3:15PM	24	36	0	**60**	0	62	16	0	**78**	0	10	9	0	**19**	0	**157**
3:30PM	18	48	0	**66**	0	56	25	0	**81**	0	16	3	0	**19**	0	**166**
3:45PM	16	55	0	**71**	0	59	14	0	**73**	0	20	8	0	**28**	0	**172**
Hourly Total	78	190	0	**268**	0	219	76	0	**295**	0	61	26	0	**87**	0	**650**
4:00PM	24	51	0	**75**	0	47	13	0	**60**	0	13	7	0	**20**	0	**155**
4:15PM	15	50	0	**65**	0	43	10	0	**53**	0	15	5	0	**20**	0	**138**
4:30PM	23	33	1	**57**	0	50	11	0	**61**	0	14	7	0	**21**	0	**139**
4:45PM	15	39	0	**54**	0	54	11	0	**65**	0	10	10	0	**20**	0	**139**
Hourly Total	77	173	1	**251**	0	194	45	0	**239**	0	52	29	0	**81**	0	**571**
5:00PM	24	48	0	**72**	0	40	10	0	**50**	0	18	11	0	**29**	0	**151**
5:15PM	28	46	0	**74**	0	45	13	0	**58**	0	9	3	0	**12**	0	**144**
5:30PM	25	40	0	**65**	0	44	13	0	**57**	0	9	9	0	**18**	0	**140**
5:45PM	12	40	0	**52**	0	39	14	0	**53**	0	2	9	0	**11**	0	**116**
Hourly Total	89	174	0	**263**	0	168	50	0	**218**	0	38	32	0	**70**	0	**551**
6:00PM	18	34	0	**52**	0	35	11	0	**46**	0	7	3	0	**10**	0	**108**
6:15PM	15	35	0	**50**	0	24	10	0	**34**	0	3	6	0	**9**	0	**93**
6:30PM	13	23	0	**36**	0	29	8	0	**37**	0	11	5	0	**16**	0	**89**
6:45PM	16	28	0	**44**	0	32	8	0	**40**	0	4	2	0	**6**	0	**90**
Hourly Total	62	120	0	**182**	0	120	37	0	**157**	0	25	16	0	**41**	0	**380**
7:00PM	13	22	0	**35**	0	27	3	0	**30**	0	2	2	0	**4**	0	**69**
7:15PM	12	19	0	**31**	0	27	4	0	**31**	0	1	2	0	**3**	0	**65**
7:30PM	13	23	0	**36**	0	20	7	0	**27**	0	3	1	0	**4**	0	**67**
7:45PM	5	22	0	**27**	0	20	6	0	**26**	0	1	5	0	**6**	0	**59**
Hourly Total	43	86	0	**129**	0	94	20	0	**114**	0	7	10	0	**17**	0	**260**
8:00PM	5	20	0	**25**	0	16	6	0	**22**	0	3	3	0	**6**	0	**53**
8:15PM	9	19	0	**28**	0	16	2	0	**18**	0	3	1	0	**4**	0	**50**
8:30PM	5	17	0	**22**	0	15	2	0	**17**	0	1	3	0	**4**	0	**43**
8:45PM	3	10	0	**13**	0	20	1	0	**21**	0	3	1	0	**4**	1	**38**
Hourly Total	22	66	0	**88**	0	67	11	0	**78**	0	10	8	0	**18**	1	**184**
9:00PM	11	12	0	**23**	0	15	2	0	**17**	0	2	5	0	**7**	0	**47**
9:15PM	8	11	0	**19**	0	15	2	0	**17**	0	3	2	0	**5**	0	**41**
9:30PM	7	10	0	**17**	0	9	2	0	**11**	0	1	2	0	**3**	0	**31**
9:45PM	3	8	0	**11**	0	8	3	0	**11**	0	1	1	0	**2**	0	**24**
Hourly Total	29	41	0	**70**	0	47	9	0	**56**	0	7	10	0	**17**	0	**143**
10:00PM	8	17	0	**25**	0	9	3	0	**12**	0	1	0	0	**1**	0	**38**
10:15PM	6	13	0	**19**	0	8	1	0	**9**	0	1	0	0	**1**	0	**29**

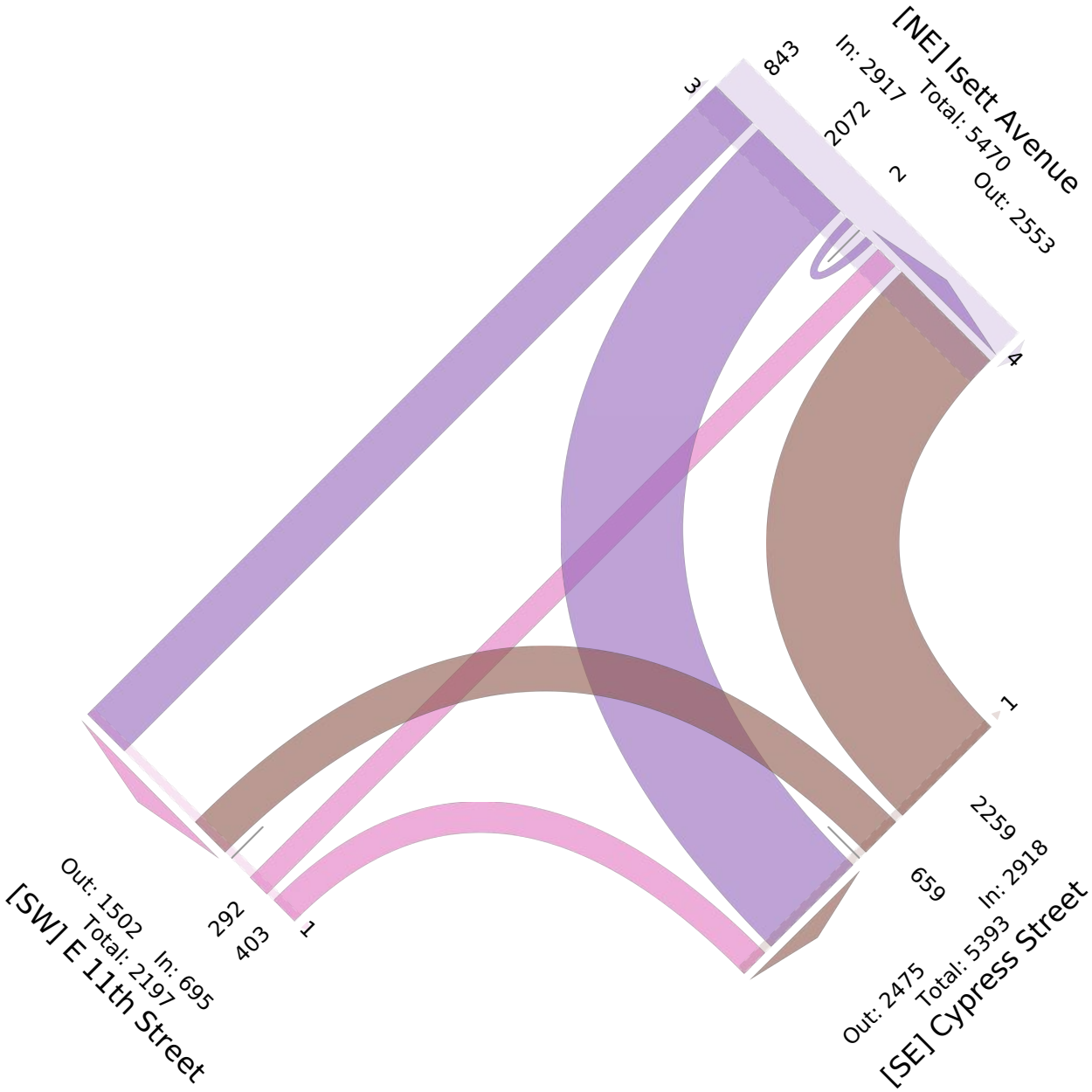
Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
10:30PM	5	11	0	**16**	0	7	4	0	**11**	0	0	2	0	**2**	0	**29**
10:45PM	2	6	0	**8**	0	2	1	0	**3**	0	1	2	0	**3**	0	**14**
Hourly Total	21	47	0	**68**	0	26	9	0	**35**	0	3	4	0	**7**	0	**110**
11:00PM	3	3	0	**6**	0	4	0	0	**4**	0	0	3	0	**3**	0	**13**
11:15PM	2	3	0	**5**	0	1	2	0	**3**	0	1	0	0	**1**	0	**9**
11:30PM	5	5	0	**10**	0	8	2	0	**10**	0	0	1	0	**1**	0	**21**
11:45PM	0	5	0	**5**	0	5	2	0	**7**	0	0	0	0	**0**	0	**12**
Hourly Total	10	16	0	**26**	0	18	6	0	**24**	0	1	4	0	**5**	0	**55**
Total	843	2072	2	**2917**	7	2259	659	0	**2918**	1	403	292	0	**695**	1	**6530**
% Approach	28.9%	71.0%	0.1%	**-**	-	77.4%	22.6%	0%	**-**	-	58.0%	42.0%	0%	**-**	-	**-**
% Total	12.9%	31.7%	0%	**44.7%**	-	34.6%	10.1%	0%	**44.7%**	-	6.2%	4.5%	0%	**10.6%**	-	**-**
Lights	830	2005	1	**2836**	-	2199	645	0	**2844**	-	393	290	0	**683**	-	6363
% Lights	98.5%	96.8%	50.0%	**97.2%**	-	97.3%	97.9%	0%	**97.5%**	-	97.5%	99.3%	0%	**98.3%**	-	97.4%
Articulated Trucks	0	34	0	**34**	-	35	1	0	**36**	-	1	0	0	**1**	-	71
% Articulated Trucks	0%	1.6%	0%	**1.2%**	-	1.5%	0.2%	0%	**1.2%**	-	0.2%	0%	0%	**0.1%**	-	1.1%
Buses and Single-Unit Trucks	13	33	1	**47**	-	25	13	0	**38**	-	9	2	0	**11**	-	96
% Buses and Single-Unit Trucks	1.5%	1.6%	50.0%	**1.6%**	-	1.1%	2.0%	0%	**1.3%**	-	2.2%	0.7%	0%	**1.6%**	-	1.5%
Pedestrians	-	-	-	-	7	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	0%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 11th Street - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 11th Street - TMC

Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

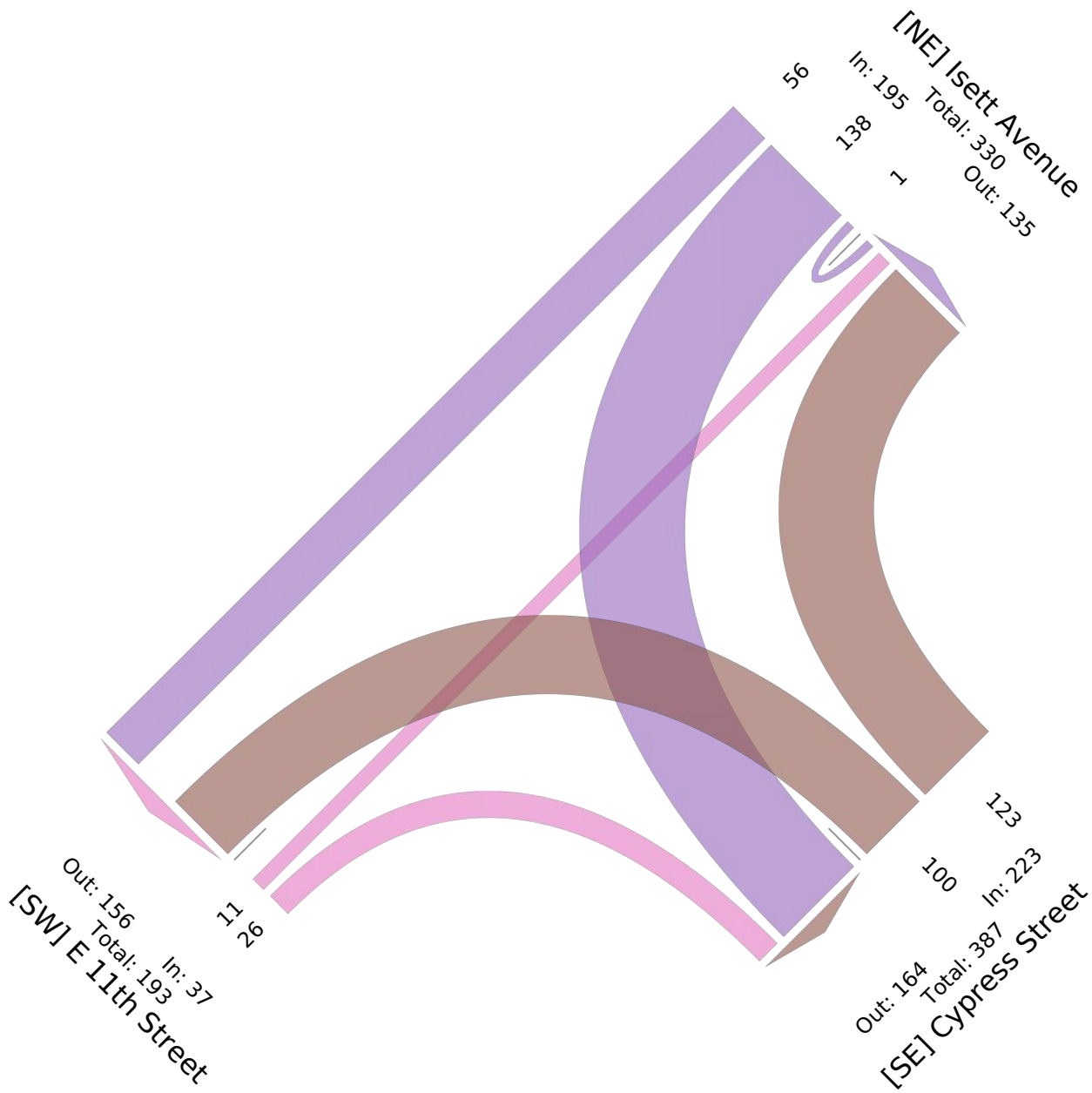
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 7:30AM	12	31	0	**43**	0	26	38	0	**64**	0	5	2	0	**7**	0	**114**
7:45AM	28	32	0	**60**	0	46	28	0	**74**	0	9	2	0	**11**	0	**145**
8:00AM	12	40	0	**52**	0	31	25	0	**56**	0	6	5	0	**11**	0	**119**
8:15AM	4	35	1	**40**	0	20	9	0	**29**	0	6	2	0	**8**	0	**77**
Total	56	138	1	**195**	0	123	100	0	**223**	0	26	11	0	**37**	0	**455**
% Approach	28.7%	70.8%	0.5%	**-**	-	55.2%	44.8%	0%	**-**	-	70.3%	29.7%	0%	**-**	-	-
% Total	12.3%	30.3%	0.2%	**42.9%**	-	27.0%	22.0%	0%	**49.0%**	-	5.7%	2.4%	0%	**8.1%**	-	-
PHF	0.500	0.863	0.250	**0.813**	-	0.668	0.658	-	**0.753**	-	0.722	0.550	-	**0.841**	-	0.784
Lights	51	129	0	**180**	-	120	98	0	**218**	-	25	11	0	**36**	-	434
% Lights	91.1%	93.5%	0%	**92.3%**	-	97.6%	98.0%	0%	**97.8%**	-	96.2%	100%	0%	**97.3%**	-	95.4%
Articulated Trucks	0	4	0	**4**	-	1	0	0	**1**	-	0	0	0	**0**	-	5
% Articulated Trucks	0%	2.9%	0%	**2.1%**	-	0.8%	0%	0%	**0.4%**	-	0%	0%	0%	**0%**	-	1.1%
Buses and Single-Unit Trucks	5	5	1	**11**	-	2	2	0	**4**	-	1	0	0	**1**	-	16
% Buses and Single-Unit Trucks	8.9%	3.6%	100%	**5.6%**	-	1.6%	2.0%	0%	**1.8%**	-	3.8%	0%	0%	**2.7%**	-	3.5%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 11th Street - TMC
Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 11th Street - TMC

Tue Dec 8, 2020
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

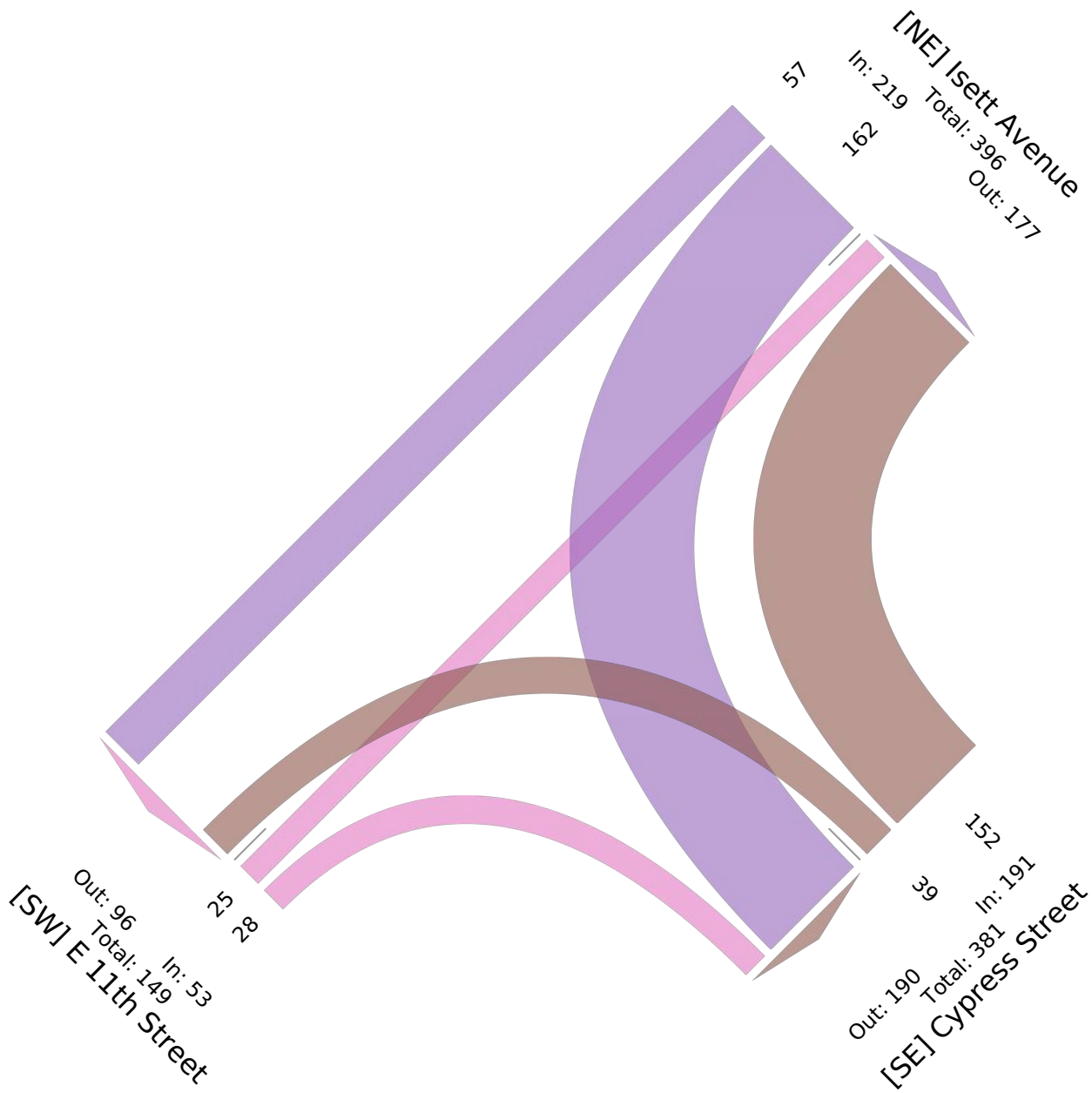
Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 11:45AM	7	42	0	**49**	0	38	7	0	**45**	0	6	5	0	**11**	0	**105**
12:00PM	18	40	0	**58**	0	48	13	0	**61**	0	11	7	0	**18**	0	**137**
12:15PM	16	36	0	**52**	0	36	8	0	**44**	0	2	8	0	**10**	0	**106**
12:30PM	16	44	0	**60**	0	30	11	0	**41**	0	9	5	0	**14**	0	**115**
Total	57	162	0	**219**	0	152	39	0	**191**	0	28	25	0	**53**	0	**463**
% Approach	26.0%	74.0%	0%	**-**	-	79.6%	20.4%	0%	**-**	-	52.8%	47.2%	0%	**-**	-	-
% Total	12.3%	35.0%	0%	**47.3%**	-	32.8%	8.4%	0%	**41.3%**	-	6.0%	5.4%	0%	**11.4%**	-	-
PHF	0.792	0.920	-	**0.913**	-	0.792	0.750	-	**0.783**	-	0.636	0.781	-	**0.736**	-	0.845
Lights	57	155	0	**212**	-	147	39	0	**186**	-	28	24	0	**52**	-	450
% Lights	100%	95.7%	0%	**96.8%**	-	96.7%	100%	0%	**97.4%**	-	100%	96.0%	0%	**98.1%**	-	97.2%
Articulated Trucks	0	4	0	**4**	-	0	0	0	**0**	-	0	0	0	**0**	-	4
% Articulated Trucks	0%	2.5%	0%	**1.8%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.9%
Buses and Single-Unit Trucks	0	3	0	**3**	-	5	0	0	**5**	-	0	1	0	**1**	-	9
% Buses and Single-Unit Trucks	0%	1.9%	0%	**1.4%**	-	3.3%	0%	0%	**2.6%**	-	0%	4.0%	0%	**1.9%**	-	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 11th Street - TMC
Tue Dec 8, 2020
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 11th Street - TMC

Tue Dec 8, 2020
PM Peak (3 PM - 4 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

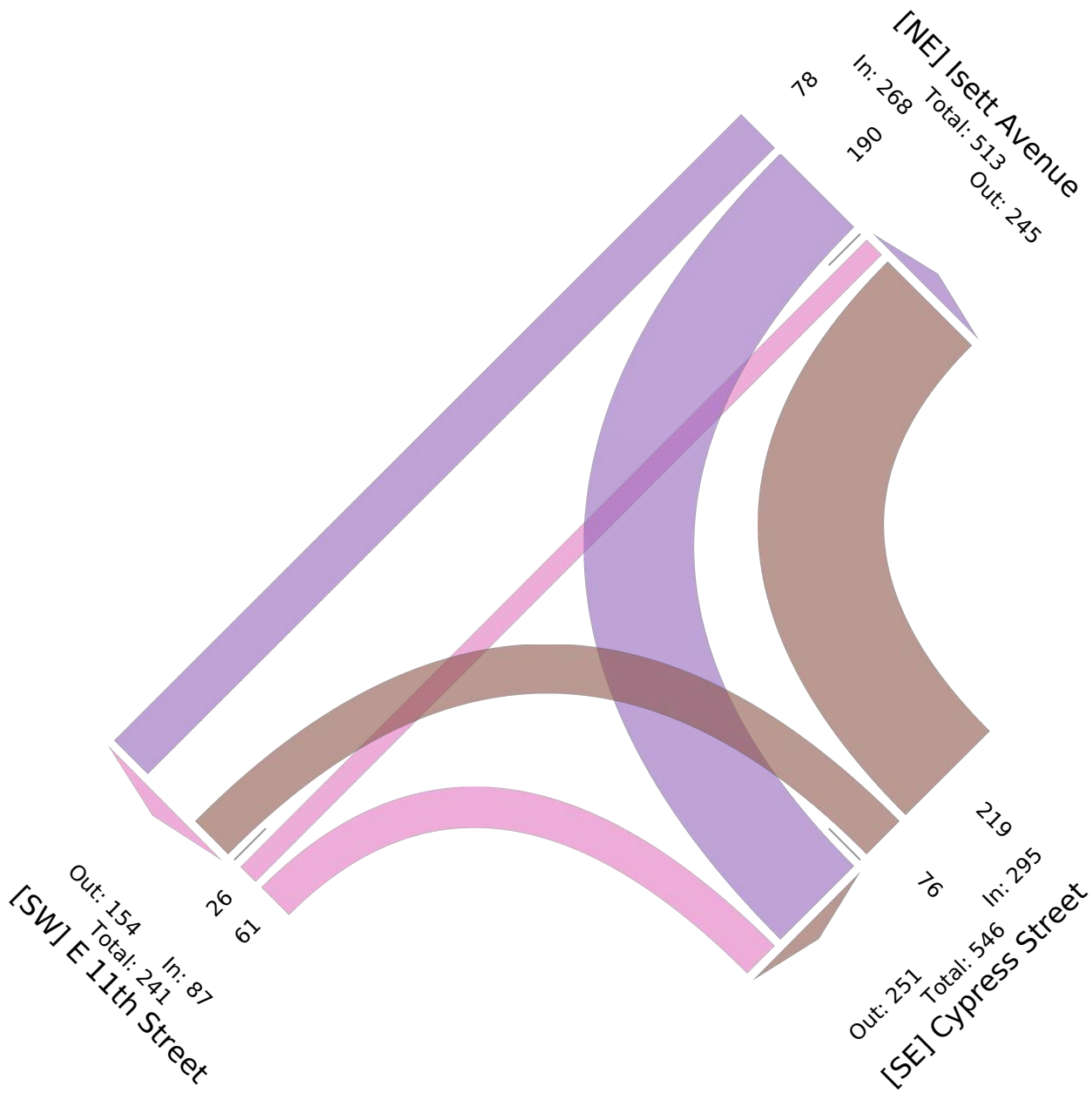
Leg	Isett Avenue					Cypress Street					E 11th Street					
Direction	Southwestbound					Northwestbound					Northeastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2020-12-08 3:00PM	20	51	0	**71**	0	42	21	0	**63**	0	15	6	0	**21**	0	**155**
3:15PM	24	36	0	**60**	0	62	16	0	**78**	0	10	9	0	**19**	0	**157**
3:30PM	18	48	0	**66**	0	56	25	0	**81**	0	16	3	0	**19**	0	**166**
3:45PM	16	55	0	**71**	0	59	14	0	**73**	0	20	8	0	**28**	0	**172**
Total	78	190	0	**268**	0	219	76	0	**295**	0	61	26	0	**87**	0	**650**
% Approach	29.1%	70.9%	0%	**-**	-	74.2%	25.8%	0%	**-**	-	70.1%	29.9%	0%	**-**	-	**-**
% Total	12.0%	29.2%	0%	**41.2%**	-	33.7%	11.7%	0%	**45.4%**	-	9.4%	4.0%	0%	**13.4%**	-	**-**
PHF	0.813	0.864	**-**	**0.944**	-	0.883	0.760	**-**	**0.910**	-	0.763	0.722	**-**	**0.777**	-	0.945
Lights	78	186	0	**264**	-	213	73	0	**286**	-	58	25	0	**83**	-	633
% Lights	100%	97.9%	0%	**98.5%**	-	97.3%	96.1%	0%	**96.9%**	-	95.1%	96.2%	0%	**95.4%**	-	97.4%
Articulated Trucks	0	1	0	**1**	-	3	0	0	**3**	-	0	0	0	**0**	-	4
% Articulated Trucks	0%	0.5%	0%	**0.4%**	-	1.4%	0%	0%	**1.0%**	-	0%	0%	0%	**0%**	-	0.6%
Buses and Single-Unit Trucks	0	3	0	**3**	-	3	3	0	**6**	-	3	1	0	**4**	-	13
% Buses and Single-Unit Trucks	0%	1.6%	0%	**1.1%**	-	1.4%	3.9%	0%	**2.0%**	-	4.9%	3.8%	0%	**4.6%**	-	2.0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 11th Street - TMC
Tue Dec 8, 2020
PM Peak (3 PM - 4 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804221, Location: 41.433785, -91.043112

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 10th Street - TMC

Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	E 10th Street						Cypress Street						E 10th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2020-12-08 12:00AM	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	0	0	0	**0**	0	0	5	0	0	**5**	0	**8**
12:15AM	0	0	0	0	**0**	0	1	3	0	0	**4**	0	0	0	0	0	**0**	0	0	2	0	0	**2**	0	**6**
12:30AM	0	0	0	0	**0**	0	0	2	0	0	**2**	0	1	0	0	0	**1**	0	0	4	0	0	**4**	0	**7**
12:45AM	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	0	**4**
Hourly Total	0	0	0	0	**0**	0	1	11	0	0	**12**	0	1	0	0	0	**1**	0	0	12	0	0	**12**	0	**25**
1:00AM	0	0	0	0	**0**	0	1	2	0	0	**3**	0	0	0	0	0	**0**	0	0	2	0	0	**2**	0	**5**
1:15AM	0	0	0	0	**0**	0	0	4	0	0	**4**	0	0	0	0	0	**0**	0	0	2	0	0	**2**	0	**6**
1:30AM	0	0	0	0	**0**	0	1	6	0	0	**7**	0	0	0	1	0	**1**	0	0	1	0	0	**1**	0	**9**
1:45AM	1	0	0	0	**1**	0	0	5	0	0	**5**	0	0	0	0	0	**0**	0	0	4	0	0	**4**	0	**10**
Hourly Total	1	0	0	0	**1**	0	2	17	0	0	**19**	0	0	0	1	0	**1**	0	0	9	0	0	**9**	0	**30**
2:00AM	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	0	0	0	**0**	0	1	5	0	0	**6**	0	**7**
2:15AM	0	0	0	0	**0**	0	0	2	0	0	**2**	0	0	0	0	0	**0**	0	0	5	0	0	**5**	0	**7**
2:30AM	1	0	0	0	**1**	0	0	3	0	0	**3**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**4**
2:45AM	0	0	0	0	**0**	0	0	2	0	0	**2**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	0	**3**
Hourly Total	1	0	0	0	**1**	0	0	8	0	0	**8**	0	0	0	0	0	**0**	0	1	11	0	0	**12**	0	**21**
3:00AM	0	0	0	0	**0**	0	0	2	0	0	**2**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**2**
3:15AM	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	0	0	0	**0**	0	0	2	0	0	**2**	0	**3**
3:30AM	0	0	0	0	**0**	0	0	5	0	0	**5**	0	0	0	0	0	**0**	0	0	4	0	0	**4**	0	**9**
3:45AM	0	0	0	0	**0**	0	0	5	0	0	**5**	0	0	0	0	0	**0**	0	0	10	0	0	**10**	0	**15**
Hourly Total	0	0	0	0	**0**	0	0	13	0	0	**13**	0	0	0	0	0	**0**	0	0	16	0	0	**16**	0	**29**
4:00AM	0	0	0	0	**0**	0	0	5	0	0	**5**	0	0	0	2	0	**2**	0	0	1	0	0	**1**	0	**8**
4:15AM	0	0	0	0	**0**	1	1	5	0	0	**6**	0	0	0	0	0	**0**	0	0	5	0	0	**5**	0	**11**
4:30AM	0	0	2	0	**2**	0	0	10	0	0	**10**	0	1	0	1	0	**2**	0	0	10	0	0	**10**	0	**24**
4:45AM	0	0	0	0	**0**	0	1	10	0	0	**11**	0	1	0	2	0	**3**	1	0	10	1	0	**11**	0	**25**
Hourly Total	0	0	2	0	**2**	1	2	30	0	0	**32**	0	2	0	5	0	**7**	1	0	26	1	0	**27**	0	**68**
5:00AM	1	0	2	0	**3**	0	0	17	1	0	**18**	0	1	0	0	0	**1**	0	0	8	0	0	**8**	0	**30**
5:15AM	1	0	1	0	**2**	0	0	15	0	0	**15**	0	0	0	1	0	**1**	0	0	9	1	0	**10**	0	**28**
5:30AM	0	0	0	0	**0**	0	0	26	0	0	**26**	1	1	0	1	0	**2**	0	0	10	0	0	**10**	0	**38**
5:45AM	0	0	1	0	**1**	0	0	24	0	0	**24**	0	2	0	1	0	**3**	0	0	11	0	0	**11**	0	**39**
Hourly Total	2	0	4	0	**6**	0	0	82	1	0	**83**	1	4	0	3	0	**7**	0	0	38	1	0	**39**	0	**135**
6:00AM	0	0	0	0	**0**	0	0	16	0	0	**16**	0	0	1	1	0	**2**	0	1	14	1	0	**16**	0	**34**
6:15AM	1	0	0	0	**1**	0	0	20	0	0	**20**	0	0	0	2	0	**2**	0	1	19	0	0	**20**	0	**43**
6:30AM	0	0	1	0	**1**	0	0	16	1	0	**17**	0	0	0	1	0	**1**	0	1	15	0	0	**16**	0	**35**
6:45AM	0	0	1	0	**1**	0	0	30	0	0	**30**	0	1	0	2	0	**3**	0	1	20	0	0	**21**	0	**55**
Hourly Total	1	0	2	0	**3**	0	0	82	1	0	**83**	0	1	1	6	0	**8**	0	4	68	1	0	**73**	0	**167**
7:00AM	0	0	0	0	**0**	0	0	19	0	0	**19**	0	1	0	0	0	**1**	0	0	17	0	0	**17**	0	**37**
7:15AM	0	0	0	0	**0**	0	0	38	0	0	**38**	0	1	0	2	0	**3**	0	1	21	0	0	**22**	0	**63**
7:30AM	1	0	1	0	**2**	0	0	63	1	0	**64**	0	0	0	1	0	**1**	0	3	34	0	0	**37**	0	**104**
7:45AM	0	2	0	0	**2**	0	1	69	4	0	**74**	0	2	0	3	0	**5**	0	5	36	0	0	**41**	0	**122**
Hourly Total	1	2	1	0	**4**	0	1	189	5	0	**195**	0	4	0	6	0	**10**	0	9	108	0	0	**117**	0	**326**
8:00AM	3	2	0	0	**5**	0	3	47	3	0	**53**	0	3	0	7	0	**10**	0	0	46	0	0	**46**	0	**114**
8:15AM	0	0	0	0	**0**	0	0	26	0	0	**26**	0	1	0	1	0	**2**	0	0	41	0	0	**41**	0	**69**
8:30AM	1	1	0	0	**2**	0	0	29	1	0	**30**	0	1	0	2	0	**3**	0	0	25	0	0	**25**	0	**60**
8:45AM	0	1	0	0	**1**	0	0	28	1	0	**29**	1	1	0	0	0	**1**	0	0	22	0	0	**22**	0	**53**
Hourly Total	4	4	0	0	**8**	0	3	130	5	0	**138**	1	6	0	10	0	**16**	0	0	134	0	0	**134**	0	**296**
9:00AM	0	0	0	0	**0**	0	0	28	0	0	**28**	0	0	0	2	0	**2**	0	1	24	0	0	**25**	0	**55**
9:15AM	1	0	0	0	**1**	0	1	29	0	0	**30**	0	0	0	0	0	**0**	0	1	22	1	0	**24**	0	**55**
9:30AM	0	0	0	0	**0**	0	0	31	0	0	**31**	0	0	0	0	0	**0**	0	0	29	1	0	**30**	0	**61**
9:45AM	0	0	0	0	**0**	1	2	37	2	0	**41**	0	2	0	1	0	**3**	0	0	27	0	0	**27**	0	**71**
Hourly Total	1	0	0	0	**1**	1	3	125	2	0	**130**	0	2	0	3	0	**5**	0	2	102	2	0	**106**	0	**242**
10:00AM	0	0	2	0	**2**	2	0	36	1	0	**37**	0	3	0	1	0	**4**	0	0	31	1	0	**32**	0	**75**
10:15AM	1	0	0	0	**1**	1	0	42	0	0	**42**	0	0	0	1	0	**1**	0	1	34	0	0	**35**	0	**79**
10:30AM	0	0	0	0	**0**	0	0	41	1	0	**42**	0	1	0	2	0	**3**	0	3	31	0	0	**34**	0	**79**
10:45AM	2	0	0	0	**2**	0	2	44	0	0	**46**	0	0	0	1	0	**1**	0	1	30	0	0	**31**	0	**80**
Hourly Total	3	0	2	0	**5**	3	2	163	2	0	**167**	0	4	0	5	0	**9**	0	5	126	1	0	**132**	0	**313**
11:00AM	1	0	0	0	**1**	0	0	60	2	0	**62**	1	0	0	3	0	**3**	1	0	26	0	0	**26**	0	**92**
11:15AM	1	0	0	0	**1**	0	0	48	1	0	**49**	0	0	0	0	0	**0**	0	2	27	0	0	**29**	0	**79**

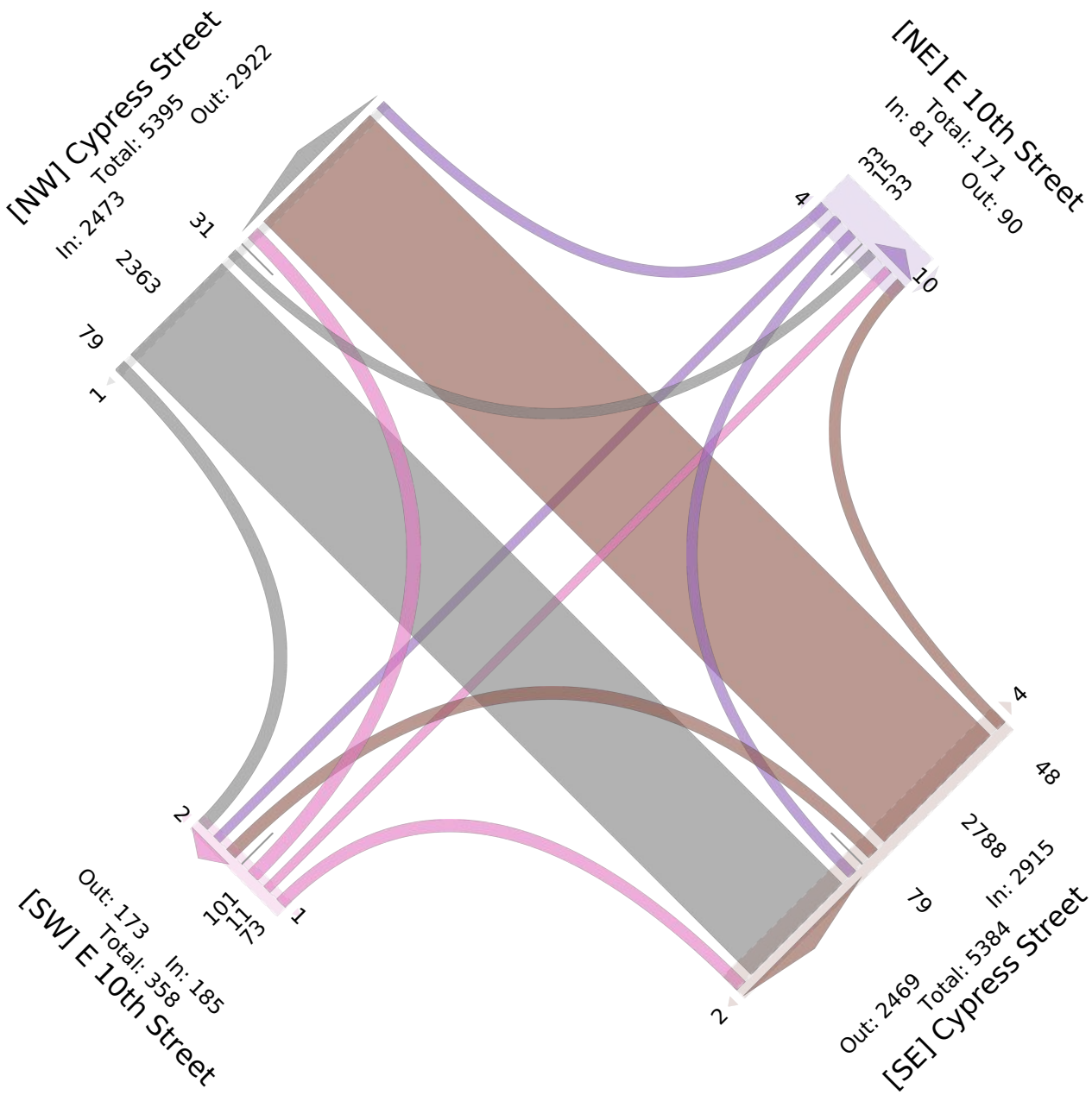
Leg Direction	E 10th Street Southwestbound						Cypress Street Northwestbound						E 10th Street Northeastbound						Cypress Street Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
11:30AM	0	0	1	0	**1**	1	1	46	1	0	**48**	0	0	1	2	0	**3**	0	5	35	0	0	**40**	0	**92**
11:45AM	0	0	0	0	**0**	0	0	44	0	0	**44**	0	2	0	1	0	**3**	0	1	47	1	0	**49**	0	**96**
Hourly Total	2	0	1	0	**3**	1	1	198	4	0	**203**	1	2	1	6	0	**9**	1	8	135	1	0	**144**	0	**359**
12:00PM	0	0	0	0	**0**	0	0	58	1	0	**59**	0	3	0	4	0	**7**	0	3	47	1	0	**51**	1	**117**
12:15PM	0	0	0	0	**0**	0	0	42	3	0	**45**	1	0	0	2	0	**2**	0	3	35	0	0	**38**	0	**85**
12:30PM	1	0	0	0	**1**	0	0	35	3	0	**38**	0	1	0	4	0	**5**	0	2	51	0	0	**53**	0	**97**
12:45PM	0	0	0	0	**0**	0	0	44	2	0	**46**	0	0	0	2	0	**2**	0	3	24	0	0	**27**	0	**75**
Hourly Total	1	0	0	0	**1**	0	0	179	9	0	**188**	1	4	0	12	0	**16**	0	11	157	1	0	**169**	1	**374**
1:00PM	1	0	1	0	**2**	0	1	39	1	0	**41**	0	1	0	1	0	**2**	0	0	39	0	0	**39**	0	**84**
1:15PM	1	0	1	0	**2**	0	1	58	2	0	**61**	0	2	0	0	0	**2**	0	0	44	1	0	**45**	0	**110**
1:30PM	0	0	1	0	**1**	1	1	49	3	0	**53**	0	2	0	1	0	**3**	0	0	46	1	0	**47**	0	**104**
1:45PM	0	1	0	0	**1**	0	0	46	4	0	**50**	0	4	1	1	0	**6**	0	0	41	0	0	**41**	0	**98**
Hourly Total	2	1	3	0	**6**	1	3	192	10	0	**205**	0	9	1	3	0	**13**	0	0	170	2	0	**172**	0	**396**
2:00PM	0	0	2	0	**2**	0	2	55	0	0	**57**	0	0	1	1	0	**2**	0	0	36	2	0	**38**	0	**99**
2:15PM	0	0	1	0	**1**	0	1	48	2	0	**51**	0	1	0	2	0	**3**	0	1	48	0	0	**49**	0	**104**
2:30PM	1	0	2	0	**3**	0	1	47	0	0	**48**	0	1	0	0	0	**1**	1	1	54	1	0	**56**	0	**108**
2:45PM	3	2	1	0	**6**	0	2	48	1	0	**51**	1	0	1	0	0	**1**	0	0	52	0	0	**52**	0	**110**
Hourly Total	4	2	6	0	**12**	0	6	198	3	0	**207**	1	2	2	3	0	**7**	1	2	190	3	0	**195**	0	**421**
3:00PM	0	1	0	0	**1**	2	1	64	3	0	**68**	1	0	3	2	0	**5**	0	2	64	0	0	**66**	0	**140**
3:15PM	1	0	0	0	**1**	0	3	78	1	0	**82**	0	4	0	1	0	**5**	0	2	44	0	0	**46**	0	**134**
3:30PM	0	0	2	0	**2**	1	1	74	0	0	**75**	0	2	0	4	0	**6**	0	4	57	2	0	**63**	0	**146**
3:45PM	0	0	0	0	**0**	0	5	74	1	0	**80**	0	3	1	0	0	**4**	0	1	73	1	0	**75**	0	**159**
Hourly Total	1	1	2	0	**4**	3	10	290	5	0	**305**	1	9	4	7	0	**20**	0	9	238	3	0	**250**	0	**579**
4:00PM	0	1	1	0	**2**	0	0	60	0	0	**60**	0	1	0	3	0	**4**	0	0	65	0	0	**65**	0	**131**
4:15PM	1	1	0	0	**2**	0	1	48	1	0	**50**	0	1	0	3	0	**4**	0	1	64	0	0	**65**	0	**121**
4:30PM	0	0	0	0	**0**	0	1	60	3	0	**64**	0	0	0	1	0	**1**	0	0	47	0	0	**47**	0	**112**
4:45PM	1	1	0	0	**2**	0	1	64	1	0	**66**	0	0	0	1	0	**1**	0	0	44	3	0	**47**	0	**116**
Hourly Total	2	3	1	0	**6**	0	3	232	5	0	**240**	0	2	0	8	0	**10**	0	1	220	3	0	**224**	0	**480**
5:00PM	0	0	1	0	**1**	0	1	51	2	0	**54**	0	1	0	0	0	**1**	0	1	63	3	0	**67**	0	**123**
5:15PM	1	0	1	0	**2**	0	1	54	2	0	**57**	0	2	0	0	0	**2**	0	3	48	3	0	**54**	0	**115**
5:30PM	0	0	1	0	**1**	0	0	57	1	0	**58**	0	2	0	1	0	**3**	0	1	48	1	0	**50**	0	**112**
5:45PM	0	0	0	0	**0**	1	0	51	1	0	**52**	0	1	0	4	0	**5**	0	3	37	1	0	**41**	0	**98**
Hourly Total	1	0	3	0	**4**	1	2	213	6	0	**221**	0	6	0	5	0	**11**	0	8	196	8	0	**212**	0	**448**
6:00PM	0	0	1	0	**1**	0	1	41	2	0	**44**	0	3	0	1	0	**4**	0	1	40	1	0	**42**	0	**91**
6:15PM	1	1	2	0	**4**	0	2	32	4	0	**38**	0	0	0	2	0	**2**	0	2	35	1	0	**38**	0	**82**
6:30PM	0	0	0	0	**0**	0	0	35	1	0	**36**	0	0	0	2	0	**2**	0	0	34	0	0	**34**	0	**72**
6:45PM	2	0	0	0	**2**	0	1	37	1	0	**39**	0	0	0	2	0	**2**	0	3	29	0	0	**32**	0	**75**
Hourly Total	3	1	3	0	**7**	0	4	145	8	0	**157**	0	3	0	7	0	**10**	0	6	138	2	0	**146**	0	**320**
7:00PM	0	1	0	0	**1**	0	0	27	1	0	**28**	0	0	0	2	0	**2**	0	2	22	0	0	**24**	0	**55**
7:15PM	1	0	1	0	**2**	1	1	28	2	0	**31**	0	1	0	1	0	**2**	0	0	19	1	0	**20**	0	**55**
7:30PM	0	0	0	0	**0**	0	0	28	1	0	**29**	0	1	0	1	0	**2**	0	0	26	0	0	**26**	0	**57**
7:45PM	1	0	0	0	**1**	0	0	23	1	0	**24**	0	1	0	1	0	**2**	0	1	22	0	0	**23**	0	**50**
Hourly Total	2	1	1	0	**4**	1	1	106	5	0	**112**	0	3	0	5	0	**8**	0	3	89	1	0	**93**	0	**217**
8:00PM	0	0	0	0	**0**	1	0	21	1	0	**22**	0	1	0	0	0	**1**	0	3	20	0	0	**23**	0	**46**
8:15PM	0	0	0	0	**0**	0	0	17	2	0	**19**	0	2	0	1	0	**3**	0	0	22	0	0	**22**	0	**44**
8:30PM	0	0	0	0	**0**	0	0	17	1	0	**18**	0	0	0	0	0	**0**	0	0	18	0	0	**18**	0	**36**
8:45PM	1	0	0	0	**1**	0	0	19	0	0	**19**	0	2	0	1	0	**3**	0	0	13	0	0	**13**	0	**36**
Hourly Total	1	0	0	0	**1**	1	0	74	4	0	**78**	0	5	0	2	0	**7**	0	3	73	0	0	**76**	0	**162**
9:00PM	0	0	0	0	**0**	0	0	18	1	0	**19**	0	1	0	0	0	**1**	0	1	13	0	0	**14**	0	**34**
9:15PM	0	0	0	0	**0**	0	1	14	0	0	**15**	0	0	0	2	0	**2**	0	1	12	1	0	**14**	0	**31**
9:30PM	0	0	1	0	**1**	0	0	10	0	0	**10**	0	1	0	1	0	**2**	0	0	11	0	0	**11**	0	**24**
9:45PM	0	0	0	0	**0**	1	1	11	0	0	**12**	0	2	0	0	0	**2**	0	0	9	0	0	**9**	0	**23**
Hourly Total	0	0	1	0	**1**	1	2	53	1	0	**56**	0	4	0	3	0	**7**	0	2	45	1	0	**48**	0	**112**
10:00PM	0	0	1	0	**1**	0	1	13	1	0	**15**	0	0	0	0	0	**0**	0	1	17	0	0	**18**	0	**34**
10:15PM	0	0	0	0	**0**	0	0	7	0	0	**7**	0	0	0	1	0	**1**	0	0	14	0	0	**14**	0	**22**
10:30PM	0	0	0	0	**0**	0	0	11	0	0	**11**	0	0	0	0	0	**0**	0	1	10	0	0	**11**	0	**22**
10:45PM	0	0	0	0	**0**	0	0	3	1	0	**4**	0	0	0	0	0	**0**	0	0	7	0	0	**7**	0	**11**
Hourly Total	0	0	1	0	**1**	0	1	34	2	0	**37**	0	0	0	1	0	**1**	0	2	48	0	0	**50**	0	**89**
11:00PM	0	0	0	0	**0**	0	1	4	0	0	**5**	0	0	0	0	0	**0**	0	1	2	0	0	**3**	0	**8**
11:15PM	0	0	0	0	**0**	0	0	4	0	0	**4**	0	0	0	0	0	**0**	0	0	4	0	0	**4**	0	**8**
11:30PM	0	0	0	0	**0**	0	0	9	0	0	**9**	0	0	0	0	0	**0**	0	2	3	0	0	**5**	0	**14**
11:45PM	0	0	0	0	**0**	0	0	7	1	0	**8**	0	0	2	0	0	**2**	0	0	5	0	0	**5**	0	**15**
Hourly Total	0	0	0	0	**0**	0	1	24	1	0	**26**	0	0	2	0	0	**2**	0	3	14	0	0	**17**	0	**45**
Total	33	15	33	0	**81**	14	48	2788	79	0	**2915**	6	73	11	101	0	**185**	3	79	2363	31	0	**2473**	1	**5654**
% Approach	40.7%	18.5%	40.7%	0%	**-**	-	1.6%	95.6%	2.7%	0%	**-**	-	39.5%	5.9%	54.6%	0%	**-**	-	3.2%	95.6%	1.3%	0%	**-**	-	-

Leg Direction	E 10th Street Southwestbound						Cypress Street Northwestbound						E 10th Street Northeastbound						Cypress Street Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
% Total	0.6%	0.3%	0.6%	0%	**1.4%**	-	0.8%	49.3%	1.4%	0%	**51.6%**	-	1.3%	0.2%	1.8%	0%	**3.3%**	-	1.4%	41.8%	0.5%	0%	**43.7%**	-	-
Lights	32	15	33	0	**80**	-	48	2715	79	0	**2842**	-	71	10	101	0	**182**	-	79	2291	30	0	**2400**	-	5504
% Lights	97.0%	100%	100%	0%	**98.8%**	-	100%	97.4%	100%	0%	**97.5%**	-	97.3%	90.9%	100%	0%	**98.4%**	-	100%	97.0%	96.8%	0%	**97.0%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	0	35	0	0	**35**	-	0	0	0	0	**0**	-	0	36	0	0	**36**	-	71
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	1.3%	0%	0%	**1.2%**	-	0%	0%	0%	0%	**0%**	-	0%	1.5%	0%	0%	**1.5%**	-	1.3%
Buses and Single-Unit Trucks	1	0	0	0	**1**	-	0	38	0	0	**38**	-	2	1	0	0	**3**	-	0	36	1	0	**37**	-	79
% Buses and Single-Unit Trucks	3.0%	0%	0%	0%	**1.2%**	-	0%	1.4%	0%	0%	**1.3%**	-	2.7%	9.1%	0%	0%	**1.6%**	-	0%	1.5%	3.2%	0%	**1.5%**	-	1.4%
Pedestrians	-	-	-	-	-	14	-	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 10th Street - TMC
Tue Dec 8, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 10th Street - TMC

Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

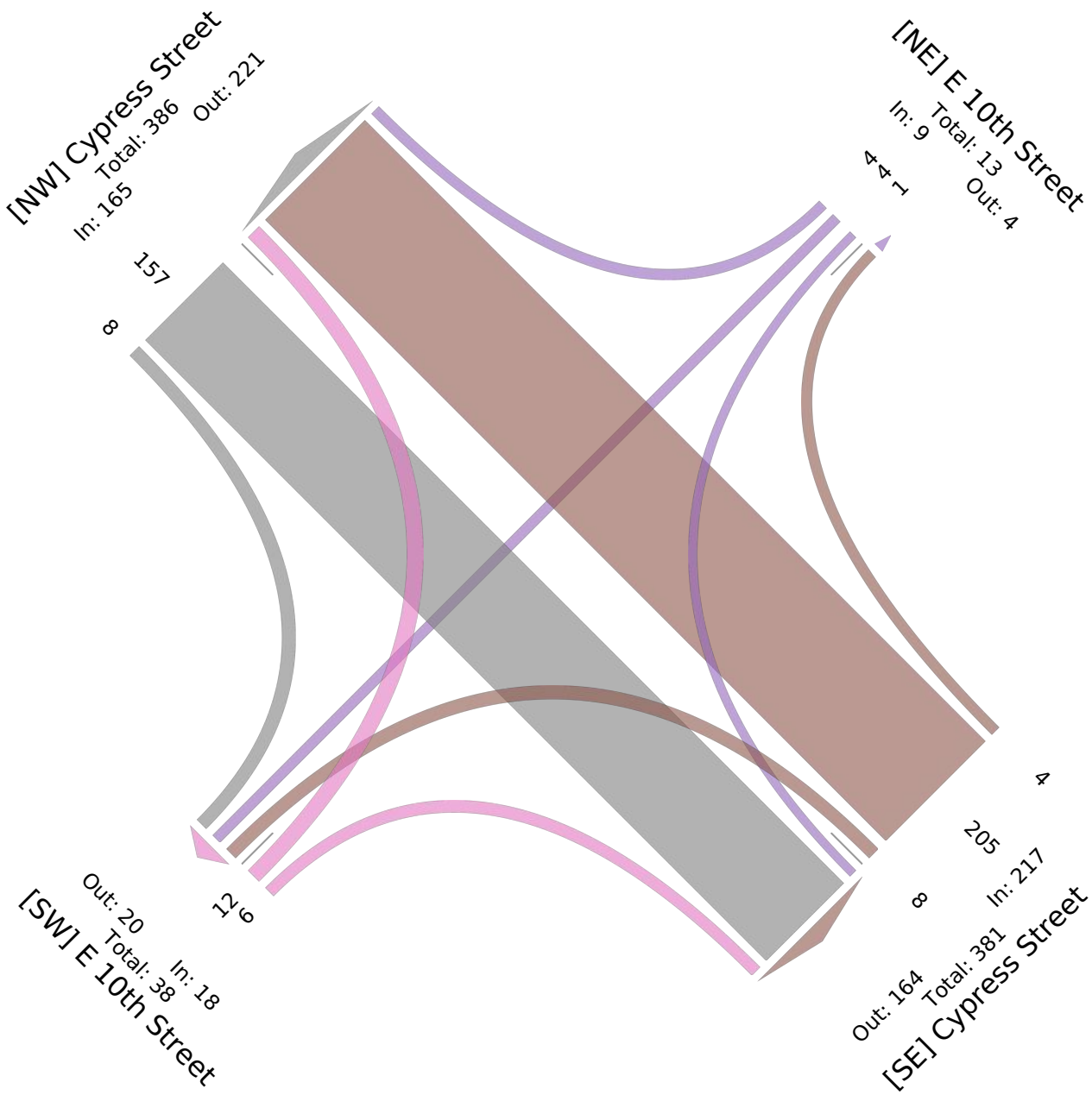
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	E 10th Street						Cypress Street						E 10th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2020-12-08 7:30AM	1	0	1	0	**2**	0	0	63	1	0	**64**	0	0	0	1	0	**1**	0	3	34	0	0	**37**	0	**104**
7:45AM	0	2	0	0	**2**	0	1	69	4	0	**74**	0	2	0	3	0	**5**	0	5	36	0	0	**41**	0	**122**
8:00AM	3	2	0	0	**5**	0	3	47	3	0	**53**	0	3	0	7	0	**10**	0	0	46	0	0	**46**	0	**114**
8:15AM	0	0	0	0	**0**	0	0	26	0	0	**26**	0	1	0	1	0	**2**	0	0	41	0	0	**41**	0	**69**
Total	4	4	1	0	**9**	0	4	205	8	0	**217**	0	6	0	12	0	**18**	0	8	157	0	0	**165**	0	**409**
% Approach	44.4%	44.4%	11.1%	0%	**-**	-	1.8%	94.5%	3.7%	0%	**-**	-	33.3%	0%	66.7%	0%	**-**	-	4.8%	95.2%	0%	0%	**-**	-	-
% Total	1.0%	1.0%	0.2%	0%	**2.2%**	-	1.0%	50.1%	2.0%	0%	**53.1%**	-	1.5%	0%	2.9%	0%	**4.4%**	-	2.0%	38.4%	0%	0%	**40.3%**	-	-
PHF	0.333	0.500	0.250	-	**0.450**	-	0.333	0.743	0.500	-	**0.733**	-	0.500	-	0.429	-	**0.450**	-	0.400	0.853	-	-	**0.897**	-	0.838
Lights	3	4	1	0	**8**	-	4	201	8	0	**213**	-	6	0	12	0	**18**	-	8	147	0	0	**155**	-	394
% Lights	75.0%	100%	100%	0%	**88.9%**	-	100%	98.0%	100%	0%	**98.2%**	-	100%	0%	100%	0%	**100%**	-	100%	93.6%	0%	0%	**93.9%**	-	96.3%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0%	2.5%	0%	0%	**2.4%**	-	1.2%
Buses and Single-Unit Trucks	1	0	0	0	**1**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	0	6	0	0	**6**	-	10
% Buses and Single-Unit Trucks	25.0%	0%	0%	0%	**11.1%**	-	0%	1.5%	0%	0%	**1.4%**	-	0%	0%	0%	0%	**0%**	-	0%	3.8%	0%	0%	**3.6%**	-	2.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 10th Street - TMC
Tue Dec 8, 2020
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 10th Street - TMC

Tue Dec 8, 2020
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

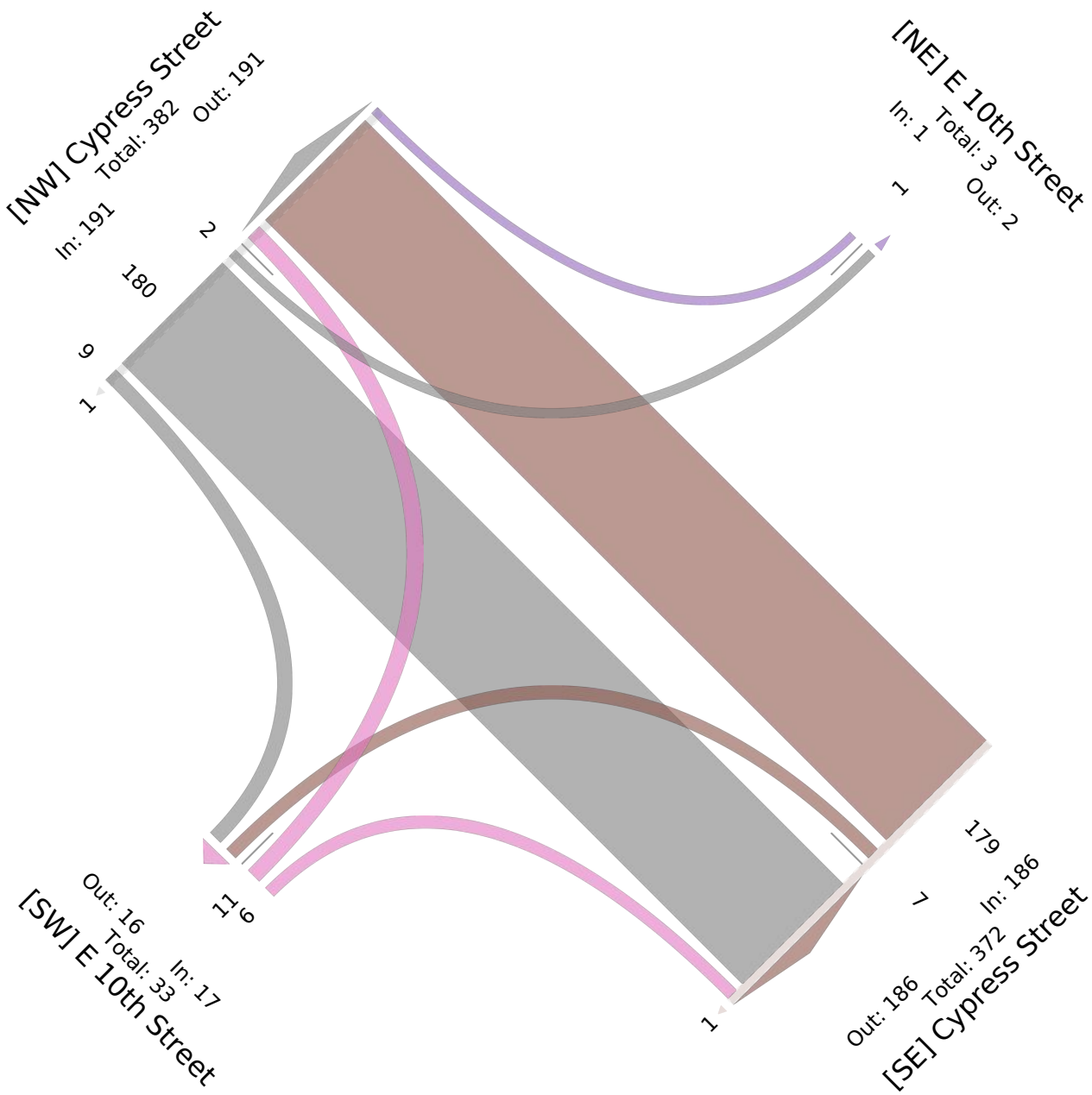
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	E 10th Street						Cypress Street						E 10th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2020-12-08 11:45AM	0	0	0	0	**0**	0	0	44	0	0	**44**	0	2	0	1	0	**3**	0	1	47	1	0	**49**	0	**96**
12:00PM	0	0	0	0	**0**	0	0	58	1	0	**59**	0	3	0	4	0	**7**	0	3	47	1	0	**51**	1	**117**
12:15PM	0	0	0	0	**0**	0	0	42	3	0	**45**	1	0	0	2	0	**2**	0	3	35	0	0	**38**	0	**85**
12:30PM	1	0	0	0	**1**	0	0	35	3	0	**38**	0	1	0	4	0	**5**	0	2	51	0	0	**53**	0	**97**
Total	1	0	0	0	**1**	0	0	179	7	0	**186**	1	6	0	11	0	**17**	0	9	180	2	0	**191**	1	**395**
% Approach	100%	0%	0%	0%	**-**	-	0%	96.2%	3.8%	0%	**-**	-	35.3%	0%	64.7%	0%	**-**	-	4.7%	94.2%	1.0%	0%	**-**	-	-
% Total	0.3%	0%	0%	0%	**0.3%**	-	0%	45.3%	1.8%	0%	**47.1%**	-	1.5%	0%	2.8%	0%	**4.3%**	-	2.3%	45.6%	0.5%	0%	**48.4%**	-	-
PHF	0.250	-	-	-	**0.250**	-	-	0.772	0.583	-	**0.788**	-	0.500	-	0.688	-	**0.607**	-	0.750	0.882	0.500	-	**0.901**	-	0.844
Lights	1	0	0	0	**1**	-	0	174	7	0	**181**	-	6	0	11	0	**17**	-	9	173	2	0	**184**	-	383
% Lights	100%	0%	0%	0%	**100%**	-	0%	97.2%	100%	0%	**97.3%**	-	100%	0%	100%	0%	**100%**	-	100%	96.1%	100%	0%	**96.3%**	-	97.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.2%	0%	0%	**2.1%**	-	1.0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	5	0	0	**5**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	8
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.8%	0%	0%	**2.7%**	-	0%	0%	0%	0%	**0%**	-	0%	1.7%	0%	0%	**1.6%**	-	2.0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 10th Street - TMC
Tue Dec 8, 2020
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 10th Street - TMC

Tue Dec 8, 2020
PM Peak (3 PM - 4 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

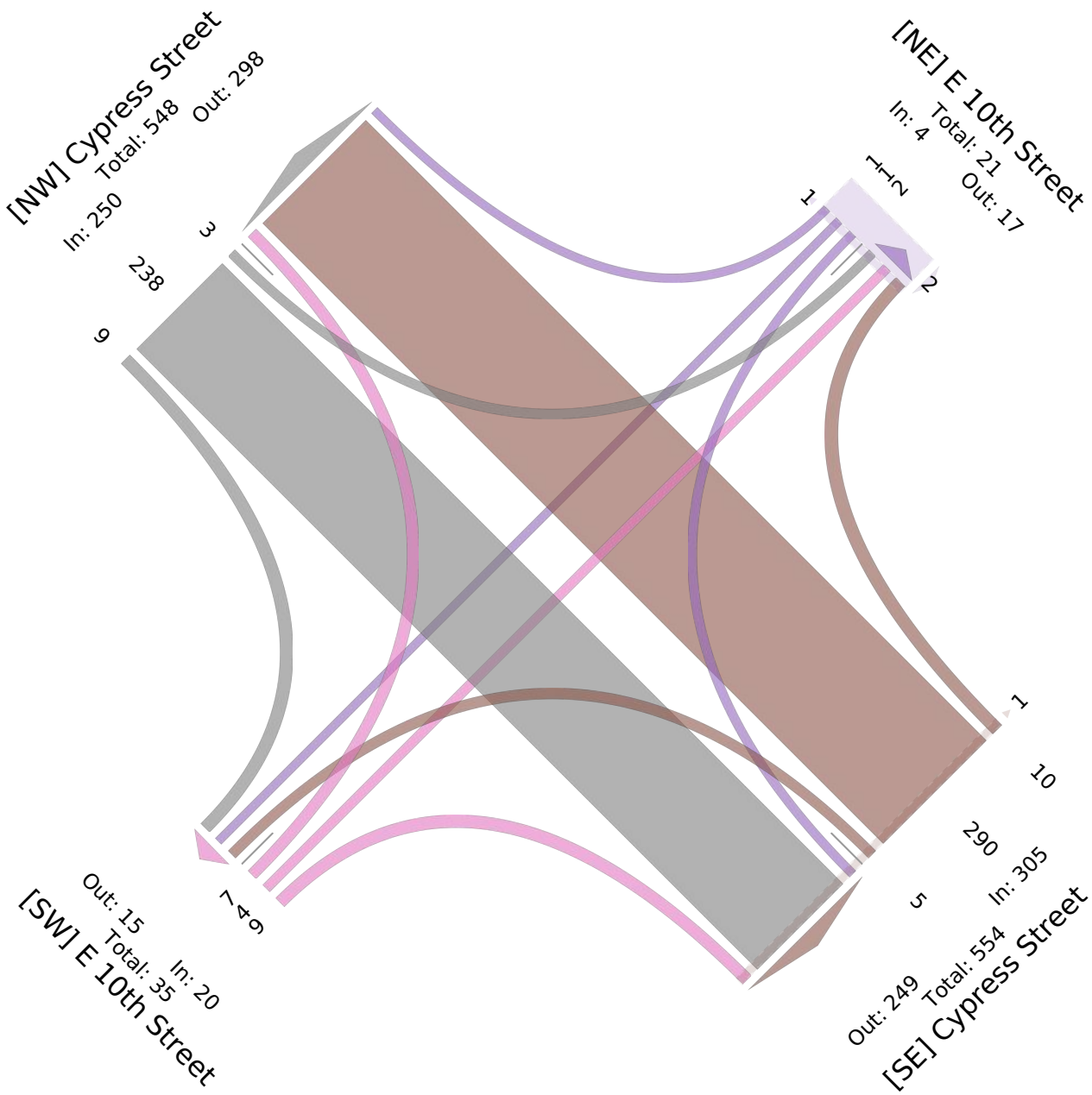
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	E 10th Street						Cypress Street						E 10th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2020-12-08 3:00PM	0	1	0	0	**1**	2	1	64	3	0	**68**	1	0	3	2	0	**5**	0	2	64	0	0	**66**	0	**140**
3:15PM	1	0	0	0	**1**	0	3	78	1	0	**82**	0	4	0	1	0	**5**	0	2	44	0	0	**46**	0	**134**
3:30PM	0	0	2	0	**2**	1	1	74	0	0	**75**	0	2	0	4	0	**6**	0	4	57	2	0	**63**	0	**146**
3:45PM	0	0	0	0	**0**	0	5	74	1	0	**80**	0	3	1	0	0	**4**	0	1	73	1	0	**75**	0	**159**
Total	1	1	2	0	**4**	3	10	290	5	0	**305**	1	9	4	7	0	**20**	0	9	238	3	0	**250**	0	**579**
% Approach	25.0%	25.0%	50.0%	0%	**-**	-	3.3%	95.1%	1.6%	0%	**-**	-	45.0%	20.0%	35.0%	0%	**-**	-	3.6%	95.2%	1.2%	0%	**-**	-	**-**
% Total	0.2%	0.2%	0.3%	0%	**0.7%**	-	1.7%	50.1%	0.9%	0%	**52.7%**	-	1.6%	0.7%	1.2%	0%	**3.5%**	-	1.6%	41.1%	0.5%	0%	**43.2%**	-	**-**
PHF	0.250	0.250	0.250		**- 0.500**	-	0.500	0.929	0.417		**- 0.930**	-	0.563	0.333	0.438		**- 0.833**	-	0.563	0.815	0.375		**- 0.833**	-	0.910
Lights	1	1	2	0	**4**	-	10	281	5	0	**296**	-	9	3	7	0	**19**	-	9	232	2	0	**243**	-	562
% Lights	100%	100%	100%	0%	**100%**	-	100%	96.9%	100%	0%	**97.0%**	-	100%	75.0%	100%	0%	**95.0%**	-	100%	97.5%	66.7%	0%	**97.2%**	-	97.1%
Articulated Trucks	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	1.0%	0%	0%	**1.0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.8%**	-	0.9%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	1	0	0	**1**	-	0	4	1	0	**5**	-	12
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**2.0%**	-	0%	25.0%	0%	0%	**5.0%**	-	0%	1.7%	33.3%	0%	**2.0%**	-	2.1%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 10th Street - TMC
Tue Dec 8, 2020
PM Peak (3 PM - 4 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804219, Location: 41.432998, -91.042462

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 9th Street - TMC

Thu Dec 10, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg	E 9th Street						Cypress Street						E 9th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2020-12-10 12:00AM	1	0	7	0	**8**	0	1	5	0	0	**6**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	**17**
12:15AM	2	1	1	0	**4**	0	1	8	0	0	**9**	0	0	0	0	0	**0**	0	0	4	1	0	**5**	0	**18**
12:30AM	0	1	2	0	**3**	0	2	4	0	0	**6**	0	0	0	0	0	**0**	0	0	0	1	0	**1**	0	**10**
12:45AM	0	0	2	0	**2**	0	0	4	0	0	**4**	0	0	0	0	0	**0**	0	0	2	1	0	**3**	0	**9**
Hourly Total	3	2	12	0	**17**	0	4	21	0	0	**25**	0	0	0	0	0	**0**	0	0	9	3	0	**12**	0	**54**
1:00AM	0	0	3	0	**3**	0	0	4	0	0	**4**	0	0	0	0	0	**0**	0	1	1	0	0	**2**	0	**9**
1:15AM	0	0	5	0	**5**	0	3	5	0	0	**8**	0	0	1	0	0	**1**	0	0	5	0	0	**5**	0	**19**
1:30AM	0	2	4	0	**6**	0	4	5	0	0	**9**	0	0	0	0	0	**0**	1	0	0	0	0	**0**	0	**15**
1:45AM	0	0	3	0	**3**	1	2	1	0	0	**3**	1	0	1	0	0	**1**	0	0	2	0	0	**2**	0	**9**
Hourly Total	0	2	15	0	**17**	1	9	15	0	0	**24**	1	0	2	0	0	**2**	1	1	8	0	0	**9**	0	**52**
2:00AM	1	1	1	0	**3**	0	0	1	0	0	**1**	0	0	0	0	0	**0**	0	0	2	0	0	**2**	0	**6**
2:15AM	0	0	3	0	**3**	1	2	2	0	0	**4**	0	0	1	0	0	**1**	3	0	2	1	0	**3**	1	**11**
2:30AM	0	0	1	0	**1**	3	2	0	0	0	**2**	0	0	1	0	0	**1**	3	0	1	0	0	**1**	3	**5**
2:45AM	0	0	1	0	**1**	0	7	2	0	0	**9**	0	0	0	1	0	**1**	0	0	1	0	0	**1**	0	**12**
Hourly Total	1	1	6	0	**8**	4	11	5	0	0	**16**	0	0	2	1	0	**3**	6	0	6	1	0	**7**	4	**34**
3:00AM	0	0	1	0	**1**	0	1	2	1	0	**4**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**5**
3:15AM	0	0	2	0	**2**	0	5	1	0	0	**6**	0	1	0	0	0	**1**	0	0	0	0	0	**0**	0	**9**
3:30AM	0	0	2	0	**2**	0	6	7	0	0	**13**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	**18**
3:45AM	3	0	5	0	**8**	0	5	2	0	0	**7**	0	0	1	0	0	**1**	0	0	7	0	0	**7**	0	**23**
Hourly Total	3	0	10	0	**13**	0	17	12	1	0	**30**	0	1	1	0	0	**2**	0	0	10	0	0	**10**	0	**55**
4:00AM	0	0	3	0	**3**	0	5	3	0	0	**8**	0	0	2	0	0	**2**	1	0	4	1	0	**5**	0	**18**
4:15AM	0	0	3	0	**3**	3	8	11	0	0	**19**	3	0	0	1	0	**1**	0	0	5	1	0	**6**	0	**29**
4:30AM	3	0	12	0	**15**	1	14	7	0	0	**21**	1	0	0	0	0	**0**	0	0	12	4	0	**16**	0	**52**
4:45AM	2	0	8	0	**10**	0	8	14	0	0	**22**	0	0	0	0	0	**0**	1	0	5	1	0	**6**	0	**38**
Hourly Total	5	0	26	0	**31**	4	35	35	0	0	**70**	4	0	2	1	0	**3**	2	0	26	7	0	**33**	0	**137**
5:00AM	1	0	2	0	**3**	0	6	11	0	0	**17**	0	0	0	1	0	**1**	0	0	6	2	0	**8**	0	**29**
5:15AM	2	0	4	0	**6**	0	9	17	0	0	**26**	0	0	0	0	0	**0**	0	0	8	0	0	**8**	0	**40**
5:30AM	6	0	5	0	**11**	0	7	15	0	0	**22**	0	0	0	0	0	**0**	1	0	5	1	0	**6**	0	**39**
5:45AM	8	0	6	0	**14**	1	9	22	0	0	**31**	0	0	0	0	0	**0**	0	0	10	2	0	**12**	0	**57**
Hourly Total	17	0	17	0	**34**	1	31	65	0	0	**96**	0	0	0	1	0	**1**	1	0	29	5	0	**34**	0	**165**
6:00AM	2	0	8	0	**10**	0	7	13	0	0	**20**	0	1	1	0	0	**2**	0	0	9	7	0	**16**	0	**48**
6:15AM	7	0	14	0	**21**	0	12	11	0	0	**23**	0	0	0	0	0	**0**	0	0	26	3	0	**29**	0	**73**
6:30AM	11	0	14	0	**25**	0	15	13	0	0	**28**	1	0	0	1	0	**1**	0	0	14	1	0	**15**	0	**69**
6:45AM	9	0	8	0	**17**	0	19	19	0	0	**38**	0	0	0	0	0	**0**	0	0	15	6	0	**21**	0	**76**
Hourly Total	29	0	44	0	**73**	0	53	56	0	0	**109**	1	1	1	1	0	**3**	0	0	64	17	0	**81**	0	**266**
7:00AM	8	2	5	0	**15**	0	11	15	0	0	**26**	0	0	0	2	0	**2**	0	0	12	8	0	**20**	0	**63**
7:15AM	12	0	15	0	**27**	0	14	15	0	0	**29**	0	0	0	0	0	**0**	0	0	15	5	0	**20**	0	**76**
7:30AM	28	0	23	0	**51**	0	26	32	0	0	**58**	0	0	2	0	0	**2**	0	1	20	10	0	**31**	0	**142**
7:45AM	35	0	17	0	**52**	0	41	35	0	0	**76**	0	0	1	0	0	**1**	0	1	24	11	0	**36**	0	**165**
Hourly Total	83	2	60	0	**145**	0	92	97	0	0	**189**	0	0	3	2	0	**5**	0	2	71	34	0	**107**	0	**446**
8:00AM	23	1	20	0	**44**	0	25	30	0	0	**55**	0	0	1	0	0	**1**	3	0	34	7	0	**41**	4	**141**
8:15AM	8	0	24	0	**32**	0	28	28	0	0	**56**	0	0	1	0	0	**1**	0	1	26	12	0	**39**	0	**128**
8:30AM	9	0	18	0	**27**	1	22	15	0	0	**37**	1	0	1	0	0	**1**	1	0	23	6	0	**29**	1	**94**
8:45AM	7	0	13	0	**20**	0	23	24	1	0	**48**	0	0	2	1	0	**3**	0	0	24	9	0	**33**	0	**104**
Hourly Total	47	1	75	0	**123**	1	98	97	1	0	**196**	1	0	5	1	0	**6**	4	1	107	34	0	**142**	5	**467**
9:00AM	12	0	17	0	**29**	0	19	22	1	0	**42**	0	0	2	0	0	**2**	0	0	26	5	0	**31**	0	**104**
9:15AM	7	1	16	0	**24**	0	22	16	0	0	**38**	0	0	1	0	0	**1**	0	1	15	5	0	**21**	0	**84**
9:30AM	11	0	18	0	**29**	0	22	25	1	0	**48**	0	0	0	0	0	**0**	0	1	16	6	0	**23**	0	**100**
9:45AM	12	1	24	0	**37**	0	21	22	1	0	**44**	0	0	1	1	0	**2**	0	1	33	4	0	**38**	0	**121**
Hourly Total	42	2	75	0	**119**	0	84	85	3	0	**172**	0	0	4	1	0	**5**	0	3	90	20	0	**113**	0	**409**
10:00AM	10	0	19	0	**29**	1	24	25	2	0	**51**	0	0	1	0	0	**1**	0	2	27	11	0	**40**	0	**121**
10:15AM	13	0	20	0	**33**	0	27	30	0	0	**57**	0	2	1	1	0	**4**	0	0	20	7	0	**27**	0	**121**
10:30AM	12	0	15	0	**27**	0	18	29	1	0	**48**	0	2	2	0	0	**4**	0	2	16	2	0	**20**	0	**99**
10:45AM	5	2	22	0	**29**	1	25	35	0	0	**60**	0	2	1	0	0	**3**	0	3	27	5	0	**35**	0	**127**
Hourly Total	40	2	76	0	**118**	2	94	119	3	0	**216**	0	6	5	1	0	**12**	0	7	90	25	0	**122**	0	**468**
11:00AM	13	2	24	0	**39**	0	26	26	0	0	**52**	0	1	0	1	0	**2**	0	0	29	9	0	**38**	0	**131**
11:15AM	14	2	15	0	**31**	0	28	40	1	0	**69**	0	1	2	1	0	**4**	1	1	35	5	0	**41**	1	**145**
11:30AM	14	0	19	0	**33**	0	45	30	0	0	**75**	0	0	1	0	0	**1**	0	0	36	13	0	**49**	0	**158**

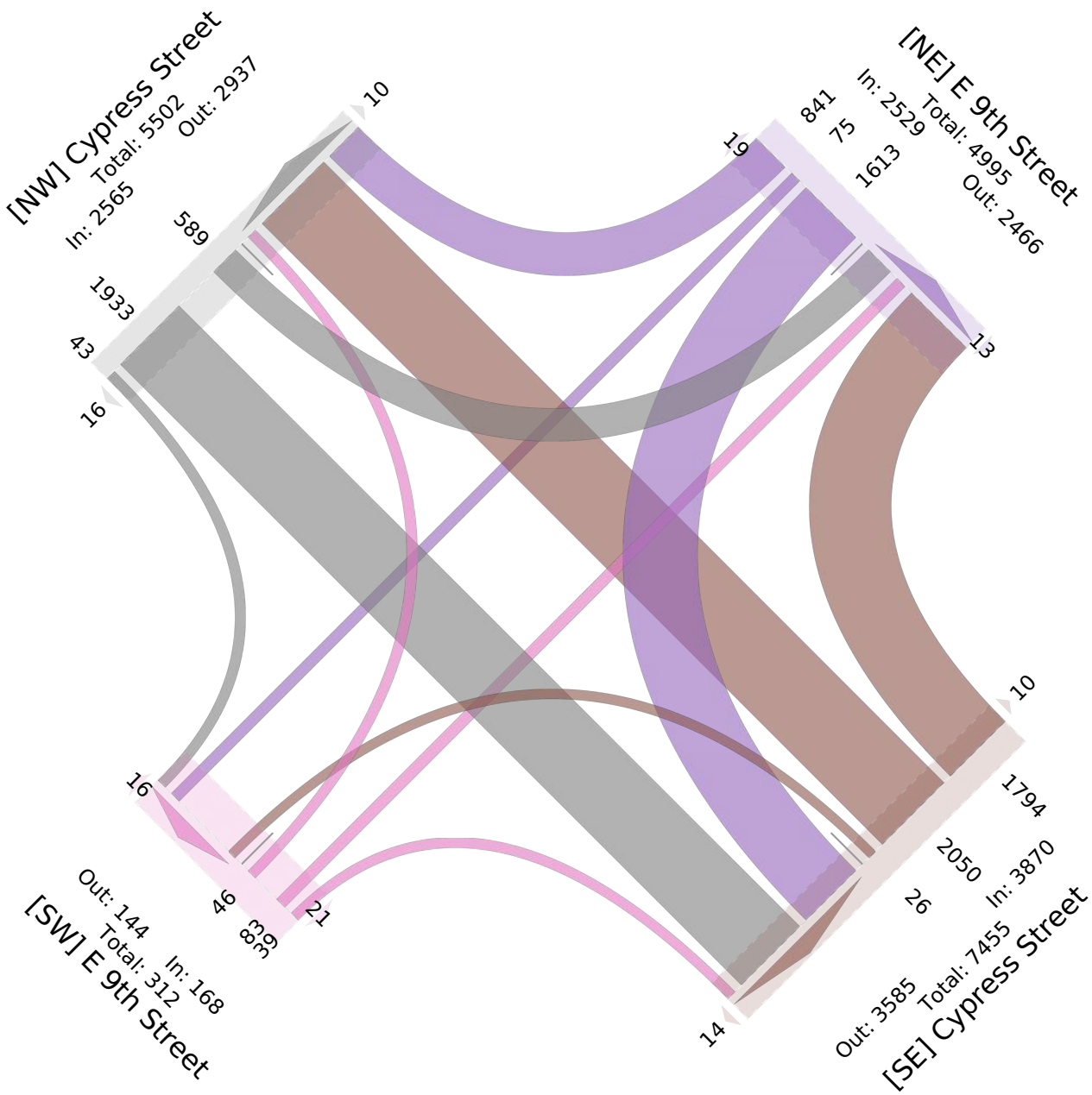
Leg	E 9th Street						Cypress Street						E 9th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
11:45AM	17	1	22	0	**40**	0	32	37	1	0	**70**	0	3	1	0	0	**4**	1	1	24	7	0	**32**	0	**146**
Hourly Total	58	5	80	0	**143**	0	131	133	2	0	**266**	0	5	4	2	0	**11**	2	2	124	34	0	**160**	1	**580**
12:00PM	17	1	23	0	**41**	0	21	34	0	0	**55**	0	2	2	1	0	**5**	0	0	37	9	0	**46**	0	**147**
12:15PM	15	2	27	0	**44**	0	28	35	1	0	**64**	0	2	2	1	0	**5**	0	1	34	10	0	**45**	0	**158**
12:30PM	18	2	27	0	**47**	1	27	22	0	0	**49**	0	0	2	0	0	**2**	2	1	32	8	0	**41**	0	**139**
12:45PM	18	1	38	0	**57**	0	28	45	1	0	**74**	1	1	2	1	0	**4**	1	0	31	13	0	**44**	0	**179**
Hourly Total	68	6	115	0	**189**	1	104	136	2	0	**242**	1	5	8	3	0	**16**	3	2	134	40	0	**176**	0	**623**
1:00PM	12	0	21	0	**33**	0	24	34	1	0	**59**	3	1	2	2	0	**5**	0	3	37	13	0	**53**	0	**150**
1:15PM	13	0	19	0	**32**	0	28	29	1	0	**58**	0	1	0	1	0	**2**	0	1	47	9	0	**57**	0	**149**
1:30PM	22	2	29	0	**53**	1	39	40	0	0	**79**	2	0	3	1	0	**4**	2	1	28	9	0	**38**	0	**174**
1:45PM	16	1	43	0	**60**	1	29	29	0	0	**58**	0	2	2	2	0	**6**	1	2	26	12	0	**40**	3	**164**
Hourly Total	63	3	112	0	**178**	2	120	132	2	0	**254**	5	4	7	6	0	**17**	3	7	138	43	0	**188**	3	**637**
2:00PM	9	1	33	0	**43**	2	37	55	0	0	**92**	2	0	2	1	0	**3**	0	1	40	12	0	**53**	0	**191**
2:15PM	15	2	39	0	**56**	0	26	39	0	0	**65**	0	0	0	2	0	**2**	0	1	32	12	0	**45**	0	**168**
2:30PM	7	1	35	0	**43**	1	41	37	0	0	**78**	0	1	2	1	0	**4**	1	1	35	8	0	**44**	1	**169**
2:45PM	22	2	31	0	**55**	1	34	40	2	0	**76**	3	2	3	1	0	**6**	0	3	47	17	0	**67**	0	**204**
Hourly Total	53	6	138	0	**197**	4	138	171	2	0	**311**	5	3	7	5	0	**15**	1	6	154	49	0	**209**	1	**732**
3:00PM	23	1	39	0	**63**	0	64	56	1	0	**121**	0	0	1	0	0	**1**	2	0	62	15	0	**77**	1	**262**
3:15PM	18	2	30	0	**50**	2	42	39	0	0	**81**	4	1	3	0	0	**4**	0	1	45	20	0	**66**	1	**201**
3:30PM	13	1	44	0	**58**	0	43	49	0	0	**92**	0	2	3	0	0	**5**	2	0	37	25	0	**62**	1	**217**
3:45PM	13	1	26	0	**40**	1	48	47	2	0	**97**	0	1	0	1	0	**2**	0	0	46	17	0	**63**	0	**202**
Hourly Total	67	5	139	0	**211**	3	197	191	3	0	**391**	4	4	7	1	0	**12**	4	1	190	77	0	**268**	3	**882**
4:00PM	10	1	40	0	**51**	0	50	40	1	0	**91**	0	1	4	0	0	**5**	0	1	53	16	0	**70**	0	**217**
4:15PM	13	0	30	0	**43**	2	46	42	1	0	**89**	0	1	2	0	0	**3**	0	0	46	12	0	**58**	0	**193**
4:30PM	26	2	44	0	**72**	1	42	50	0	0	**92**	0	0	2	2	0	**4**	0	1	45	11	0	**57**	0	**225**
4:45PM	20	1	34	0	**55**	1	47	58	0	0	**105**	1	0	1	1	0	**2**	1	0	34	12	0	**46**	3	**208**
Hourly Total	69	4	148	0	**221**	4	185	190	2	0	**377**	1	2	9	3	0	**14**	1	2	178	51	0	**231**	3	**843**
5:00PM	15	4	38	0	**57**	0	33	43	0	0	**76**	0	1	3	2	0	**6**	0	0	39	14	0	**53**	0	**192**
5:15PM	18	3	28	0	**49**	0	37	56	0	0	**93**	1	0	1	0	0	**1**	1	0	35	15	0	**50**	2	**193**
5:30PM	13	5	43	0	**61**	0	34	42	0	0	**76**	0	0	1	3	0	**4**	0	0	42	10	0	**52**	0	**193**
5:45PM	19	1	27	0	**47**	0	31	28	0	0	**59**	0	0	2	1	0	**3**	0	1	34	12	0	**47**	0	**156**
Hourly Total	65	13	136	0	**214**	0	135	169	0	0	**304**	1	1	7	6	0	**14**	1	1	150	51	0	**202**	2	**734**
6:00PM	10	1	32	0	**43**	0	28	24	0	0	**52**	0	1	1	0	0	**2**	0	1	51	11	0	**63**	0	**160**
6:15PM	12	1	32	0	**45**	0	19	20	1	0	**40**	0	1	1	0	0	**2**	1	1	28	9	0	**38**	0	**125**
6:30PM	19	2	29	0	**50**	0	14	27	0	0	**41**	0	0	1	3	0	**4**	1	0	29	13	0	**42**	0	**137**
6:45PM	6	2	22	0	**30**	0	21	20	0	0	**41**	0	0	1	0	0	**1**	0	0	21	7	0	**28**	0	**100**
Hourly Total	47	6	115	0	**168**	0	82	91	1	0	**174**	0	2	4	3	0	**9**	2	2	129	40	0	**171**	0	**522**
7:00PM	12	2	19	0	**33**	1	19	20	0	0	**39**	0	0	0	2	0	**2**	0	2	13	5	0	**20**	0	**94**
7:15PM	7	1	18	0	**26**	0	24	19	0	0	**43**	0	1	1	0	0	**2**	1	0	13	4	0	**17**	0	**88**
7:30PM	5	0	20	0	**25**	0	10	12	0	0	**22**	0	0	2	1	0	**3**	0	1	18	6	0	**25**	1	**75**
7:45PM	13	1	13	0	**27**	0	12	18	1	0	**31**	0	2	0	0	0	**2**	2	0	18	7	0	**25**	0	**85**
Hourly Total	37	4	70	0	**111**	1	65	69	1	0	**135**	0	3	3	3	0	**9**	3	3	62	22	0	**87**	1	**342**
8:00PM	6	0	18	0	**24**	0	12	21	0	0	**33**	0	0	1	0	0	**1**	0	1	16	7	0	**24**	0	**82**
8:15PM	3	2	14	0	**19**	2	8	15	0	0	**23**	0	0	0	1	0	**1**	2	0	15	2	0	**17**	2	**60**
8:30PM	7	2	10	0	**19**	1	13	13	0	0	**26**	0	0	0	0	0	**0**	0	1	12	1	0	**14**	0	**59**
8:45PM	3	0	9	0	**12**	0	8	20	1	0	**29**	0	1	0	0	0	**1**	0	0	11	3	0	**14**	0	**56**
Hourly Total	19	4	51	0	**74**	3	41	69	1	0	**111**	0	1	1	1	0	**3**	2	2	54	13	0	**69**	2	**257**
9:00PM	7	0	16	0	**23**	0	8	12	0	0	**20**	0	0	0	1	0	**1**	0	0	19	5	0	**24**	0	**68**
9:15PM	0	0	9	0	**9**	0	12	11	0	0	**23**	0	0	0	0	0	**0**	0	0	7	2	0	**9**	0	**41**
9:30PM	0	1	9	0	**10**	0	9	16	0	0	**25**	0	0	0	0	0	**0**	0	1	12	2	0	**15**	0	**50**
9:45PM	1	1	11	0	**13**	0	1	6	0	0	**7**	0	0	0	0	0	**0**	0	0	3	1	0	**4**	0	**24**
Hourly Total	8	2	45	0	**55**	0	30	45	0	0	**75**	0	0	0	1	0	**1**	0	1	41	10	0	**52**	0	**183**
10:00PM	3	0	3	0	**6**	0	12	7	1	0	**20**	0	0	0	0	0	**0**	0	0	9	6	0	**15**	0	**41**
10:15PM	3	0	5	0	**8**	0	7	8	0	0	**15**	0	0	1	0	0	**1**	0	0	12	3	0	**15**	0	**39**
10:30PM	3	1	6	0	**10**	0	5	7	0	0	**12**	0	1	0	1	0	**2**	0	0	10	2	0	**12**	0	**36**
10:45PM	4	1	6	0	**11**	0	3	6	0	0	**9**	0	0	0	2	0	**2**	0	0	9	0	0	**9**	0	**31**
Hourly Total	13	2	20	0	**35**	0	27	28	1	0	**56**	0	1	1	3	0	**5**	0	0	40	11	0	**51**	0	**147**
11:00PM	0	1	4	0	**5**	0	3	4	0	0	**7**	0	0	0	0	0	**0**	0	0	10	0	0	**10**	0	**22**
11:15PM	2	1	6	0	**9**	0	3	3	0	0	**6**	0	0	0	0	0	**0**	0	0	7	1	0	**8**	0	**23**
11:30PM	1	0	6	0	**7**	0	1	6	1	0	**8**	0	0	0	0	0	**0**	0	0	5	1	0	**6**	0	**21**
11:45PM	1	1	12	0	**14**	1	4	6	0	0	**10**	0	0	0	0	0	**0**	1	0	7	0	0	**7**	1	**31**
Hourly Total	4	3	28	0	**35**	1	11	19	1	0	**31**	0	0	0	0	0	**0**	1	0	29	2	0	**31**	1	**97**
Total	841	75	1613	0	**2529**	32	1794	2050	26	0	**3870**	24	39	83	46	0	**168**	37	43	1933	589	0	**2565**	26	**9132**
% Approach	33.3%	3.0%	63.8%	0%	**-**	-	46.4%	53.0%	0.7%	0%	**-**	-	23.2%	49.4%	27.4%	0%	**-**	-	1.7%	75.4%	23.0%	0%	**-**	-	-
% Total	9.2%	0.8%	17.7%	0%	**27.7%**	-	19.6%	22.4%	0.3%	0%	**42.4%**	-	0.4%	0.9%	0.5%	0%	**1.8%**	-	0.5%	21.2%	6.4%	0%	**28.1%**	-	-
Lights	825	75	1585	0	**2485**	-	1744	2003	26	0	**3773**	-	39	81	45	0	**165**	-	43	1877	567	0	**2487**	-	8910

Leg	E 9th Street						Cypress Street						E 9th Street						Cypress Street						
Direction	Southwestbound						Northwestbound						Northeastbound						Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
% Lights	98.1%	100%	98.3%	0%	**98.3%**	-	97.2%	97.7%	100%	0%	**97.5%**	-	100%	97.6%	97.8%	0%	**98.2%**	-	100%	97.1%	96.3%	0%	**97.0%**	-	97.6%
Articulated Trucks	4	0	4	0	**8**	-	5	19	0	0	**24**	-	0	0	1	0	**1**	-	0	22	2	0	**24**	-	57
% Articulated Trucks	0.5%	0%	0.2%	0%	**0.3%**	-	0.3%	0.9%	0%	0%	**0.6%**	-	0%	0%	2.2%	0%	**0.6%**	-	0%	1.1%	0.3%	0%	**0.9%**	-	0.6%
Buses and Single-Unit Trucks	12	0	24	0	**36**	-	45	28	0	0	**73**	-	0	2	0	0	**2**	-	0	34	20	0	**54**	-	165
% Buses and Single-Unit Trucks	1.4%	0%	1.5%	0%	**1.4%**	-	2.5%	1.4%	0%	0%	**1.9%**	-	0%	2.4%	0%	0%	**1.2%**	-	0%	1.8%	3.4%	0%	**2.1%**	-	1.8%
Pedestrians	-	-	-	-	-	28	-	-	-	-	-	22	-	-	-	-	-	35	-	-	-	-	-	24	
% Pedestrians	-	-	-	-	-	87.5%	-	-	-	-	-	91.7%	-	-	-	-	-	94.6%	-	-	-	-	-	92.3%	-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	12.5%	-	-	-	-	-	8.3%	-	-	-	-	-	5.4%	-	-	-	-	-	7.7%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 9th Street - TMC
Thu Dec 10, 2020
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 9th Street - TMC

Thu Dec 10, 2020
AM Peak (Dec 10 2020 7:30AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

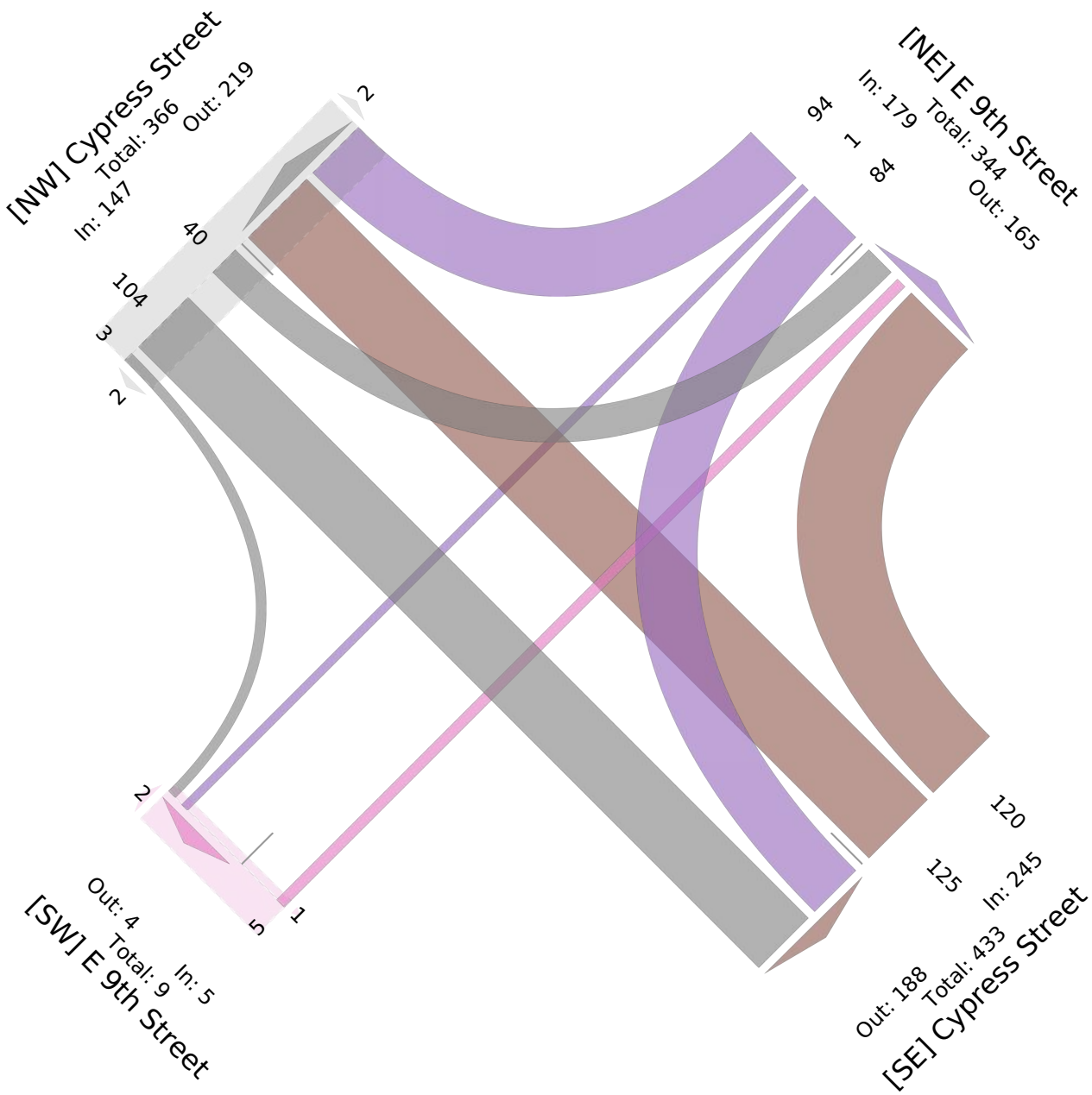
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg / Direction	E 9th Street Southwestbound						Cypress Street Northwestbound						E 9th Street Northeastbound						Cypress Street Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2020-12-10 7:30AM	28	0	23	0	**51**	0	26	32	0	0	**58**	0	0	2	0	0	**2**	0	1	20	10	0	**31**	0	**142**
7:45AM	35	0	17	0	**52**	0	41	35	0	0	**76**	0	0	1	0	0	**1**	0	1	24	11	0	**36**	0	**165**
8:00AM	23	1	20	0	**44**	0	25	30	0	0	**55**	0	0	1	0	0	**1**	3	0	34	7	0	**41**	4	**141**
8:15AM	8	0	24	0	**32**	0	28	28	0	0	**56**	0	0	1	0	0	**1**	0	1	26	12	0	**39**	0	**128**
Total	94	1	84	0	**179**	0	120	125	0	0	**245**	0	0	5	0	0	**5**	3	3	104	40	0	**147**	4	**576**
% Approach	52.5%	0.6%	46.9%	0%	**-**	-	49.0%	51.0%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-	2.0%	70.7%	27.2%	0%	**-**	-	-
% Total	16.3%	0.2%	14.6%	0%	**31.1%**	-	20.8%	21.7%	0%	0%	**42.5%**	-	0%	0.9%	0%	0%	**0.9%**	-	0.5%	18.1%	6.9%	0%	**25.5%**	-	-
PHF	0.671	0.250	0.875	-	**0.861**	-	0.732	0.893	-	-	**0.806**	-	-	0.625	-	-	**0.625**	-	0.750	0.765	0.833	-	**0.896**	-	0.873
Lights	93	1	82	0	**176**	-	116	121	0	0	**237**	-	0	5	0	0	**5**	-	3	96	40	0	**139**	-	557
% Lights	98.9%	100%	97.6%	0%	**98.3%**	-	96.7%	96.8%	0%	0%	**96.7%**	-	0%	100%	0%	0%	**100%**	-	100%	92.3%	100%	0%	**94.6%**	-	96.7%
Articulated Trucks	1	0	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Articulated Trucks	1.1%	0%	0%	0%	**0.6%**	-	0%	0.8%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	1.0%	0%	0%	**0.7%**	-	0.5%
Buses and Single-Unit Trucks	0	0	2	0	**2**	-	4	3	0	0	**7**	-	0	0	0	0	**0**	-	0	7	0	0	**7**	-	16
% Buses and Single-Unit Trucks	0%	0%	2.4%	0%	**1.1%**	-	3.3%	2.4%	0%	0%	**2.9%**	-	0%	0%	0%	0%	**0%**	-	0%	6.7%	0%	0%	**4.8%**	-	2.8%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 9th Street - TMC
Thu Dec 10, 2020
AM Peak (Dec 10 2020 7:30AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 9th Street - TMC

Thu Dec 10, 2020
Midday Peak (Dec 10 2020 12PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

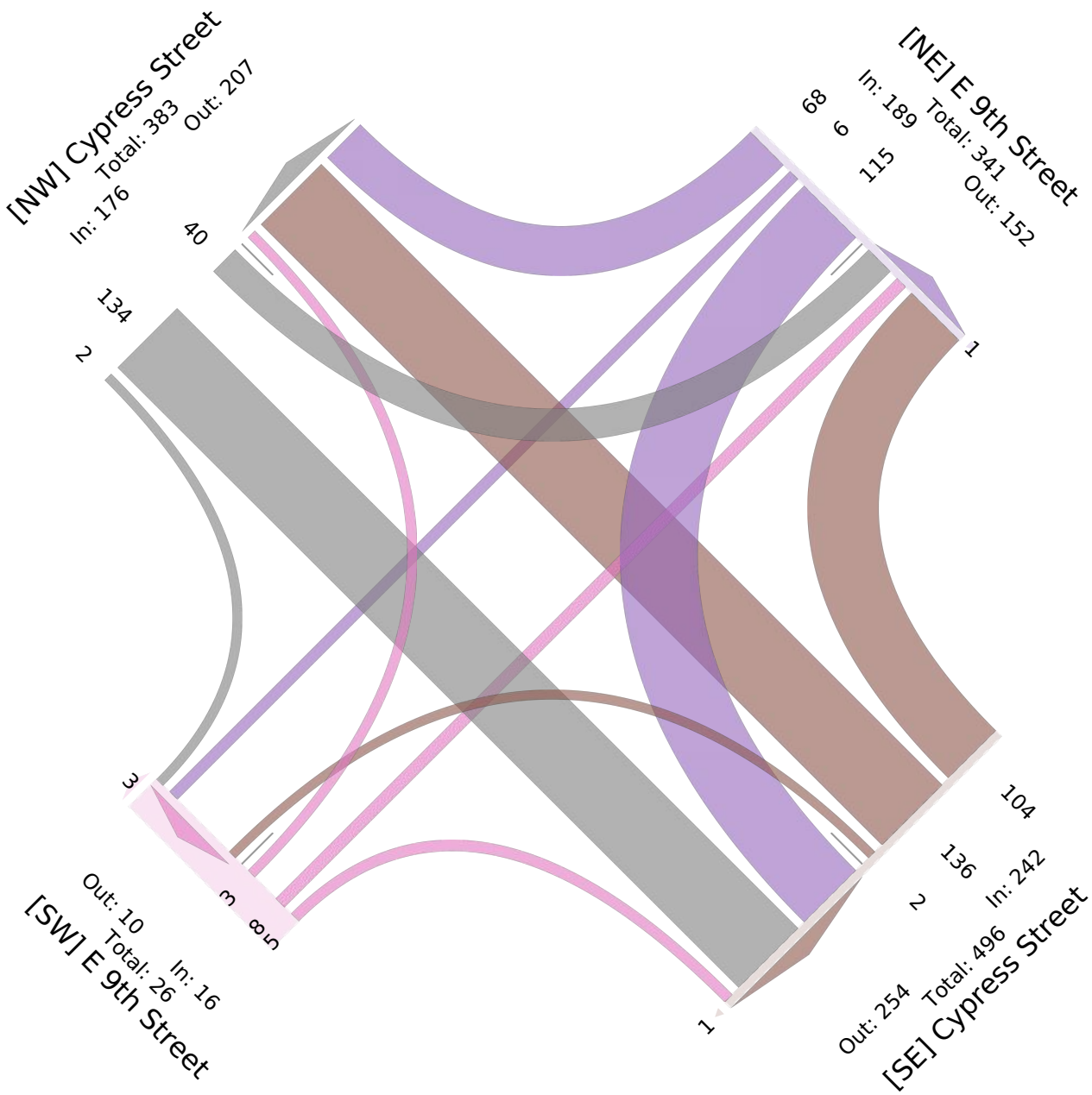
Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg / Direction	E 9th Street Southwestbound						Cypress Street Northwestbound						E 9th Street Northeastbound						Cypress Street Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2020-12-10 12:00PM	17	1	23	0	**41**	0	21	34	0	0	**55**	0	2	2	1	0	**5**	0	0	37	9	0	**46**	0	**147**
12:15PM	15	2	27	0	**44**	0	28	35	1	0	**64**	0	2	2	1	0	**5**	0	1	34	10	0	**45**	0	**158**
12:30PM	18	2	27	0	**47**	1	27	22	0	0	**49**	0	0	2	0	0	**2**	2	1	32	8	0	**41**	0	**139**
12:45PM	18	1	38	0	**57**	0	28	45	1	0	**74**	1	1	2	1	0	**4**	1	0	31	13	0	**44**	0	**179**
Total	68	6	115	0	**189**	1	104	136	2	0	**242**	1	5	8	3	0	**16**	3	2	134	40	0	**176**	0	**623**
% Approach	36.0%	3.2%	60.8%	0%	**-**	-	43.0%	56.2%	0.8%	0%	**-**	-	31.3%	50.0%	18.8%	0%	**-**	-	1.1%	76.1%	22.7%	0%	**-**	-	-
% Total	10.9%	1.0%	18.5%	0%	**30.3%**	-	16.7%	21.8%	0.3%	0%	**38.8%**	-	0.8%	1.3%	0.5%	0%	**2.6%**	-	0.3%	21.5%	6.4%	0%	**28.3%**	-	-
PHF	0.944	0.750	0.757	-	**0.829**	-	0.929	0.756	0.500	-	**0.818**	-	0.625	1.000	0.750	-	**0.800**	-	0.500	0.905	0.769	-	**0.957**	-	0.870
Lights	67	6	112	0	**185**	-	100	133	2	0	**235**	-	5	8	3	0	**16**	-	2	129	39	0	**170**	-	606
% Lights	98.5%	100%	97.4%	0%	**97.9%**	-	96.2%	97.8%	100%	0%	**97.1%**	-	100%	100%	100%	0%	**100%**	-	100%	96.3%	97.5%	0%	**96.6%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	4
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	2.2%	0%	0%	**1.7%**	-	0.6%
Buses and Single-Unit Trucks	1	0	3	0	**4**	-	4	2	0	0	**6**	-	0	0	0	0	**0**	-	0	2	1	0	**3**	-	13
% Buses and Single-Unit Trucks	1.5%	0%	2.6%	0%	**2.1%**	-	3.8%	1.5%	0%	0%	**2.5%**	-	0%	0%	0%	0%	**0%**	-	0%	1.5%	2.5%	0%	**1.7%**	-	2.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 9th Street - TMC
Thu Dec 10, 2020
Midday Peak (Dec 10 2020 12PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Cypress Street & E 9th Street - TMC

Thu Dec 10, 2020
PM Peak (Dec 10 2020 2:45PM - 3:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US

Leg / Direction	E 9th Street Southwestbound						Cypress Street Northwestbound						E 9th Street Northeastbound						Cypress Street Southeastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2020-12-10 2:45PM	22	2	31	0	**55**	1	34	40	2	0	**76**	3	2	3	1	0	**6**	0	3	47	17	0	**67**	0	**204**
3:00PM	23	1	39	0	**63**	0	64	56	1	0	**121**	0	0	1	0	0	**1**	2	0	62	15	0	**77**	1	**262**
3:15PM	18	2	30	0	**50**	2	42	39	0	0	**81**	4	1	3	0	0	**4**	0	1	45	20	0	**66**	1	**201**
3:30PM	13	1	44	0	**58**	0	43	49	0	0	**92**	0	2	3	0	0	**5**	2	0	37	25	0	**62**	1	**217**
Total	76	6	144	0	**226**	3	183	184	3	0	**370**	7	5	10	1	0	**16**	4	4	191	77	0	**272**	3	**884**
% Approach	33.6%	2.7%	63.7%	0%	**-**	-	49.5%	49.7%	0.8%	0%	**-**	-	31.3%	62.5%	6.3%	0%	**-**	-	1.5%	70.2%	28.3%	0%	**-**	-	**-**
% Total	8.6%	0.7%	16.3%	0%	**25.6%**	-	20.7%	20.8%	0.3%	0%	**41.9%**	-	0.6%	1.1%	0.1%	0%	**1.8%**	-	0.5%	21.6%	8.7%	0%	**30.8%**	-	**-**
PHF	0.826	0.750	0.818	-	**0.897**	-	0.715	0.821	0.375	-	**0.764**	-	0.625	0.833	0.250	-	**0.667**	-	0.333	0.770	0.770	-	**0.883**	-	0.844
Lights	75	6	143	0	**224**	-	180	180	3	0	**363**	-	5	10	1	0	**16**	-	4	187	71	0	**262**	-	865
% Lights	98.7%	100%	99.3%	0%	**99.1%**	-	98.4%	97.8%	100%	0%	**98.1%**	-	100%	100%	100%	0%	**100%**	-	100%	97.9%	92.2%	0%	**96.3%**	-	97.9%
Articulated Trucks	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.4%**	-	0.2%
Buses and Single-Unit Trucks	1	0	1	0	**2**	-	3	3	0	0	**6**	-	0	0	0	0	**0**	-	0	3	6	0	**9**	-	17
% Buses and Single-Unit Trucks	1.3%	0%	0.7%	0%	**0.9%**	-	1.6%	1.6%	0%	0%	**1.6%**	-	0%	0%	0%	0%	**0%**	-	0%	1.6%	7.8%	0%	**3.3%**	-	1.9%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	71.4%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	28.6%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

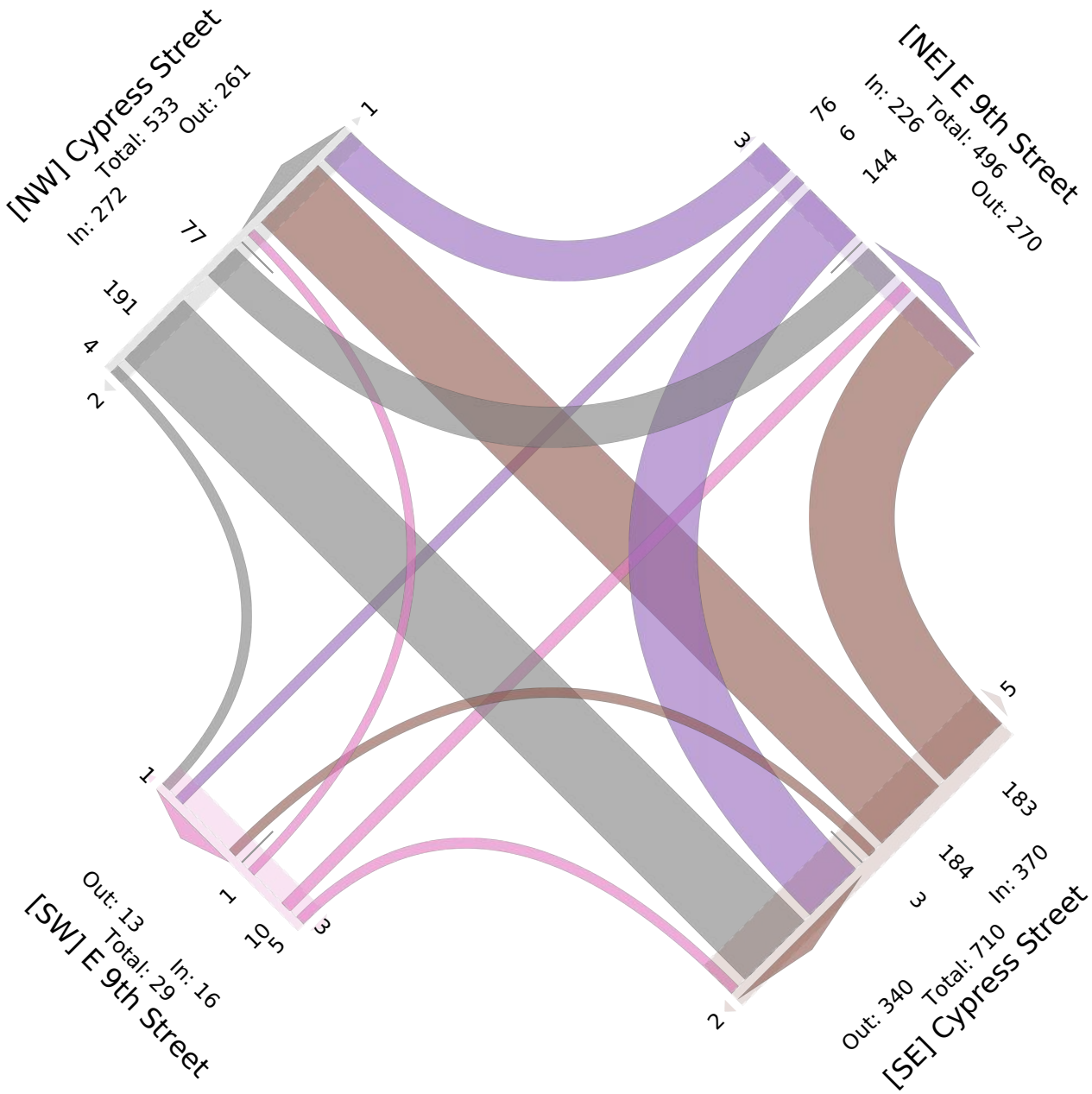
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Cypress Street & E 9th Street - TMC

Thu Dec 10, 2020
PM Peak (Dec 10 2020 2:45PM - 3:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 804795, Location: 41.432196, -91.041653

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

Provided by: Shive-Hattery
222 Third Avenue SE, Suite 300, Cedar Rapids, IA, 52401, US



Appendix B - Iowa Crash Analysis Tool (ICAT) Reports

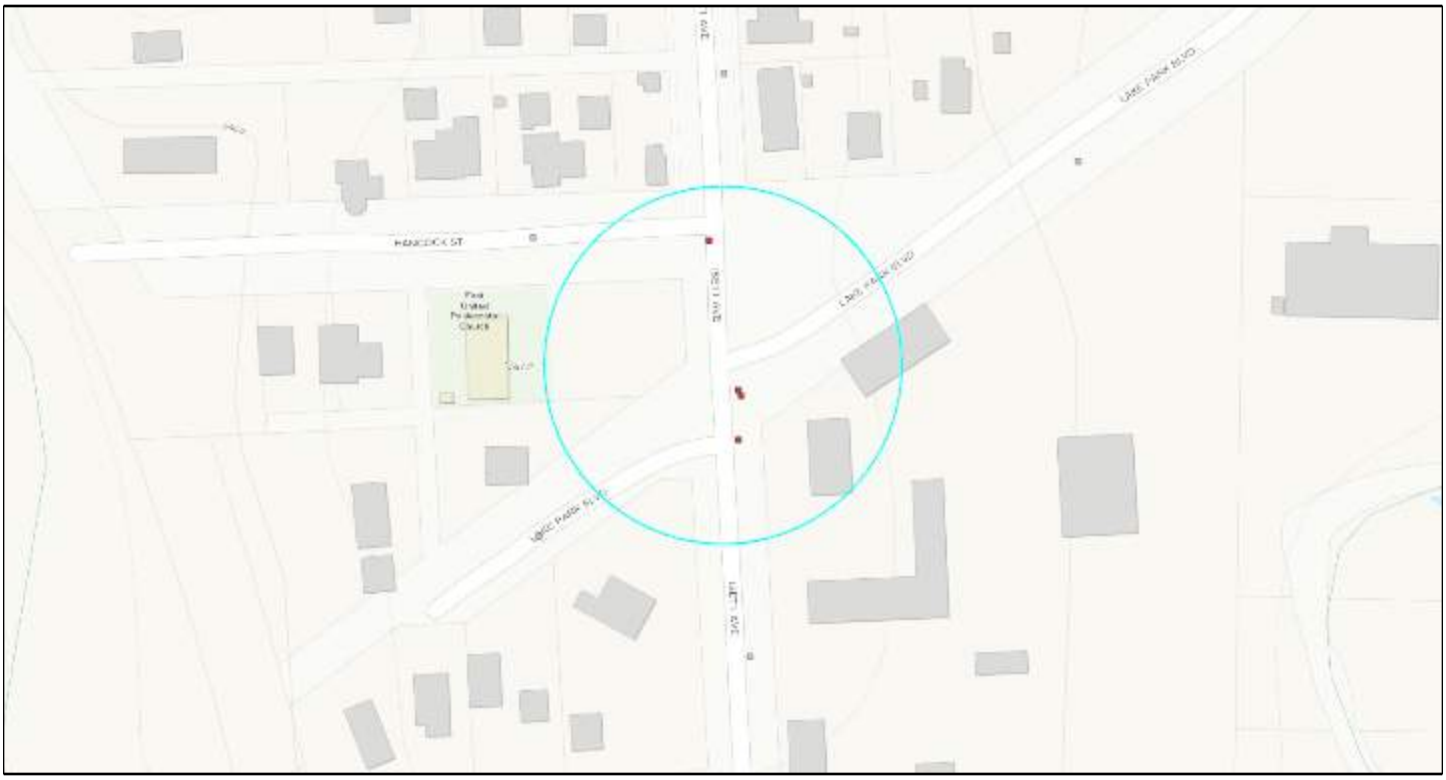
Iowa Crash Analysis Tool
Quick Report
2016-2020

Crash Severity	6
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	0
Possible/Unknown Injury Crash	0
Property Damage Only	6

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

Property/Vehicles/Occupants	
Property Damage Total (dollars):	25,300.00
Average (per crash dollars):	4,216.67
Total Vehicles:	10.00
Average (per crash):	1.67
Total Occupants:	16.00
Average (per crash):	2.67

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



Major Cause			6
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	3	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	1
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	1
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	1	Swerving/Evasive Action	0
Over correcting/over steering	0	Failed to keep in proper lane	0
Failure to signal intentions	0	Traveling on prohibited traffic way	0
Vehicle stopped on railroad tracks	0	Other: Vision obstructed	0
Other: Improper operation	0	Other: Disregarded warning sign	0
Other: Disregarded signs/road markings	0	Other: Illegal off-road driving	0
Downhill runaway	0	Separation of units	0
Towing improperly	0	Cargo/equipment loss or shift	0
Equipment failure	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	0	Not reported	0
Other: No improper action	0		

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	0	0	0	0	0	0	1
Monday	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Tuesday	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Wednesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Friday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	2	1	1	0	0	0	6

Manner of Crash Collision	6
Non-collision (single vehicle)	2
Head-on (front to front)	0
Rear-end (front to rear)	1
Angle, oncoming left turn	0
Broadside (front to side)	3
Sideswipe, same direction	0
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	6
Dry	5
Wet	0
Ice/frost	0
Snow	1
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

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

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	1	0	0	2
= 19	0	0	0	0	0
= 20	1	0	0	0	1
>= 21 and <= 24	3	0	0	0	3
>= 25 and <= 29	1	0	0	0	1
>= 30 and <= 34	0	0	0	0	0
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	1	0	0	0	1
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	1	0	0	0	1
>= 65 and <= 69	0	0	0	0	0
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	1	0	0	0	1
>= 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	9	1	0	0	10

Drug/Alcohol Related	**6**
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	6

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

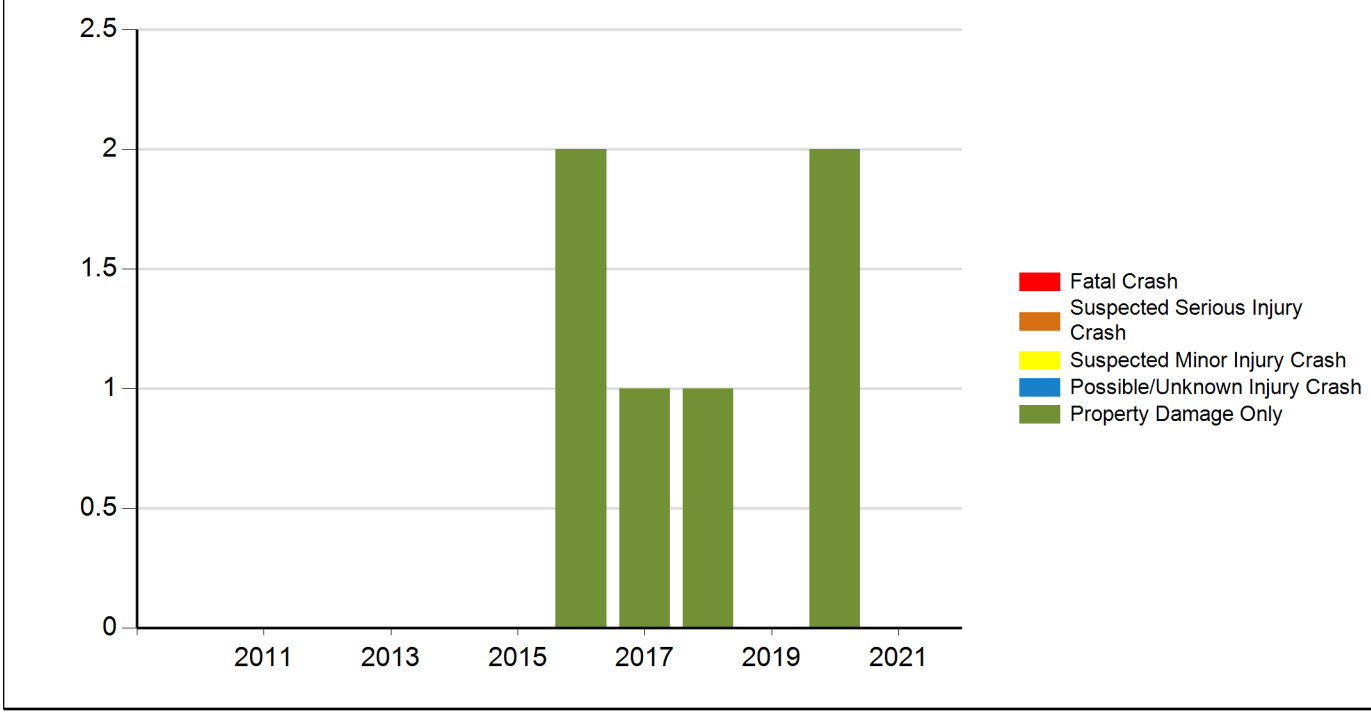
Drug Test Given	**10**
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

Drug Test Result	**2**
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	2
Other	0

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	2	2
2017	0	0	0	0	1	1
2018	0	0	0	0	1	1
2019	0	0	0	0	0	0
2020	0	0	0	0	2	2
2021	0	0	0	0	0	0
Total	0	0	0	0	6	6

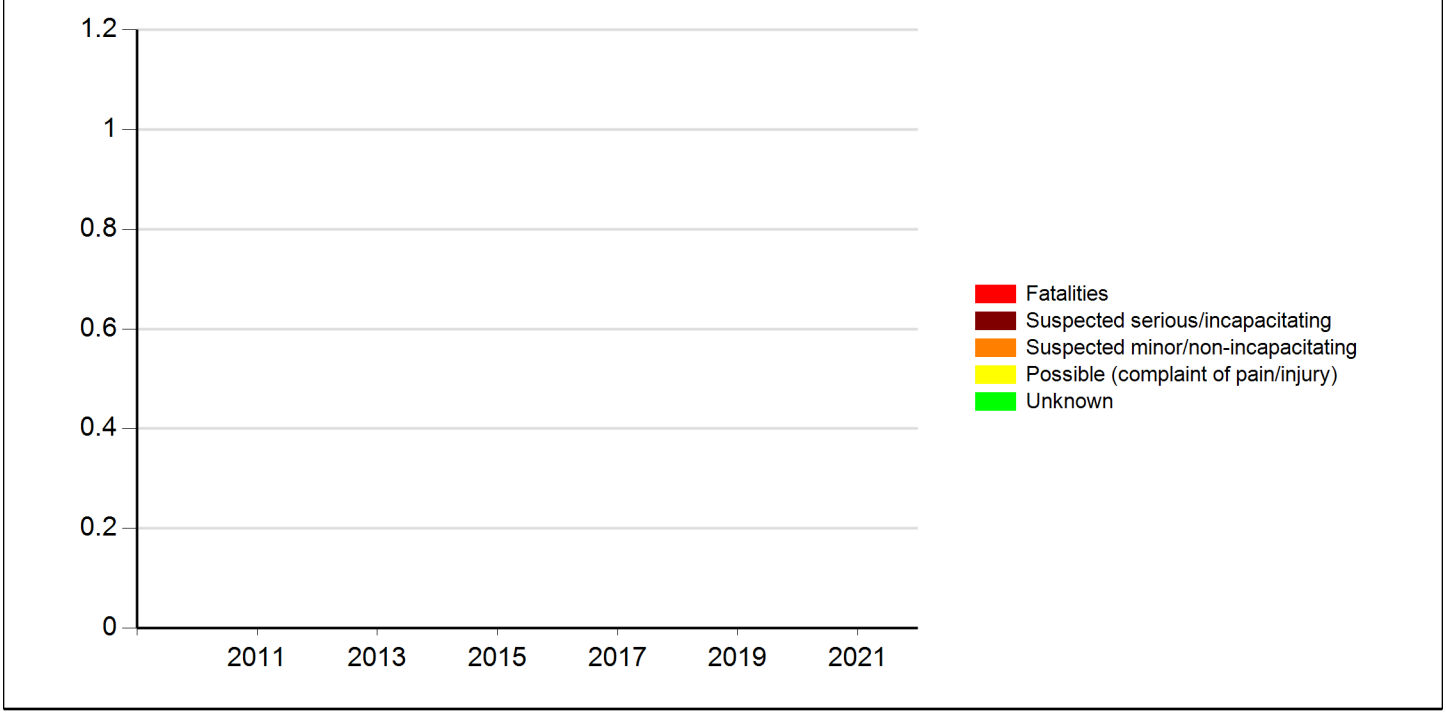
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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
Total	0	0	0	0	0	0

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

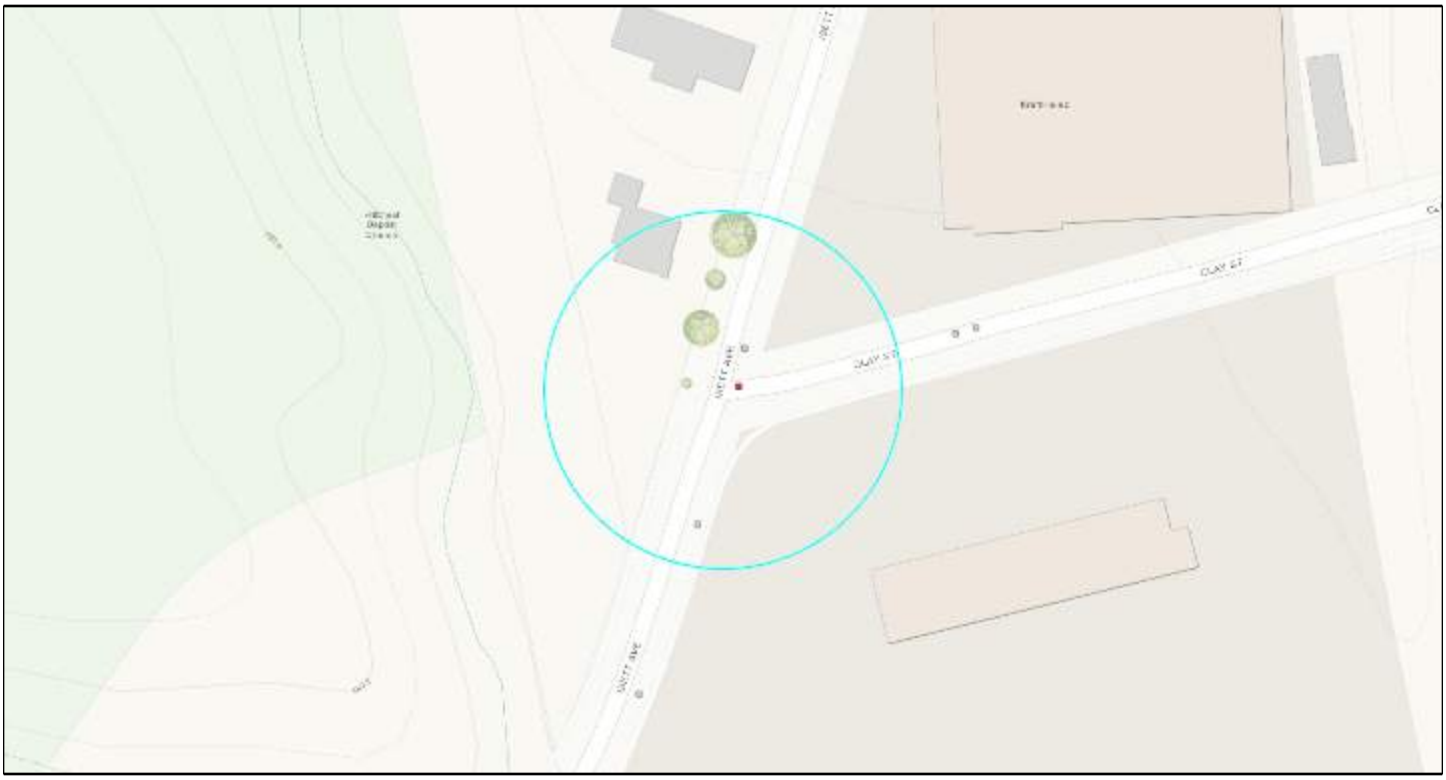
Iowa Crash Analysis Tool
Quick Report
2016-2020

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

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

Property/Vehicles/Occupants	
Property Damage Total (dollars):	14,800.00
Average (per crash dollars):	4,933.33
Total Vehicles:	6.00
Average (per crash):	2.00
Total Occupants:	7.00
Average (per crash):	2.33

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



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

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	1	0	0	0	0	0	0	0	0	1
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	1	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	1	1	0	0	0	0	0	3

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

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

Fixed Object Struck			6
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	6

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	1	0	0	1
>= 21 and <= 24	0	0	0	0	0
>= 25 and <= 29	0	0	0	0	0
>= 30 and <= 34	1	0	0	0	1
>= 35 and <= 39	0	1	0	0	1
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	1	1	0	0	2
>= 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	1	0	0	0	1
>= 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	3	3	0	0	6

Drug/Alcohol Related	**3**
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	3

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

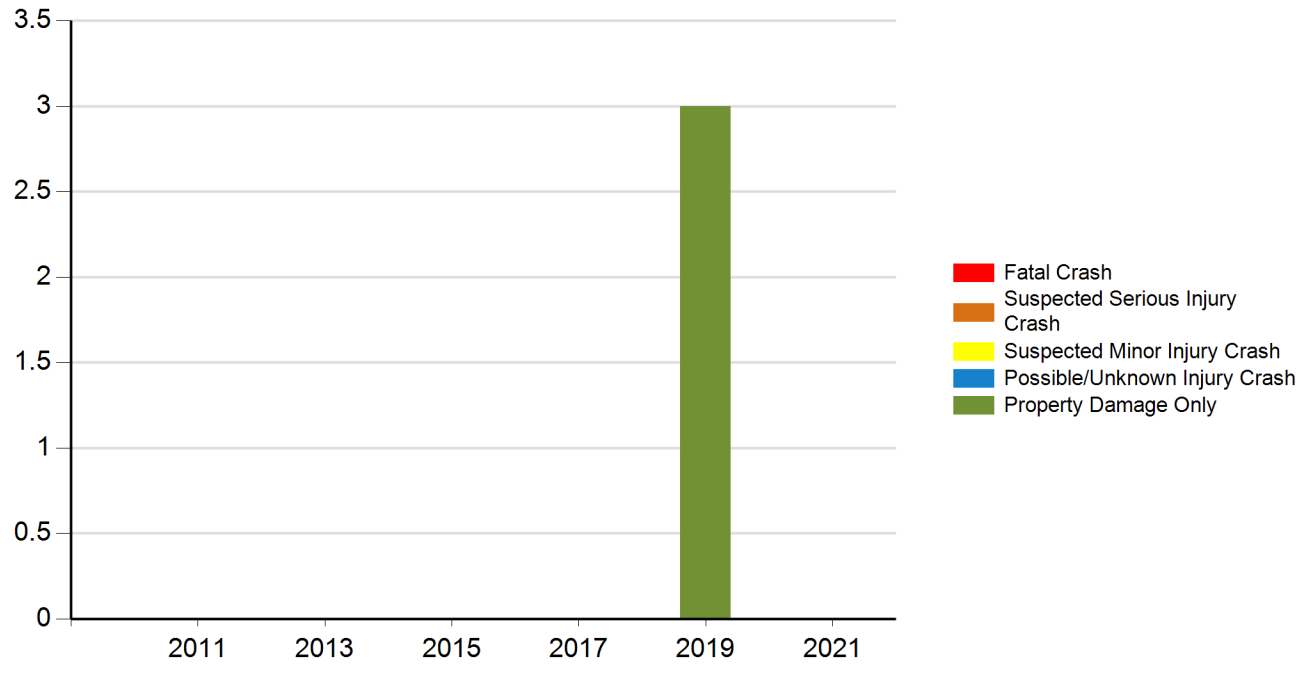
Drug Test Given	**6**
None	6
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

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

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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	3	3
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
Total	0	0	0	0	3	3

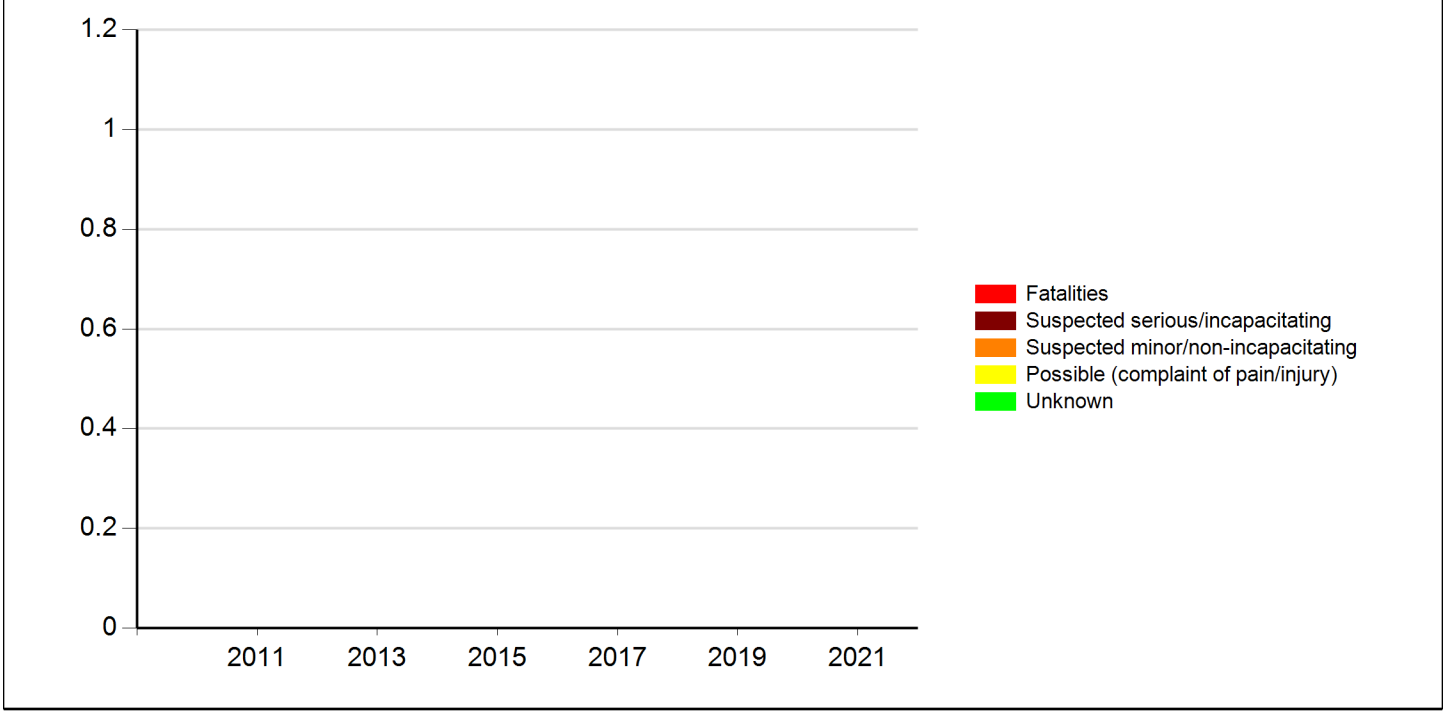
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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
Total	0	0	0	0	0	0

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

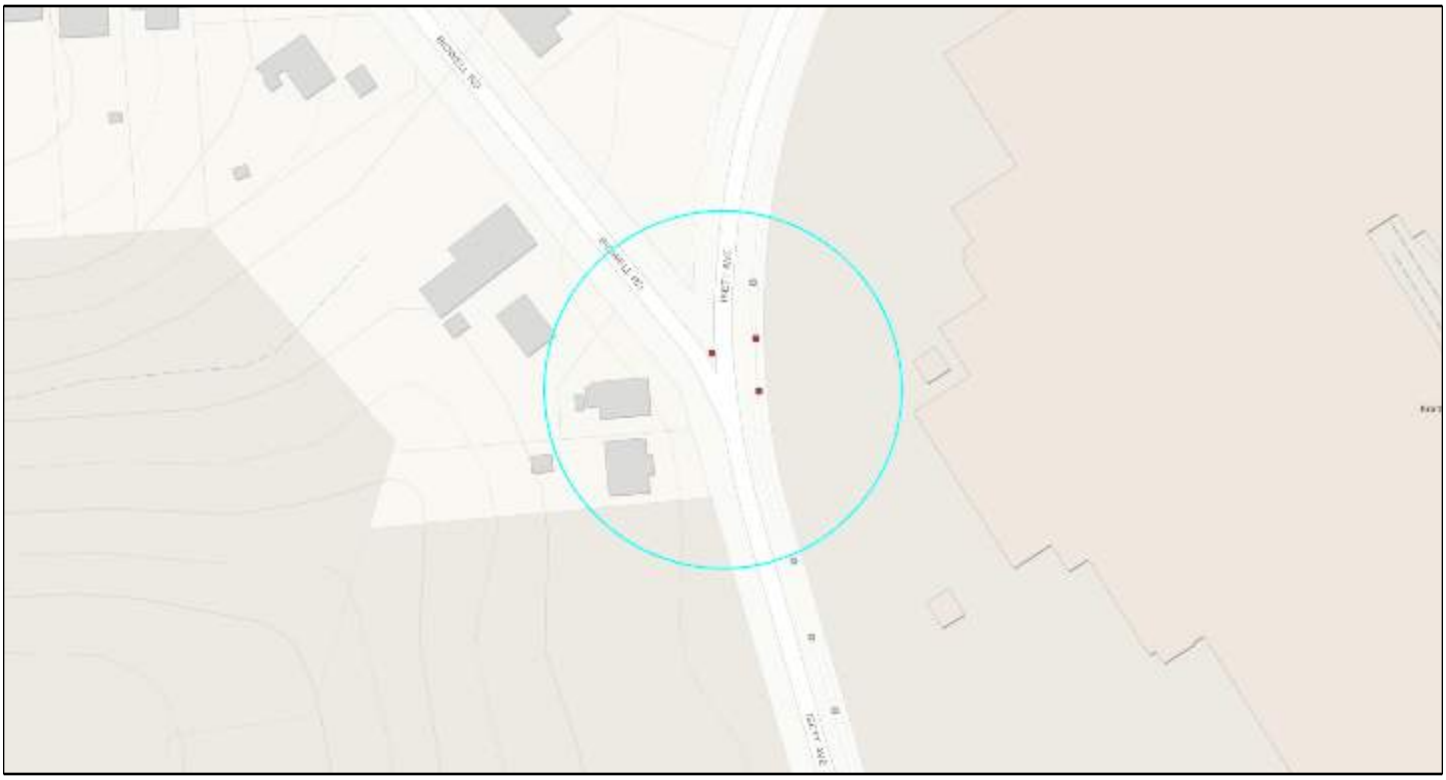
Iowa Crash Analysis Tool
Quick Report
2016-2020

Crash Severity	4
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	1
Possible/Unknown Injury Crash	1
Property Damage Only	2

Injury Status Summary	3
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	2
Possible (complaint of pain/injury)	0
Unknown	1

Property/Vehicles/Occupants	
Property Damage Total (dollars):	16,500.00
Average (per crash dollars):	4,125.00
Total Vehicles:	8.00
Average (per crash):	2.00
Total Occupants:	15.00
Average (per crash):	3.75

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



Major Cause			4
Animal	0	Ran traffic signal	1
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	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	1	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	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	0	Not reported	0
Other: No improper action	0		

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	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	0	1	1	0	0	0	2
Friday	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	1	1	0	0	0	4

Manner of Crash Collision	4
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	0
Angle, oncoming left turn	2
Broadside (front to side)	1
Sideswipe, same direction	0
Sideswipe, opposite direction	1
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	4
Dry	4
Wet	0
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			8
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	8

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	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	1	0	0	0	1
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	0	0	0	0	0
>= 50 and <= 54	1	0	0	0	1
>= 55 and <= 59	1	2	0	0	3
>= 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	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	5	2	0	0	7

Drug/Alcohol Related	**4**
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	4

Alcohol Test Given	**8**
None	7
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

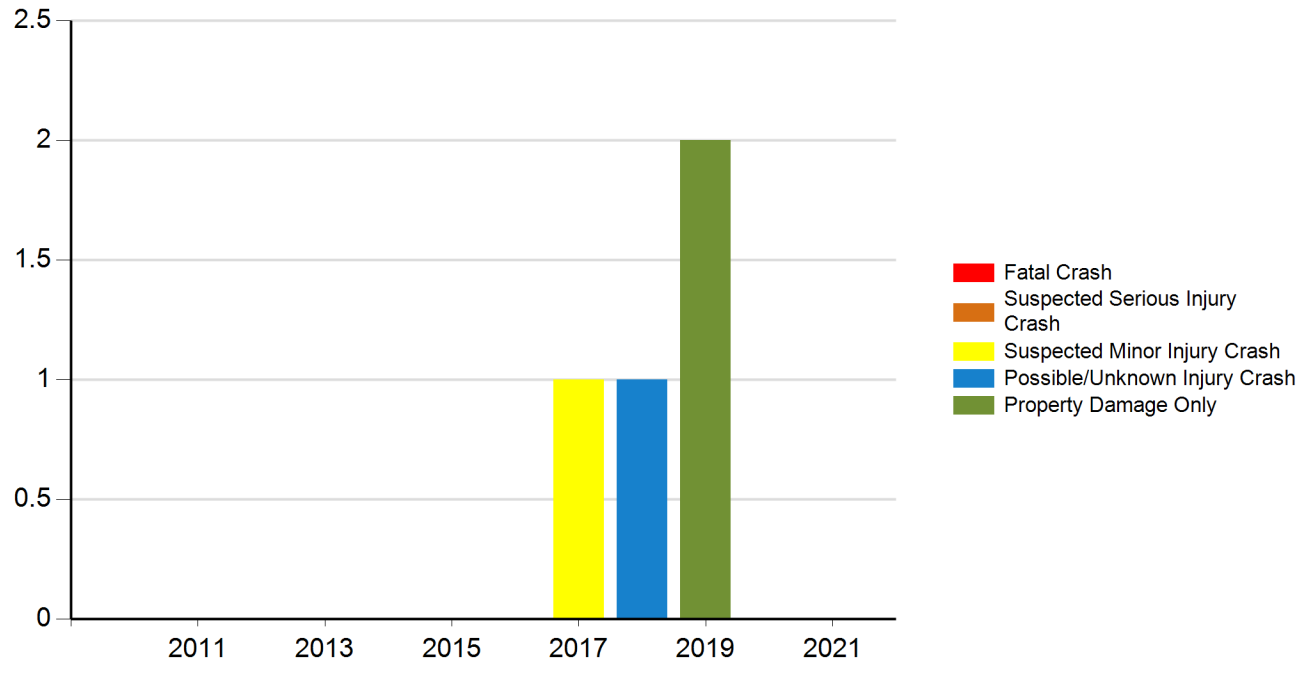
Drug Test Given	**8**
None	7
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

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

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	0	0	1
2018	0	0	0	1	0	1
2019	0	0	0	0	2	2
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
Total	0	0	1	1	2	4

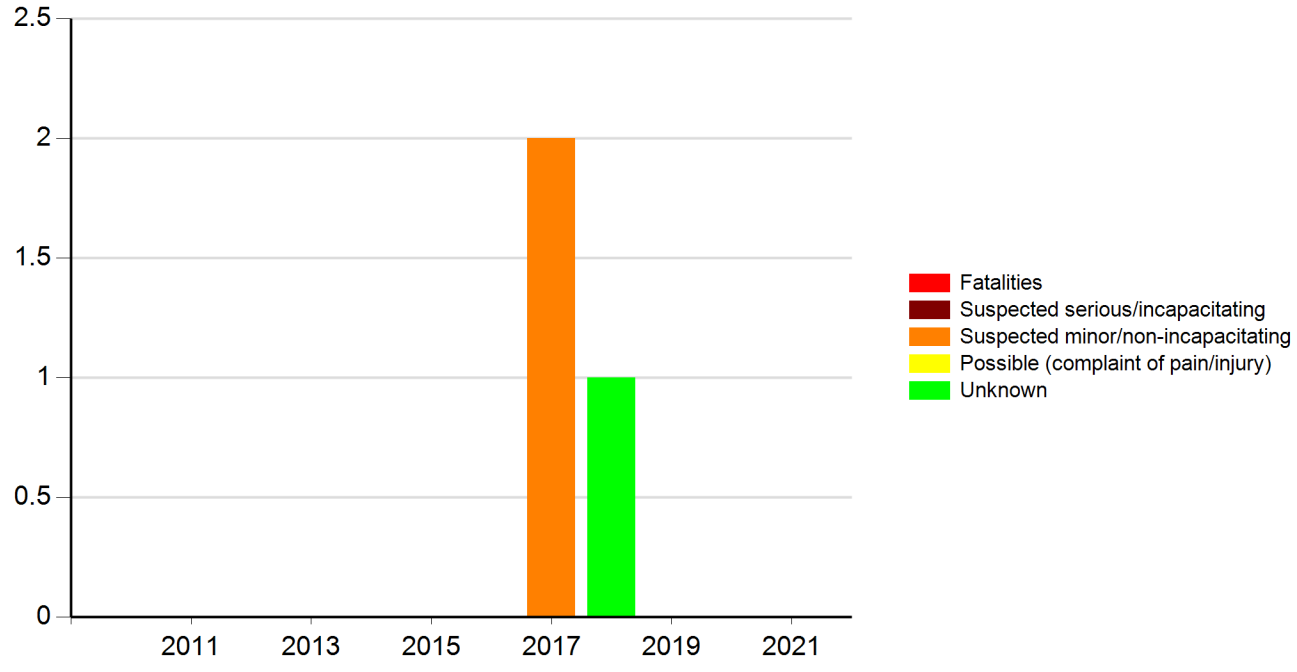
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	2	0	0	2
2018	0	0	0	0	1	1
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
Total	0	0	2	0	1	3

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

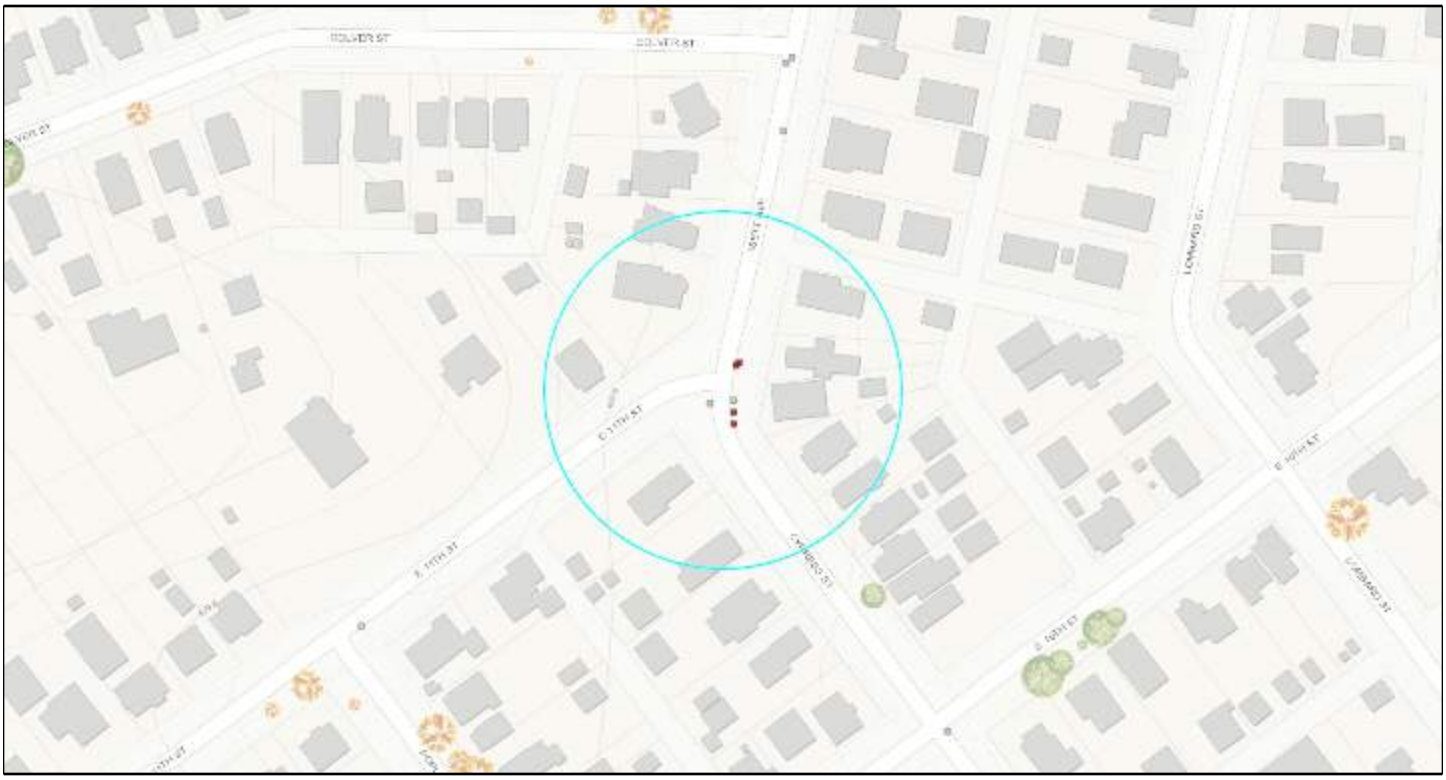
Iowa Crash Analysis Tool
Quick Report
2016-2020

Crash Severity	5
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	0
Possible/Unknown Injury Crash	1
Property Damage Only	4

Injury Status Summary	1
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	0
Possible (complaint of pain/injury)	1
Unknown	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	27,700.00
Average (per crash dollars):	5,540.00
Total Vehicles:	11.00
Average (per crash):	2.20
Total Occupants:	13.00
Average (per crash):	2.60

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



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	0	FTYROW: From yield sign	0
FTYROW: Making left turn	0	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	0
Crossed median (divided)	0	Traveling wrong way or on wrong side of road	0
Aggressive driving/road rage	0	Driving too fast for conditions	0
Exceeded authorized speed	0	Improper or erratic lane changing	0
Operating vehicle in an reckless, erratic, ca...	0	Followed too close	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	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...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	1
Driver Distraction: Exterior distraction	0	Ran off road - right	0
Ran off road - straight	0	Ran off road - left	0
Lost control	1	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	0	Oversized load/vehicle	0
Other: Getting off/out of vehicle	0	Failure to dim lights/have lights on	0
Improper backing	0	Improper starting	0
Illegally parked/unattended	0	Driving less than the posted speed limit	0
Operator inexperience	0	Other	0
Unknown	1	Not reported	0
Other: No improper action	0		

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

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

Surface Conditions	**5**
Dry	4
Wet	1
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

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

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	1	0	0	1
= 19	0	0	0	0	0
= 20	0	0	0	0	0
>= 21 and <= 24	1	1	0	0	2
>= 25 and <= 29	0	1	0	0	1
>= 30 and <= 34	0	3	0	0	3
>= 35 and <= 39	0	0	0	0	0
>= 40 and <= 44	0	0	0	0	0
>= 45 and <= 49	1	0	0	0	1
>= 50 and <= 54	0	0	0	0	0
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	1	0	0	0	1
>= 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	4	6	0	0	10

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

Alcohol Test Given	**11**
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

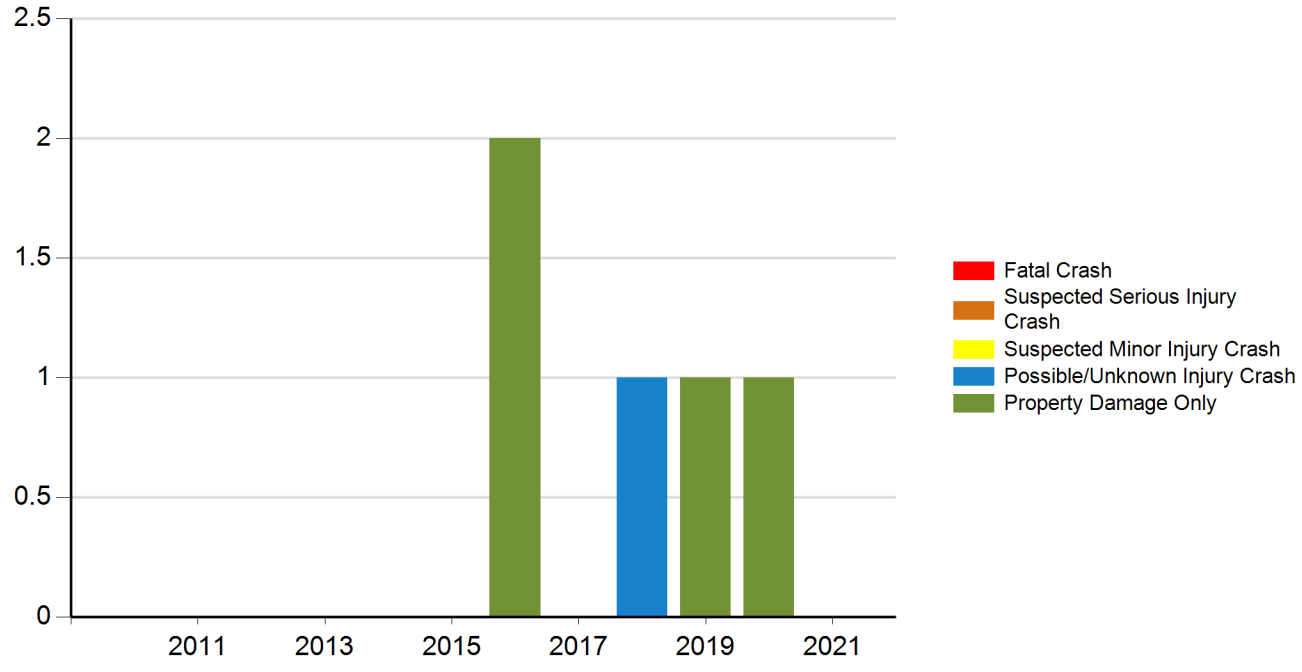
Drug Test Given	**11**
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	1

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

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	2	2
2017	0	0	0	0	0	0
2018	0	0	0	1	0	1
2019	0	0	0	0	1	1
2020	0	0	0	0	1	1
2021	0	0	0	0	0	0
Total	0	0	0	1	4	5

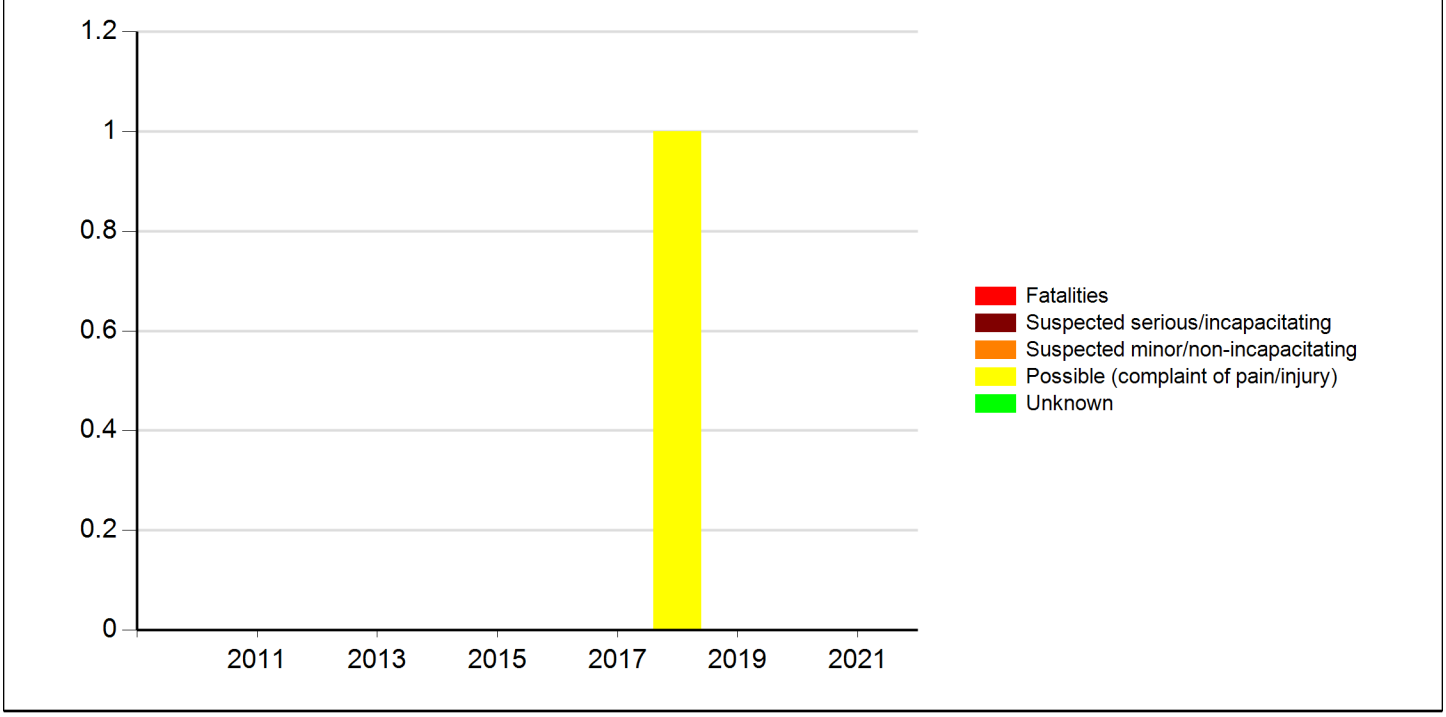
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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	0	0	0	0
2021	0	0	0	0	0	0
Total	0	0	0	1	0	1

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

Iowa Crash Analysis Tool
Quick Report
2016-2020

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

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

Property/Vehicles/Occupants	
Property Damage Total (dollars):	22,603.00
Average (per crash dollars):	5,650.75
Total Vehicles:	8.00
Average (per crash):	2.00
Total Occupants:	11.00
Average (per crash):	2.75

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

Major Cause			4
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	0
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	0	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	0
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	1
Ran off road - straight	0	Ran off road - left	0
Lost control	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		

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	1	0	0	0	0	0	0	1
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	1	0	0	0	0	0	1	0	0	0	0	2
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	1	1	1	0	0	0	0	4

Manner of Crash Collision	4
Non-collision (single vehicle)	0
Head-on (front to front)	0
Rear-end (front to rear)	1
Angle, oncoming left turn	0
Broadside (front to side)	3
Sideswipe, same direction	0
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	4
Dry	4
Wet	0
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			8
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	0
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	0	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	8

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	0	0	0	0	0
>= 21 and <= 24	0	0	0	0	0
>= 25 and <= 29	0	0	0	0	0
>= 30 and <= 34	1	0	0	0	1
>= 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	2	0	0	2
>= 55 and <= 59	0	0	0	0	0
>= 60 and <= 64	0	2	0	0	2
>= 65 and <= 69	0	0	0	0	0
>= 70 and <= 74	0	0	0	0	0
>= 75 and <= 79	1	0	0	0	1
>= 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	4	4	0	0	8

Drug/Alcohol Related	**4**
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	4

Alcohol Test Given	**8**
None	8
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

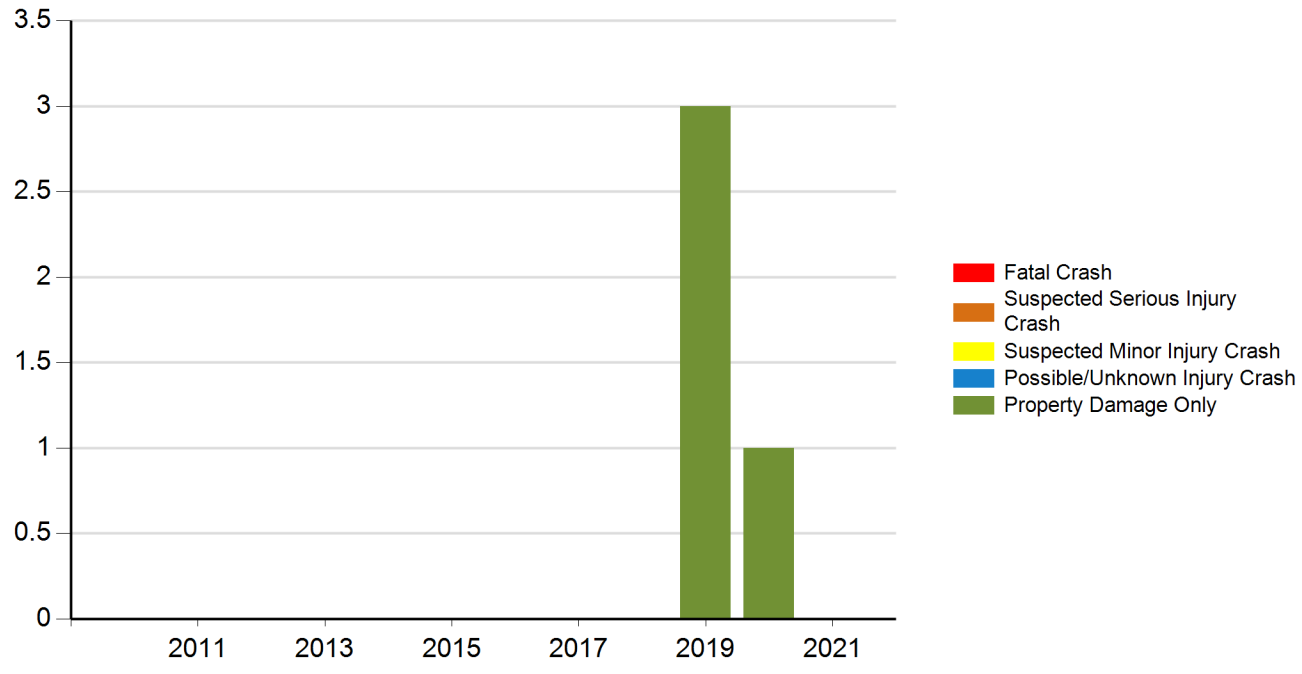
Drug Test Given	**8**
None	8
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

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

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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	3	3
2020	0	0	0	0	1	1
2021	0	0	0	0	0	0
Total	0	0	0	0	4	4

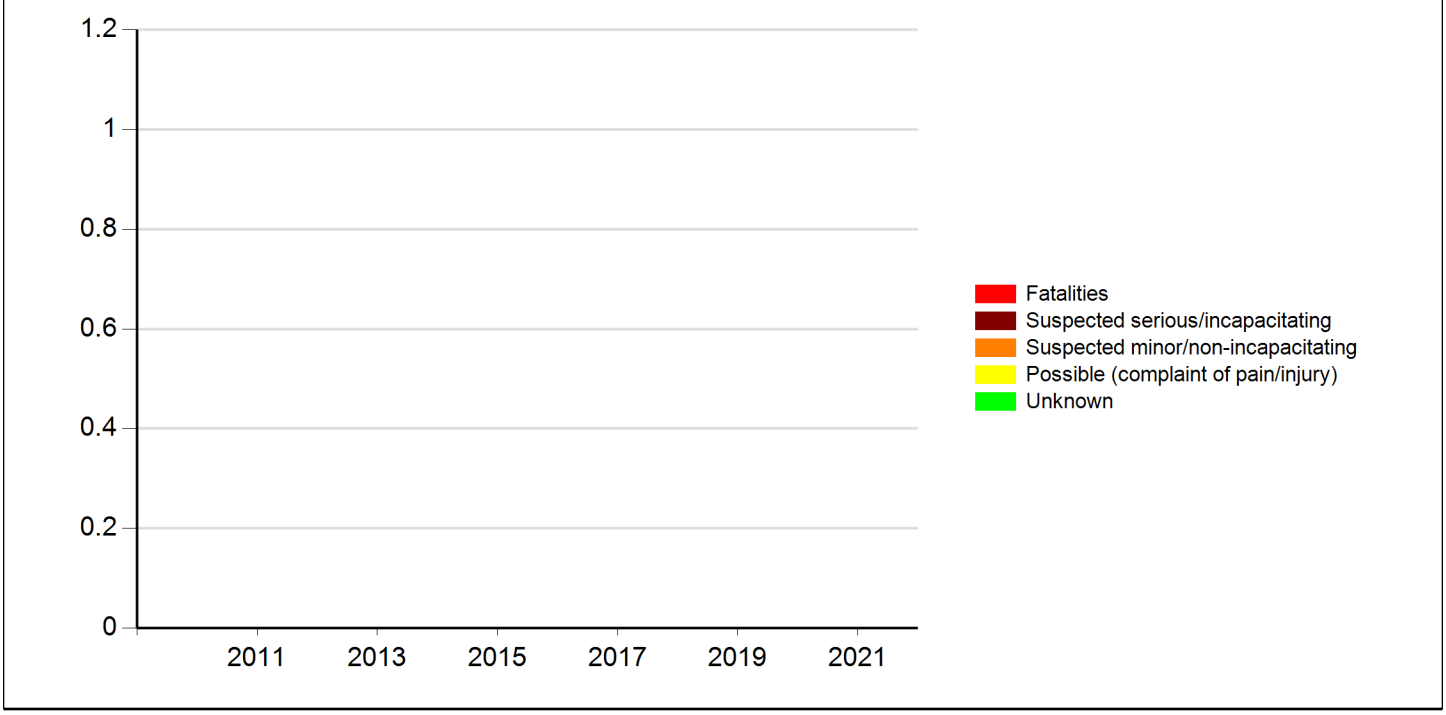
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	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
Total	0	0	0	0	0	0

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Isett Avenue & Lake Park Boulevard

Improvement

Proposed Improvement(s):

	Estimated Improvement Cost, **EC**		Est. Improvement 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: 2020 TMC | 12/8/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

1,830 (N) | 0 (W) | 2,115 (E) | 3,635 (S)

2,766,700	Current Annual Entering Veh., **AEV** = DEV * 365
7,580	veh / day, Final Year DEV, **FDEV**
-	MEV, Total Million Entering Veh. Over life of Project, **TMEV**
	Projected Traffic Growth (0%-10%), **G**
7,580	Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
0	Injury Crashes	0	Minor Injuries @	$48,000	$ -
		0	Possible Injuries @	$25,000	$ -
6	Property Damage Only		(assumed cost per crash)	$2,700	$ -
			-OR- enter all Property Costs of all crashes:		$ 25,300
6	Total Crashes, **TA**			Total $ Loss, **LOSS**	$ 25,300

1.20	Current Crashes / Year, **AA** = TA / T	**0.43**	Crashes / MEV, Crash Rate, **CR**
$ 4,217	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

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Isett Avenue & Clay Street

Improvement

Proposed Improvement(s):

	Estimated Improvement Cost, **EC**		Est. Improvement 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: 2020 TMC | 12/8/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

3,625 (N) | 0 (W) | 2,460 (E) | 5,485 (S)

4,223,050	Current Annual Entering Veh., **AEV** = DEV * 365
11,570	veh / day, Final Year DEV, **FDEV**
-	MEV, Total Million Entering Veh. Over life of Project, **TMEV**
	Projected Traffic Growth (0%-10%), **G**
11,570	Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
0	Injury Crashes	0	Minor Injuries @	$48,000	$ -
		0	Possible Injuries @	$25,000	$ -
3	Property Damage Only		(assumed cost per crash)	$2,700	$ -
		-OR-	enter all Property Costs of all crashes:		$ 14,800
3	Total Crashes, **TA**		Total $ Loss, **LOSS**		$ 14,800

0.60	Current Crashes / Year, **AA** = TA / T	**0.14**	Crashes / MEV, Crash Rate, **CR**
$ 4,933	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

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Isett Avenue & Bidwell Road

Improvement

Proposed Improvement(s):

	Estimated Improvement Cost, **EC**		Est. Improvement 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: 2020 TMC | 12/8/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

5,605 (N) | 2,630 (W) | 0 (E) | 3,850 (S)

4,411,025	Current Annual Entering Veh., **AEV** = DEV * 365
12,085	veh / day, Final Year DEV, **FDEV**
-	MEV, Total Million Entering Veh. Over life of Project, **TMEV**
	Projected Traffic Growth (0%-10%), **G**
12,085	Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
2	Injury Crashes	1	Minor Injuries @	$48,000	$ 48,000
		1	Possible Injuries @	$25,000	$ 25,000
2	Property Damage Only		(assumed cost per crash)	$2,700	$ -
			-OR- enter all Property Costs of all crashes:		$ 16,500
4	Total Crashes, **TA**			Total $ Loss, **LOSS**	$ 89,500

0.80	Current Crashes / Year, **AA** = TA / T	**0.18**	Crashes / MEV, Crash Rate, **CR**
$ 22,375	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

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Isett Avenue/Cypress Street & E 11th Street

Improvement

Proposed Improvement(s):

Estimated Improvement Cost, **EC**

Est. Improvement 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**

$ - Present Value Cost, **COST** = EC + OC

$$OC = \frac{AC}{INT}\left(1 - \frac{1}{(1+INT)^{Y}}\right)$$

Traffic Volume Data

Source: 2020 TMC | 12/8/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

3,300 (N) | 785 (W) | 210 (E) | 3,300 (S)

2,772,175 Current Annual Entering Veh., **AEV** = DEV * 365

7,595 veh / day, Final Year DEV, **FDEV**

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

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

7,595 Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
1	Injury Crashes	0	Minor Injuries @	$48,000	$ -
		1	Possible Injuries @	$25,000	$ 25,000
4	Property Damage Only		(assumed cost per crash)	$2,700	$ -
			-OR- enter all Property Costs of all crashes:		$ 27,700
5	Total Crashes, **TA**			Total $ Loss, **LOSS**	$ 52,700

1.00 Current Crashes / Year, **AA** = TA / T

0.36 Crashes / MEV, Crash Rate, **CR**

$ 10,540 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, **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

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Cypress Street & E 10th Street

Improvement

Proposed Improvement(s):

	Estimated Improvement Cost, **EC**		Est. Improvement 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: 2020 TMC | 12/8/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

2,795 (N) | 90 (W) | 210 (E) | 3,295 (S)

2,332,350	Current Annual Entering Veh., **AEV** = DEV * 365
6,390	veh / day, Final Year DEV, **FDEV**
-	MEV, Total Million Entering Veh. Over life of Project, **TMEV**
	Projected Traffic Growth (0%-10%), **G**
6,390	Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
0	Injury Crashes	0	Minor Injuries @	$48,000	$ -
		0	Possible Injuries @	$25,000	$ -
0	Property Damage Only		(assumed cost per crash)	$2,700	$ -
			-OR- enter all Property Costs of all crashes:		$ -
0	Total Crashes, **TA**			Total $ Loss, **LOSS**	$ -

-	Current Crashes / Year, **AA** = TA / T	-	Crashes / MEV, Crash Rate, **CR**
$ -	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

Intersection or Spot Benefit / Cost Safety Analysis

Rev. 7/10

Iowa DOT Office of Traffic & Safety

County: Muscatine | Prepared by: HR Green | Date Prepared: Apr 12, 2021

Intersection: Cypress Street & E 9th Street

Improvement

Proposed Improvement(s):

	Estimated Improvement Cost, **EC**		Est. Improvement 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: 2020 TMC | 12/10/2020 Date of traffic count

Daily Entering Vehicles by Approach (or AADT / 2)

2,900 (N) | 190 (W) | 2,860 (E) | 4,375 (S)

3,768,625	Current Annual Entering Veh., **AEV** = DEV * 365
10,325	veh / day, Final Year DEV, **FDEV**
-	MEV, Total Million Entering Veh. Over life of Project, **TMEV**
	Projected Traffic Growth (0%-10%), **G**
10,325	Current Daily Entering Vehicles, **DEV**

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

Crash Data

2016 First full year --> 2020 Last full year | 5.0 years, Time Period, **T**

Additional months | values as of Dec. 2007

0	Fatal Crashes	0	Fatalities @	$3,500,000	$ -
		0	Major Injuries @	$240,000	$ -
0	Injury Crashes	0	Minor Injuries @	$48,000	$ -
		0	Possible Injuries @	$25,000	$ -
4	Property Damage Only		(assumed cost per crash)	$2,700	$ -
			-OR- enter all Property Costs of all crashes:		$ 22,603
4	Total Crashes, **TA**			Total $ Loss, **LOSS**	$ 22,603

0.80	Current Crashes / Year, **AA** = TA / T	**0.21**	Crashes / MEV, Crash Rate, **CR**
$ 5,651	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 Crash Analysis Tool
Quick Report
2016-2020

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

Injury Status Summary	1
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	1
Possible (complaint of pain/injury)	0
Unknown	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	300.00
Average (per crash dollars):	300.00
Total Vehicles:	1.00
Average (per crash):	1.00
Total Occupants:	1.00
Average (per crash):	1.00

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

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

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	1	0	0	0	0	1
Wednesday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thursday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	1	0	0	0	0	1

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

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

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

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	0	1	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	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	0	1	0	0	1

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

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

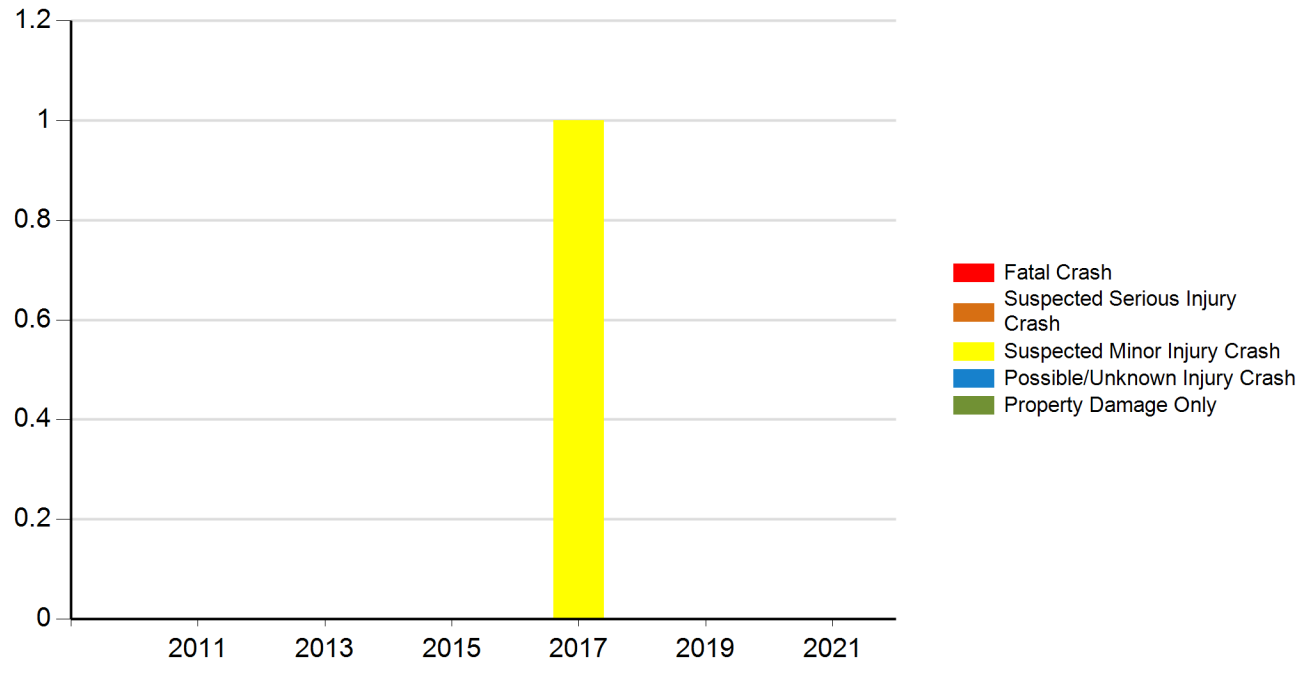
Drug Test Given	**1**
None	1
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

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

Crash Severity - Annual

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

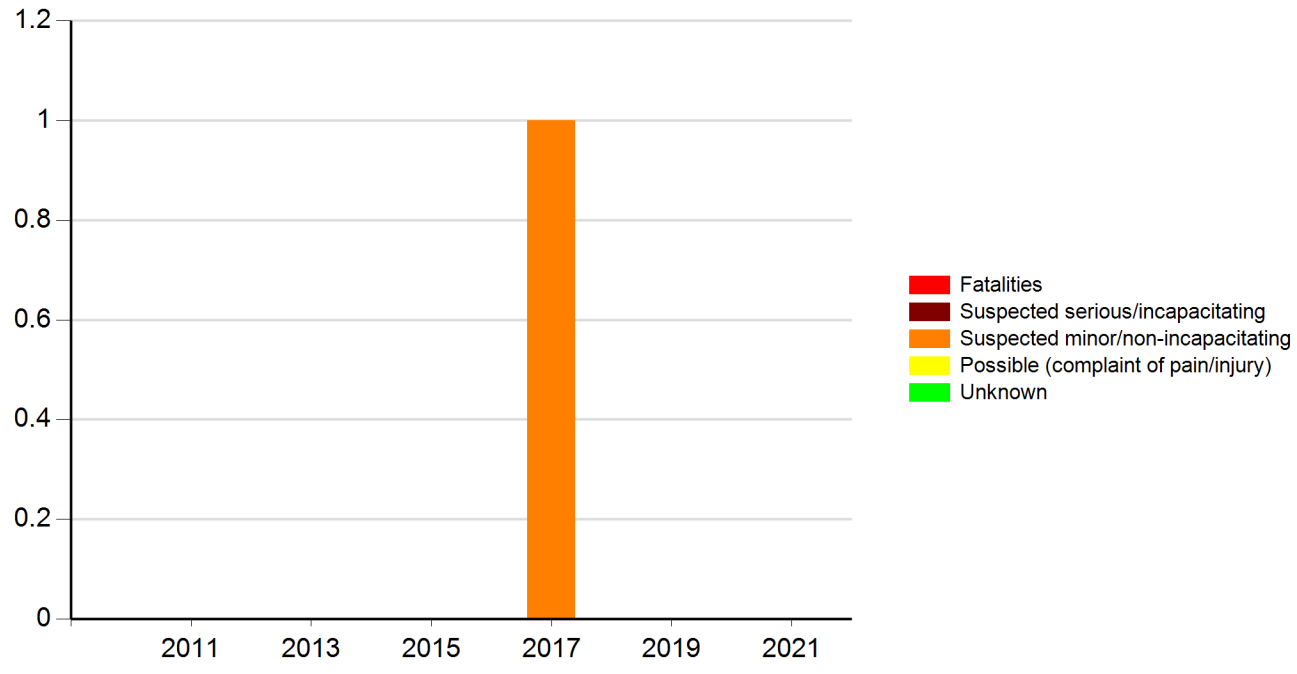
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	1	0	0	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
Total	0	0	1	0	0	1

Injury Status/Year



Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

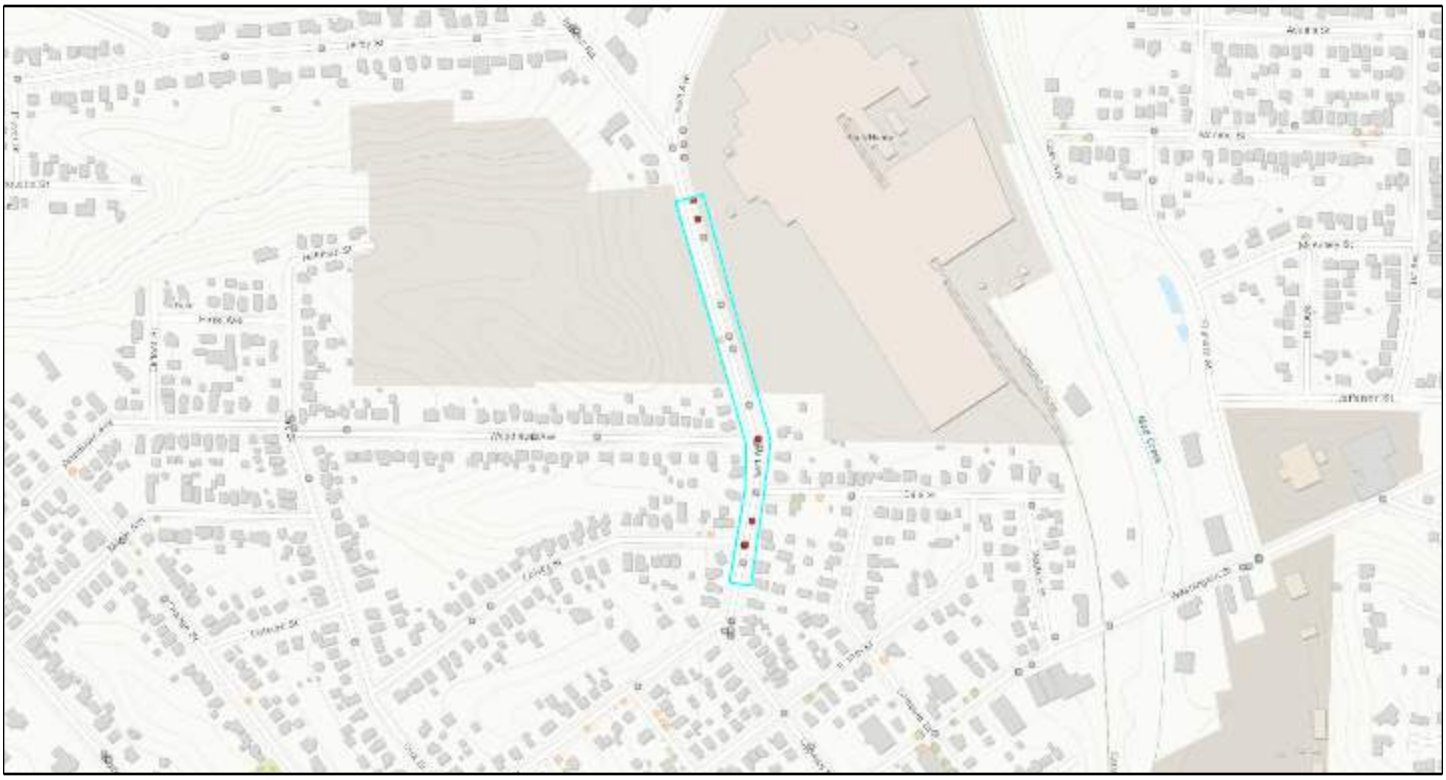
Iowa Crash Analysis Tool
Quick Report
2016-2020

Crash Severity	6
Fatal Crash	0
Suspected Serious Injury Crash	0
Suspected Minor Injury Crash	1
Possible/Unknown Injury Crash	2
Property Damage Only	3

Injury Status Summary	5
Fatalities	0
Suspected serious/incapacitating	0
Suspected minor/non-incapacitating	1
Possible (complaint of pain/injury)	4
Unknown	0

Property/Vehicles/Occupants	
Property Damage Total (dollars):	46,600.00
Average (per crash dollars):	7,766.67
Total Vehicles:	10.00
Average (per crash):	1.67
Total Occupants:	12.00
Average (per crash):	2.00

Average Severity	
Fatalities/Fatal Crash:	0.00
Fatalities/Crash:	0.00
Injuries/Crash:	0.83
Major Injuries/Crash:	0.00
Minor Injuries/Crash:	0.17
Possible/Unknown Injuries/Crash:	0.67



Major Cause			6
Animal	0	Ran traffic signal	1
Ran stop sign	0	Failed to yield to emergency vehicle	0
FTYROW: At uncontrolled intersection	0	FTYROW: Making right turn on red signal	0
FTYROW: From stop sign	0	FTYROW: From yield sign	0
FTYROW: Making left turn	0	FTYROW: From driveway	0
FTYROW: From parked position	0	FTYROW: To pedestrian	0
FTYROW: Other	0	Drove around RR grade crossing gates	0
Disregarded RR Signal	0	Crossed centerline (undivided)	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	1
Passing: On wrong side	0	Passing: Where prohibited by signs/markings	0
Passing: With insufficient distance/inadequa...	0	Passing: Through/around barrier	0
Passing: Other passing	1	Made improper turn	0
Driver Distraction: Manual operation of an e...	0	Driver Distraction: Talking on a hand-held d...	1
Driver Distraction: Talking on a hands free ...	0	Driver Distraction: Adjusting devices (radio...	0
Driver Distraction: Other electronic device ...	0	Driver Distraction: Passenger	0
Driver Distraction: Unrestrained animal	0	Driver Distraction: Reaching for object(s)/f...	0
Driver Distraction: Inattentive/lost in thou...	0	Driver Distraction: Other interior distracti...	0
Driver Distraction: Exterior distraction	0	Ran off road - right	1
Ran off road - straight	0	Ran off road - left	0
Lost control	0	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	0
Unknown	0	Not reported	0
Other: No improper action	0		

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	1	0	0	0	0	1
Tuesday	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Wednesday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Thursday	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Friday	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	1	4	0	0	0	0	6

Manner of Crash Collision	**6**
Non-collision (single vehicle)	2
Head-on (front to front)	0
Rear-end (front to rear)	2
Angle, oncoming left turn	1
Broadside (front to side)	0
Sideswipe, same direction	1
Sideswipe, opposite direction	0
Rear to rear	0
Rear to side	0
Not reported	0
Other	0
Unknown	0

Surface Conditions	**6**
Dry	4
Wet	2
Ice/frost	0
Snow	0
Slush	0
Mud, dirt	0
Water (standing or moving)	0
Sand	0
Oil	0
Gravel	0
Not reported	0
Other	0
Unknown	0

Fixed Object Struck			**10**
Bridge overhead structure	0	Bridge pier or support	0
Bridge/bridge rail parapet	0	Curb/island/raised median	1
Ditch	0	Embankment	0
Ground	0	Culvert/pipe opening	0
Guardrail - face	0	Guardrail - end	0
Concrete traffic barrier (median or right sid...	0	Other traffic barrier	0
Cable barrier	0	Impact attenuator/crash cushion	0
Utility pole/light support	1	Traffic sign support	0
Traffic signal support	0	Other post/pole/support	0
Fire hydrant	0	Mailbox	0
Tree	0	Landscape/shrubbery	0
Snow bank	0	Fence	0
Wall	0	Building	0
Other fixed object	0	None (no fixed object struck)	8

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

Drug/Alcohol Related	**6**
Drug	0
Alcohol (< Statutory)	1
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

Alcohol Test Given	**10**
None	9
Blood	0
Urine	0
Breath	1
Vitreous	0
Refused	0
Not reported	0

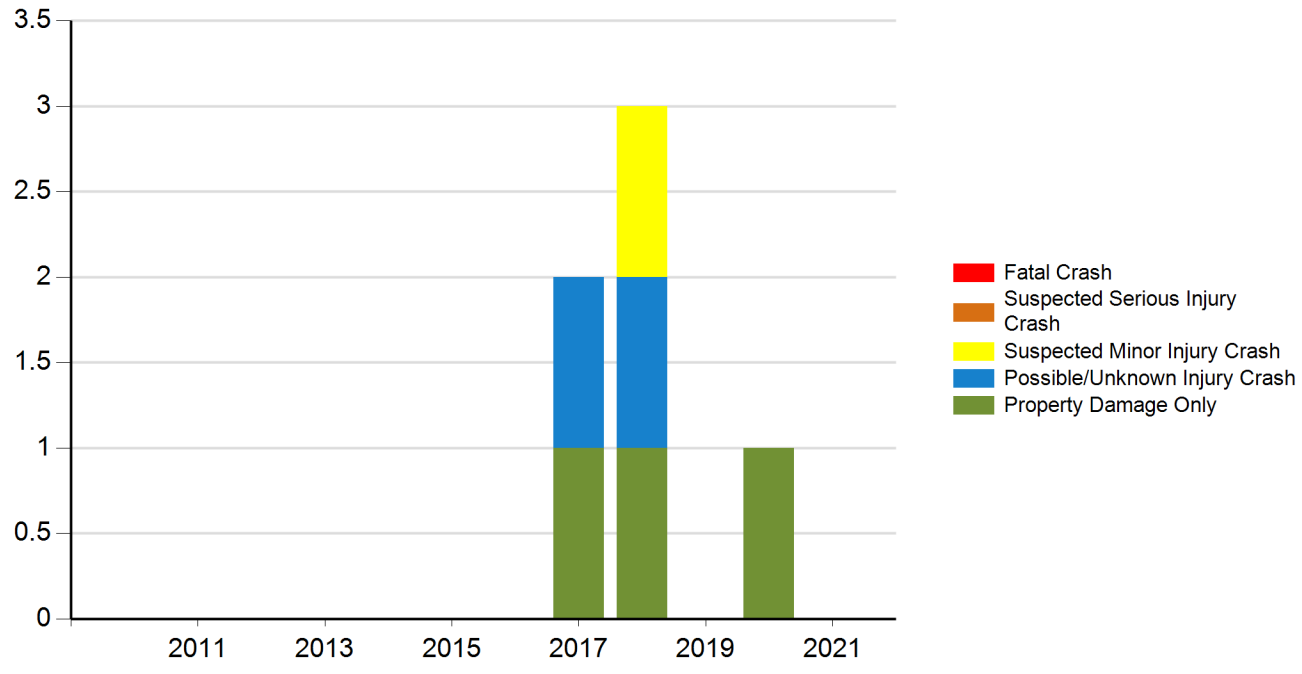
Drug Test Given	**10**
None	10
Blood	0
Urine	0
Breath	0
Vitreous	0
Refused	0
Not reported	0

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

Crash Severity - Annual

Crash Year	Fatal Crash	Suspected Serious Injury Crash	Suspected Minor Injury Crash	Possible/Unknown Injury Crash	Property Damage Only	**Total**
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	1	2
2018	0	0	1	1	1	3
2019	0	0	0	0	0	0
2020	0	0	0	0	1	1
2021	0	0	0	0	0	0
Total	0	0	1	2	3	6

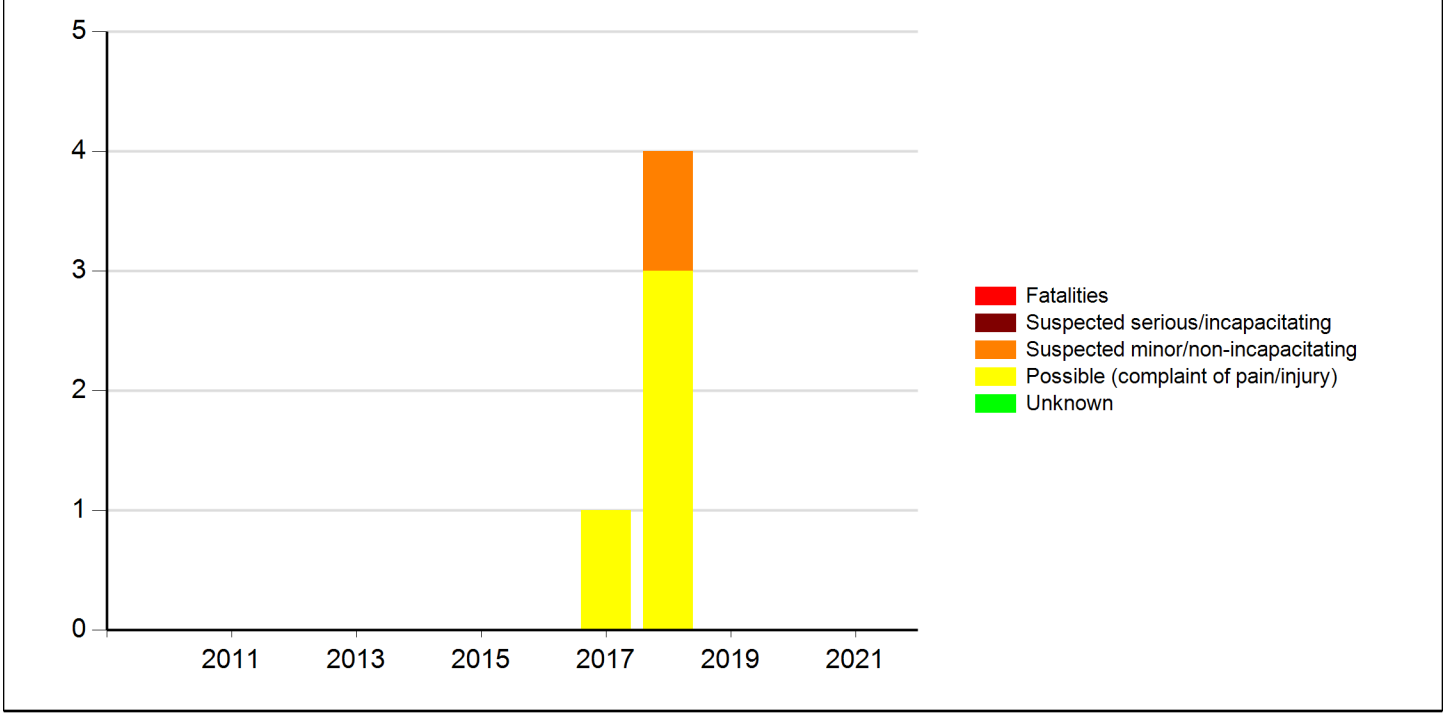
Severity/Year



Injury Status - Annual

Crash Year	Fatalities	Suspected serious/incapacitating	Suspected minor/non-incapacitating	Possible (complaint of pain/injury)	Unknown	Total
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	0	0	0	1	0	1
2018	0	0	1	3	0	4
2019	0	0	0	0	0	0
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
Total	0	0	1	4	0	5

Injury Status/Year

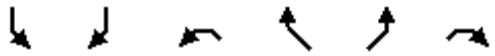


Meeting the following criteria

Jurisdiction: Statewide
Year: 2016, 2017, 2018, 2019, 2020
Map Selection: Yes
Filter: None

Analyst Information

Appendix C – Synchro Reports



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	138	56	100	123	11	26
Future Volume (Veh/h)	138	56	100	123	11	26
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.50	0.66	0.67	0.55	0.72
Hourly flow rate (vph)	181	127	171	207	23	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			308		794	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			308		794	244
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		93	95
cM capacity (veh/h)			1253		311	789

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	308	378	64
Volume Left	0	171	23
Volume Right	127	0	41
cSH	1700	1253	508
Volume to Capacity	0.18	0.14	0.13
Queue Length 95th (ft)	0	12	11
Control Delay (s)	0.0	4.5	13.1
Lane LOS		A	B
Approach Delay (s)	0.0	4.5	13.1
Approach LOS			B

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.7

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	89	133	15	140	76	8
Future Vol, veh/h	89	133	15	140	76	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	88	47	75	86	40
Heavy Vehicles, %	14	2	0	11	8	38
Mvmt Flow	131	171	36	211	100	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	302	0	414	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	-	-	4.1	-	6.48	6.58
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.2	-	3.572	3.642
Pot Cap-1 Maneuver	-	-	1270	-	583	831
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1270	-	564	831
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	727	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1.2	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1270	-	600
HCM Lane V/C Ratio	-	-	0.028	-	0.204
HCM Control Delay (s)	-	-	7.9	0	12.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.8

Intersection	
Int Delay, s/veh	1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	157	8	8	205	4	12	0	6	1	4	4
Future Vol, veh/h	0	157	8	8	205	4	12	0	6	1	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	40	50	74	33	43	92	50	25	50	33
Heavy Vehicles, %	0	6	0	0	2	0	0	0	0	0	0	25
Mvmt Flow	0	209	23	18	313	14	32	0	14	5	9	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	327	0	0	232	0	0	589	584	221	584	588	320
Stage 1	-	-	-	-	-	-	221	221	-	356	356	-
Stage 2	-	-	-	-	-	-	368	363	-	228	232	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.525
Pot Cap-1 Maneuver	1244	-	-	1348	-	-	423	426	824	426	424	671
Stage 1	-	-	-	-	-	-	786	724	-	666	633	-
Stage 2	-	-	-	-	-	-	656	628	-	779	716	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1244	-	-	1348	-	-	403	419	824	414	417	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	403	419	-	414	417	-
Stage 1	-	-	-	-	-	-	786	724	-	666	623	-
Stage 2	-	-	-	-	-	-	623	618	-	766	716	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0.4	13.4	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	476	1348	-	-	1244	-	-	514
HCM Lane V/C Ratio	0.095	0.013	-	-	-	-	-	0.053
HCM Control Delay (s)	13.4	7.7	0	-	0	-	-	12.4
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	156	27	194	171	26	191
Future Vol, veh/h	156	27	194	171	26	191
Peak Hour Factor	0.64	0.68	0.76	0.78	0.81	0.82
Heavy Vehicles, %	7	19	5	3	4	10
Mvmt Flow	275	45	288	248	36	263
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	17.6	13.5	14.8
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	171	156	27	26	191
LT Vol	0	0	156	0	26	0
Through Vol	194	0	0	0	0	191
RT Vol	0	171	0	27	0	0
Lane Flow Rate	288	248	275	45	36	263
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.5	0.378	0.557	0.078	0.07	0.482
Departure Headway (Hd)	6.245	5.499	7.28	6.271	6.997	6.591
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	652	496	570	510	545
Service Time	4.003	3.256	5.034	4.023	4.76	4.354
HCM Lane V/C Ratio	0.499	0.38	0.554	0.079	0.071	0.483
HCM Control Delay	15.1	11.6	18.9	9.6	10.3	15.4
HCM Lane LOS	C	B	C	A	B	C
HCM 95th-tile Q	2.8	1.8	3.4	0.3	0.2	2.6

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	40	104	3	0	125	120	0	5	0	84	1	94
Future Vol, veh/h	40	104	3	0	125	120	0	5	0	84	1	94
Peak Hour Factor	0.83	0.77	0.75	0.25	0.89	0.73	0.25	0.62	0.25	0.88	0.25	0.67
Heavy Vehicles, %	0	8	0	0	3	4	0	0	0	3	0	1
Mvmt Flow	54	153	5	0	159	186	0	9	0	108	5	159
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.5	9.6	8.8	11.1
HCM LOS	B	A	A	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	0%	0%	0%	27%	47%
Vol Thru, %	100%	100%	0%	71%	1%
Vol Right, %	0%	0%	100%	2%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	125	120	147	179
LT Vol	0	0	0	40	84
Through Vol	5	125	0	104	1
RT Vol	0	0	120	3	94
Lane Flow Rate	9	159	186	212	271
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.014	0.242	0.247	0.303	0.377
Departure Headway (Hd)	5.719	5.485	4.795	5.153	5.004
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	630	649	741	690	713
Service Time	3.719	3.269	2.579	3.241	3.079
HCM Lane V/C Ratio	0.014	0.245	0.251	0.307	0.38
HCM Control Delay	8.8	10	9.2	10.5	11.1
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0	0.9	1	1.3	1.8

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	22	170	204	142	203	50
Future Volume (veh/h)	22	170	204	142	203	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1856	1707	1841	1841	1900
Adj Flow Rate, veh/h	45	249	312	208	323	82
Peak Hour Factor	0.55	0.77	0.74	0.77	0.71	0.69
Percent Heavy Veh, %	5	3	13	4	4	0
Cap, veh/h	502	917	844	1146	421	387
Arrive On Green	0.49	0.49	0.49	0.49	0.24	0.24
Sat Flow, veh/h	861	1856	1707	1560	1753	1610
Grp Volume(v), veh/h	45	249	312	208	323	82
Grp Sat Flow(s),veh/h/ln	861	1856	1707	1560	1753	1610
Q Serve(g_s), s	1.4	3.2	4.7	1.7	7.1	1.7
Cycle Q Clear(g_c), s	6.1	3.2	4.7	1.7	7.1	1.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	502	917	844	1146	421	387
V/C Ratio(X)	0.09	0.27	0.37	0.18	0.77	0.21
Avail Cap(c_a), veh/h	502	917	844	1146	782	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	6.1	6.5	1.7	14.7	12.6
Incr Delay (d2), s/veh	0.4	0.7	1.2	0.3	3.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	1.5	0.9	2.8	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.7	6.8	7.7	2.0	17.6	12.9
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		294	520		405	
Approach Delay, s/veh		7.1	5.4		16.7	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		26.0		15.5		26.0
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.5		18.5		20.5
Max Q Clear Time (g_c+I1), s		8.1		9.1		6.7
Green Ext Time (p_c), s		1.4		0.9		2.3

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.3	0.2	0.2	0.2	0.1
Total Del/Veh (s)	1.7	1.9	4.4	0.6	6.7	3.8	2.3

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.7	3.2	8.0	4.8	5.7	7.2	6.6

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	1.0	0.1	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	16.9	6.8	8.5	2.3	12.7	4.1	8.0

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.5	1.8	3.0	1.3	0.0	0.6	8.7	3.4	2.2

5: E 10th Street & Cypress Street Performance by movement

Movement	SET	SER	NWL	NWT	NWR	NEL	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.4	3.3	1.3	0.9	7.0	3.6	12.3	7.0	4.4	1.4

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWT	NWR	NET	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.0	3.7	0.5	0.1	0.2	0.1	0.2	1.0
Total Del/Veh (s)	5.4	4.9	3.3	5.7	3.5	5.4	5.6	5.8	3.9	4.8

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	13.9

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Bidwell Road	3	6.5	52.0	0.3	22
Clay Street	2	8.3	37.7	0.2	20
Lake Park Boulevard	1	1.9	27.6	0.2	25
Total		16.8	117.3	0.7	22

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.6	26.1	0.2	25
Clay Street	2	7.1	32.8	0.2	21
Bidwell Road	3	9.2	36.7	0.2	20
E 11th Street	4	4.1	50.7	0.3	22
Total		20.9	146.4	0.9	22

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	5.7	21.2	0.1	18
E 10th Street	5	1.8	11.3	0.1	22
Isett Avenue	4	1.2	11.1	0.1	22
Total		8.7	43.5	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.4	12.1	0.1	20
E 9th Street	6	4.9	14.1	0.1	17
Total		5.3	26.3	0.1	18

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	NB	SB	SW
Directions Served	R	LT	LR
Maximum Queue (ft)	4	65	95
Average Queue (ft)	0	8	40
95th Queue (ft)	3	36	74
Link Distance (ft)	914	929	581
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	120	67	117	83	61	121
Average Queue (ft)	41	24	58	49	19	61
95th Queue (ft)	87	57	94	75	49	98
Link Distance (ft)	600	600	975	975	914	914
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	68	121	156	58	157	50
Average Queue (ft)	14	48	67	15	78	26
95th Queue (ft)	44	91	128	43	128	51
Link Distance (ft)		1583	975	975	650	650
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	67	61	45
Average Queue (ft)	6	11	22
95th Queue (ft)	31	42	45
Link Distance (ft)	1583	276	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

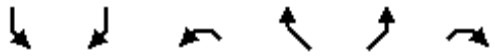
Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	4	41	44	75
Average Queue (ft)	0	2	15	13
95th Queue (ft)	3	18	42	48
Link Distance (ft)	276	303	1065	705
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	91	70	79	35	86
Average Queue (ft)	48	37	40	6	43
95th Queue (ft)	75	58	66	28	74
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	153	57	34	163	24	25
Future Volume (Veh/h)	153	57	34	163	24	25
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.79	0.75	0.79	0.78	0.64
Hourly flow rate (vph)	188	82	51	233	35	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			270		564	229
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			270		564	229
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		92	95
cM capacity (veh/h)			1305		465	815

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	270	284	79
Volume Left	0	51	35
Volume Right	82	0	44
cSH	1700	1305	611
Volume to Capacity	0.16	0.04	0.13
Queue Length 95th (ft)	0	3	11
Control Delay (s)	0.0	1.7	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.7	11.8
Approach LOS			B

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.3

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	94	127	7	86	135	14
Future Vol, veh/h	94	127	7	86	135	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	86	50	90	79	58
Heavy Vehicles, %	9	2	0	13	3	0
Mvmt Flow	131	167	16	108	193	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	271	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	140	-
Critical Hdwy	-	-	4.1	-	6.43	6.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.2	-	3.527	3.3
Pot Cap-1 Maneuver	-	-	1275	-	716	924
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1275	-	707	924
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	873	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1275	-	728
HCM Lane V/C Ratio	-	-	0.012	-	0.303
HCM Control Delay (s)	-	-	7.9	0	12.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.3

Intersection	
Int Delay, s/veh	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	164	12	5	190	1	9	1	5	1	0	0
Future Vol, veh/h	2	164	12	5	190	1	9	1	5	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	88	75	58	77	25	69	25	50	25	25	25
Heavy Vehicles, %	0	4	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	5	211	18	10	279	5	15	5	11	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	229	0	0	532	534	220	540	541	282
Stage 1	-	-	-	-	-	-	230	230	-	302	302	-
Stage 2	-	-	-	-	-	-	302	304	-	238	239	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1290	-	-	1351	-	-	461	455	825	456	451	762
Stage 1	-	-	-	-	-	-	777	718	-	712	668	-
Stage 2	-	-	-	-	-	-	712	667	-	770	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1351	-	-	456	449	825	442	445	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	449	-	442	445	-
Stage 1	-	-	-	-	-	-	774	715	-	709	662	-
Stage 2	-	-	-	-	-	-	706	661	-	752	708	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.3	12	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	545	1351	-	-	1290	-	- 442
HCM Lane V/C Ratio	0.056	0.007	-	-	0.004	-	- 0.01
HCM Control Delay (s)	12	7.7	0	-	7.8	0	- 13.2
HCM Lane LOS	B	A	A	-	A	A	- B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	- 0

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	137	21	198	138	18	201
Future Vol, veh/h	137	21	198	138	18	201
Peak Hour Factor	0.86	0.71	0.81	0.85	0.70	0.88
Heavy Vehicles, %	3	0	8	1	7	6
Mvmt Flow	180	33	276	183	29	258
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	12.6	11.5	12.6
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	138	137	21	18	201
LT Vol	0	0	137	0	18	0
Through Vol	198	0	0	0	0	201
RT Vol	0	138	0	21	0	0
Lane Flow Rate	276	183	180	33	29	258
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.442	0.251	0.346	0.052	0.052	0.423
Departure Headway (Hd)	5.759	4.93	6.917	5.652	6.424	5.9
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	627	730	520	634	558	612
Service Time	3.484	2.655	4.648	3.383	4.152	3.628
HCM Lane V/C Ratio	0.44	0.251	0.346	0.052	0.052	0.422
HCM Control Delay	13	9.3	13.3	8.7	9.5	12.9
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	2.3	1	1.5	0.2	0.2	2.1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	39	131	2	2	136	126	2	6	7	91	4	63
Future Vol, veh/h	39	131	2	2	136	126	2	6	7	91	4	63
Peak Hour Factor	0.77	0.91	0.50	0.50	0.76	0.93	0.75	1.00	0.63	0.76	0.75	0.94
Heavy Vehicles, %	2	4	0	0	2	4	0	0	0	3	0	2
Mvmt Flow	57	163	5	5	202	153	3	7	13	135	6	76
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.6	9.7	8.6	10.6
HCM LOS	B	A	A	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	13%	1%	0%	23%	58%
Vol Thru, %	40%	99%	0%	76%	3%
Vol Right, %	47%	0%	100%	1%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	138	126	172	158
LT Vol	2	2	0	39	91
Through Vol	6	136	0	131	4
RT Vol	7	0	126	2	63
Lane Flow Rate	22	207	153	224	217
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.034	0.308	0.199	0.318	0.312
Departure Headway (Hd)	5.439	5.356	4.677	5.105	5.178
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	662	666	759	698	688
Service Time	3.439	3.135	2.455	3.189	3.257
HCM Lane V/C Ratio	0.033	0.311	0.202	0.321	0.315
HCM Control Delay	8.6	10.5	8.6	10.6	10.6
HCM Lane LOS	A	B	A	B	B
HCM 95th-tile Q	0.1	1.3	0.7	1.4	1.3

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	28	221	223	124	123	25
Future Volume (veh/h)	28	221	223	124	123	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1796	1811	1856	1870	1900
Adj Flow Rate, veh/h	58	320	286	180	165	40
Peak Hour Factor	0.55	0.78	0.88	0.78	0.84	0.71
Percent Heavy Veh, %	0	7	6	3	2	0
Cap, veh/h	623	977	985	1113	292	264
Arrive On Green	0.54	0.54	0.54	0.54	0.16	0.16
Sat Flow, veh/h	941	1796	1811	1572	1781	1610
Grp Volume(v), veh/h	58	320	286	180	165	40
Grp Sat Flow(s),veh/h/ln	941	1796	1811	1572	1781	1610
Q Serve(g_s), s	1.3	3.7	3.2	1.4	3.2	0.8
Cycle Q Clear(g_c), s	4.6	3.7	3.2	1.4	3.2	0.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	623	977	985	1113	292	264
V/C Ratio(X)	0.09	0.33	0.29	0.16	0.56	0.15
Avail Cap(c_a), veh/h	623	977	985	1113	875	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	4.8	4.7	1.8	14.5	13.5
Incr Delay (d2), s/veh	0.3	0.9	0.7	0.3	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	0.9	0.5	1.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.2	5.7	5.4	2.1	16.2	13.8
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		378	466		205	
Approach Delay, s/veh		5.7	4.1		15.7	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		26.0		11.7		26.0
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.5		18.5		20.5
Max Q Clear Time (g_c+I1), s		6.6		5.2		5.2
Green Ext Time (p_c), s		1.9		0.5		2.1

Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.2	0.3	0.1
Total Del/Veh (s)	1.9	1.9	3.2	0.3	6.5	4.9	3.0

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.7	2.9	7.6	4.5	5.2	6.5	6.1

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	0.8	0.1	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	15.0	6.6	6.8	2.3	12.6	4.1	7.2

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.3	1.8	2.7	1.1	0.1	0.4	7.7	3.8	2.2

5: E 10th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.6	0.5	2.7	1.3	1.2	5.9	5.6	3.1	9.7	1.2

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.0	0.0	0.0	2.5	3.6	0.6	0.1	0.1	0.1	0.2	0.3	0.2
Total Del/Veh (s)	5.9	6.4	3.5	2.9	6.0	3.7	4.3	5.7	3.6	5.8	6.4	3.8

6: E 9th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	5.3

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	14.4

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Bidwell Road	3	6.7	51.9	0.3	22
Clay Street	2	7.8	37.5	0.2	20
Lake Park Boulevard	1	2.1	27.5	0.2	25
Total		16.6	116.9	0.7	22

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.3	25.8	0.2	26
Clay Street	2	5.9	31.6	0.2	22
Bidwell Road	3	7.0	34.6	0.2	21
E 11th Street	4	3.5	49.7	0.3	23
Total		16.7	141.6	0.9	23

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	6.0	21.3	0.1	17
E 10th Street	5	1.8	11.5	0.1	21
Isett Avenue	4	1.1	11.2	0.1	21
Total		8.8	44.0	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.5	12.4	0.1	19
E 9th Street	6	6.3	16.1	0.1	15
Total		6.8	28.5	0.1	17

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	35	99
Average Queue (ft)	2	47
95th Queue (ft)	16	81
Link Distance (ft)	929	581
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	68	36	122	67	46	102
Average Queue (ft)	31	16	60	43	15	53
95th Queue (ft)	57	39	97	64	43	83
Link Distance (ft)	600	600	975	975	914	914
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	64	145	133	51	120	52
Average Queue (ft)	19	57	56	17	56	18
95th Queue (ft)	49	114	102	45	99	46
Link Distance (ft)		1583	975	975	650	650
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	33	55	72
Average Queue (ft)	2	5	26
95th Queue (ft)	14	29	51
Link Distance (ft)	1583	276	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

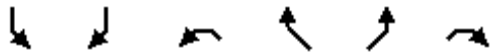
Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	10	6	36	25
Average Queue (ft)	0	0	13	1
95th Queue (ft)	8	4	39	11
Link Distance (ft)	276	303	1065	705
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	104	84	84	31	82
Average Queue (ft)	54	39	42	15	40
95th Queue (ft)	84	64	69	40	68
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	190	82	68	224	27	59
Future Volume (Veh/h)	190	82	68	224	27	59
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.81	0.76	0.88	0.72	0.76
Hourly flow rate (vph)	250	114	101	288	42	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			364		797	307
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		797	307
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	88
cM capacity (veh/h)			1184		323	726

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	364	389	130
Volume Left	0	101	42
Volume Right	114	0	88
cSH	1700	1184	517
Volume to Capacity	0.21	0.09	0.25
Queue Length 95th (ft)	0	7	25
Control Delay (s)	0.0	2.8	14.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	14.3
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	5.4

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	125	192	11	116	197	15
Future Vol, veh/h	125	192	11	116	197	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	96	60	91	82	79
Heavy Vehicles, %	13	1	8	7	2	5
Mvmt Flow	170	226	21	144	271	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	396	0	356	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	186	-
Critical Hdwy	-	-	4.18	-	6.42	6.25
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.272	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	1131	-	642	866
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	629	866
Mov Cap-2 Maneuver	-	-	-	-	629	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	829	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1131	-	642
HCM Lane V/C Ratio	-	-	0.018	-	0.456
HCM Control Delay (s)	-	-	8.2	0	15.2
HCM Lane LOS	-	-	A	A	C
HCM 95th %tile Q(veh)	-	-	0.1	-	2.4

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	239	7	2	286	9	8	1	10	3	1	1
Future Vol, veh/h	3	239	7	2	286	9	8	1	10	3	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	82	56	42	93	50	44	33	56	25	25	25
Heavy Vehicles, %	33	3	0	0	3	0	0	25	0	0	0	0
Mvmt Flow	9	329	14	5	348	20	21	3	20	14	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	343	0	0	727	732	336	734	729	358
Stage 1	-	-	-	-	-	-	354	354	-	368	368	-
Stage 2	-	-	-	-	-	-	373	378	-	366	361	-
Critical Hdwy	4.43	-	-	4.1	-	-	7.1	6.75	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.75	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.75	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	3.5	4.225	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1039	-	-	1227	-	-	342	322	711	338	352	691
Stage 1	-	-	-	-	-	-	667	592	-	656	625	-
Stage 2	-	-	-	-	-	-	652	577	-	657	629	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1039	-	-	1227	-	-	332	317	711	322	346	691
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	317	-	322	346	-
Stage 1	-	-	-	-	-	-	660	585	-	649	622	-
Stage 2	-	-	-	-	-	-	640	574	-	628	622	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.1	14.2	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	437	1227	-	-	1039	-	- 366
HCM Lane V/C Ratio	0.101	0.004	-	-	0.009	-	- 0.062
HCM Control Delay (s)	14.2	7.9	0	-	8.5	0	- 15.5
HCM Lane LOS	B	A	A	-	A	A	- C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	- 0.2

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	194	23	294	194	23	300
Future Vol, veh/h	194	23	294	194	23	300
Peak Hour Factor	0.84	0.82	0.98	0.85	0.72	0.86
Heavy Vehicles, %	2	9	5	3	4	4
Mvmt Flow	261	32	339	258	36	394
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	18.4	15.8	23.1
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	194	194	23	23	300
LT Vol	0	0	194	0	23	0
Through Vol	294	0	0	0	0	300
RT Vol	0	194	0	23	0	0
Lane Flow Rate	339	258	261	32	36	394
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.603	0.405	0.553	0.057	0.071	0.716
Departure Headway (Hd)	6.408	5.659	7.623	6.521	7.053	6.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	632	472	546	505	548
Service Time	4.185	3.436	5.396	4.293	4.831	4.32
HCM Lane V/C Ratio	0.606	0.408	0.553	0.059	0.071	0.719
HCM Control Delay	18.5	12.3	19.5	9.7	10.4	24.3
HCM Lane LOS	C	B	C	A	B	C
HCM 95th-tile Q	4	2	3.3	0.2	0.2	5.8

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	78	181	2	3	175	183	1	10	5	140	5	54
Future Vol, veh/h	78	181	2	3	175	183	1	10	5	140	5	54
Peak Hour Factor	0.77	0.77	0.33	0.38	0.82	0.72	0.25	0.83	0.63	0.82	0.75	0.83
Heavy Vehicles, %	8	2	0	0	2	2	0	0	0	1	0	1
Mvmt Flow	114	266	7	9	241	287	5	14	9	193	8	74
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	18.5	12.6	10.2	14.6
HCM LOS	C	B	B	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	6%	2%	0%	30%	70%
Vol Thru, %	62%	98%	0%	69%	3%
Vol Right, %	31%	0%	100%	1%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	178	183	261	199
LT Vol	1	3	0	78	140
Through Vol	10	175	0	181	5
RT Vol	5	0	183	2	54
Lane Flow Rate	27	250	287	387	274
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.051	0.42	0.427	0.631	0.469
Departure Headway (Hd)	6.717	6.043	5.358	5.869	6.167
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	593	669	615	581
Service Time	4.815	3.801	3.116	3.925	4.23
HCM Lane V/C Ratio	0.051	0.422	0.429	0.629	0.472
HCM Control Delay	10.2	13.1	12.1	18.5	14.6
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	0.2	2.1	2.1	4.4	2.5

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	33	314	302	194	176	30
Future Volume (veh/h)	33	314	302	194	176	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1826	1856	1856	1870	1900
Adj Flow Rate, veh/h	58	373	379	296	276	41
Peak Hour Factor	0.64	0.95	0.90	0.74	0.72	0.83
Percent Heavy Veh, %	0	5	3	3	2	0
Cap, veh/h	485	941	957	1137	370	334
Arrive On Green	0.52	0.52	0.52	0.52	0.21	0.21
Sat Flow, veh/h	776	1826	1856	1572	1781	1610
Grp Volume(v), veh/h	58	373	379	296	276	41
Grp Sat Flow(s),veh/h/ln	776	1826	1856	1572	1781	1610
Q Serve(g_s), s	2.0	4.9	4.9	2.6	5.8	0.8
Cycle Q Clear(g_c), s	6.9	4.9	4.9	2.6	5.8	0.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	485	941	957	1137	370	334
V/C Ratio(X)	0.12	0.40	0.40	0.26	0.75	0.12
Avail Cap(c_a), veh/h	485	941	957	1137	829	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	5.9	5.9	1.9	14.8	12.8
Incr Delay (d2), s/veh	0.5	1.2	1.2	0.6	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.6	1.6	1.2	2.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	7.1	7.1	2.4	17.8	13.0
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		431	675		317	
Approach Delay, s/veh		7.3	5.0		17.2	
Approach LOS		A	A		B	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		26.0		13.8		26.0
Change Period (Y+Rc), s		5.5		5.5		5.5
Max Green Setting (Gmax), s		20.5		18.5		20.5
Max Q Clear Time (g_c+I1), s		8.9		7.8		6.9
Green Ext Time (p_c), s		2.1		0.7		3.0

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.2	0.3	0.2	0.1
Total Del/Veh (s)	2.0	2.2	4.2	0.4	8.1	5.6	3.7

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	7.8	3.3	10.0	5.4	6.7	9.0	8.2

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	1.0	0.1	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	22.1	8.4	8.7	2.6	12.9	5.0	8.4

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	4.2	2.0	3.7	1.7	0.2	0.6	8.8	5.4	2.8

5: E 10th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.0	0.0	0.0		0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	4.5	0.7	0.6		1.2	1.0	7.4	5.2	4.3	6.2	3.4	4.3

5: E 10th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	1.2

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.0	0.0	0.0	3.4	3.6	0.8	0.1	0.1	0.1	0.2	0.2	0.2
Total Del/Veh (s)	7.3	7.7	5.0	7.0	6.4	4.8	4.9	6.6	3.9	6.4	7.0	4.2

6: E 9th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	6.3

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.1

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Bidwell Road	3	8.7	53.8	0.3	21
Clay Street	2	10.4	39.1	0.2	19
Lake Park Boulevard	1	2.1	28.1	0.2	24
Total		21.2	121.1	0.7	21

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.4	26.0	0.2	26
Clay Street	2	8.1	33.4	0.2	20
Bidwell Road	3	9.3	37.3	0.2	20
E 11th Street	4	4.5	51.0	0.3	22
Total		22.3	147.7	0.9	22

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	6.4	21.7	0.1	17
E 10th Street	5	1.4	9.8	0.1	25
Isett Avenue	4	1.7	11.6	0.1	21
Total		9.6	43.1	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.5	12.4	0.1	19
E 9th Street	6	7.7	17.3	0.1	14
Total		8.2	29.7	0.1	16

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	59	118
Average Queue (ft)	6	59
95th Queue (ft)	34	98
Link Distance (ft)	929	581
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	115	63	161	93	50	145
Average Queue (ft)	44	23	80	55	21	68
95th Queue (ft)	86	52	129	83	49	107
Link Distance (ft)	600	600	975	975	914	914
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	77	175	171	58	150	48
Average Queue (ft)	22	86	78	22	69	19
95th Queue (ft)	58	154	135	51	122	46
Link Distance (ft)		1583	975	975	650	650
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	43	103	73
Average Queue (ft)	4	15	35
95th Queue (ft)	22	60	62
Link Distance (ft)	1583	276	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

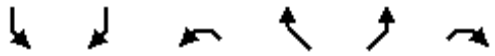
Movement	SE	NE	SW
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	10	39	36
Average Queue (ft)	0	17	5
95th Queue (ft)	7	43	24
Link Distance (ft)	276	1065	705
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	124	86	100	36	85
Average Queue (ft)	68	44	49	14	43
95th Queue (ft)	108	72	81	40	71
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Network Summary

Network wide Queuing Penalty: 0



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	138	56	100	123	11	26
Future Volume (Veh/h)	138	56	100	123	11	26
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.50	0.66	0.67	0.55	0.72
Hourly flow rate (vph)	181	127	171	207	23	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			308		794	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			308		794	244
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		93	95
cM capacity (veh/h)			1253		311	789

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	308	378	64
Volume Left	0	171	23
Volume Right	127	0	41
cSH	1700	1253	508
Volume to Capacity	0.18	0.14	0.13
Queue Length 95th (ft)	0	12	11
Control Delay (s)	0.0	4.5	13.1
Lane LOS		A	B
Approach Delay (s)	0.0	4.5	13.1
Approach LOS			B

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.6

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	89	133	15	140	76	8
Future Vol, veh/h	89	133	15	140	76	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	88	47	75	86	40
Heavy Vehicles, %	14	2	0	11	8	38
Mvmt Flow	131	171	36	211	100	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	302	0	414	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	-	-	4.1	-	6.48	6.58
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.2	-	3.572	3.642
Pot Cap-1 Maneuver	-	-	1270	-	583	831
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1270	-	564	831
Mov Cap-2 Maneuver	-	-	-	-	613	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	727	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1.2	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1270	-	644
HCM Lane V/C Ratio	-	-	0.028	-	0.19
HCM Control Delay (s)	-	-	7.9	0	11.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.7

Intersection	
Int Delay, s/veh	1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	157	8	8	205	4	12	0	6	1	4	4
Future Vol, veh/h	0	157	8	8	205	4	12	0	6	1	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	40	50	74	33	43	92	50	25	50	33
Heavy Vehicles, %	0	6	0	0	2	0	0	0	0	0	0	25
Mvmt Flow	0	209	23	18	313	14	32	0	14	5	9	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	327	0	0	232	0	0	589	584	221	584	588	320
Stage 1	-	-	-	-	-	-	221	221	-	356	356	-
Stage 2	-	-	-	-	-	-	368	363	-	228	232	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.525
Pot Cap-1 Maneuver	1244	-	-	1348	-	-	423	426	824	426	424	671
Stage 1	-	-	-	-	-	-	786	724	-	666	633	-
Stage 2	-	-	-	-	-	-	656	628	-	779	716	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1244	-	-	1348	-	-	403	419	824	414	417	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	403	419	-	414	417	-
Stage 1	-	-	-	-	-	-	786	724	-	666	623	-
Stage 2	-	-	-	-	-	-	623	618	-	766	716	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0.4	13.4	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	476	1348	-	-	1244	-	-	514
HCM Lane V/C Ratio	0.095	0.013	-	-	-	-	-	0.053
HCM Control Delay (s)	13.4	7.7	0	-	0	-	-	12.4
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	156	27	194	171	26	191
Future Vol, veh/h	156	27	194	171	26	191
Peak Hour Factor	0.64	0.68	0.76	0.78	0.81	0.82
Heavy Vehicles, %	7	19	5	3	4	10
Mvmt Flow	275	45	288	248	36	263
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	17.6	13.5	14.8
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	171	156	27	26	191
LT Vol	0	0	156	0	26	0
Through Vol	194	0	0	0	0	191
RT Vol	0	171	0	27	0	0
Lane Flow Rate	288	248	275	45	36	263
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.5	0.378	0.557	0.078	0.07	0.482
Departure Headway (Hd)	6.245	5.499	7.28	6.271	6.997	6.591
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	652	496	570	510	545
Service Time	4.003	3.256	5.034	4.023	4.76	4.354
HCM Lane V/C Ratio	0.499	0.38	0.554	0.079	0.071	0.483
HCM Control Delay	15.1	11.6	18.9	9.6	10.3	15.4
HCM Lane LOS	C	B	C	A	B	C
HCM 95th-tile Q	2.8	1.8	3.4	0.3	0.2	2.6

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	40	104	3	0	125	120	0	5	0	84	1	94
Future Vol, veh/h	40	104	3	0	125	120	0	5	0	84	1	94
Peak Hour Factor	0.83	0.77	0.75	0.25	0.89	0.73	0.25	0.62	0.25	0.88	0.25	0.67
Heavy Vehicles, %	0	8	0	0	3	4	0	0	0	3	0	1
Mvmt Flow	54	153	5	0	159	186	0	9	0	108	5	159
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.5	9.6	8.8	11.1
HCM LOS	B	A	A	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	0%	0%	0%	27%	47%
Vol Thru, %	100%	100%	0%	71%	1%
Vol Right, %	0%	0%	100%	2%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	125	120	147	179
LT Vol	0	0	0	40	84
Through Vol	5	125	0	104	1
RT Vol	0	0	120	3	94
Lane Flow Rate	9	159	186	212	271
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.014	0.242	0.247	0.303	0.377
Departure Headway (Hd)	5.719	5.485	4.795	5.153	5.004
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	630	649	741	690	713
Service Time	3.719	3.269	2.579	3.241	3.079
HCM Lane V/C Ratio	0.014	0.245	0.251	0.307	0.38
HCM Control Delay	8.8	10	9.2	10.5	11.1
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0	0.9	1	1.3	1.8

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	22	170	204	142	203	50
Future Volume (veh/h)	22	170	204	142	203	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1856	1707	1841	1841	1900
Adj Flow Rate, veh/h	45	249	312	208	323	82
Peak Hour Factor	0.55	0.77	0.74	0.77	0.71	0.69
Percent Heavy Veh, %	5	3	13	4	4	0
Cap, veh/h	454	1038	702	995	397	365
Arrive On Green	0.05	0.56	0.41	0.41	0.23	0.23
Sat Flow, veh/h	1739	1856	1707	1560	1753	1610
Grp Volume(v), veh/h	45	249	312	208	323	82
Grp Sat Flow(s),veh/h/ln	1739	1856	1707	1560	1753	1610
Q Serve(g_s), s	0.7	3.7	7.1	3.0	9.4	2.2
Cycle Q Clear(g_c), s	0.7	3.7	7.1	3.0	9.4	2.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	454	1038	702	995	397	365
V/C Ratio(X)	0.10	0.24	0.44	0.21	0.81	0.22
Avail Cap(c_a), veh/h	537	1038	702	995	605	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	6.0	11.4	4.1	19.7	16.9
Incr Delay (d2), s/veh	0.1	0.5	2.0	0.5	5.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	2.7	1.6	4.1	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.0	6.6	13.4	4.5	24.7	17.2
LnGrp LOS	A	A	B	A	C	B
Approach Vol, veh/h		294	520		405	
Approach Delay, s/veh		6.8	9.9		23.2	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.0		17.7	7.9	28.1
Change Period (Y+Rc), s		6.0		5.5	5.5	6.0
Max Green Setting (Gmax), s		30.0		18.5	5.0	19.5
Max Q Clear Time (g_c+I1), s		5.7		11.4	2.7	9.1
Green Ext Time (p_c), s		1.5		0.8	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.2	0.2	0.2	0.2	0.1	0.2
Total Del/Veh (s)	1.9	2.0	3.4	0.5	6.0	3.9	2.2

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.8	3.7	8.6	5.8	5.9	7.4	7.3

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	1.2	0.1	0.0	0.1	0.3	0.1	0.1
Total Del/Veh (s)	10.1	6.9	9.8	2.6	18.8	4.7	9.9

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.6	0.4	1.1	1.4	0.1	0.6	10.9	3.7	1.4

5: E 10th Street & Cypress Street Performance by movement

Movement	SET	SER	NWL	NWT	NWR	NEL	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.0
Total Del/Veh (s)	0.6	0.5	3.3	1.3	1.1	7.1	4.0	13.3	7.0	4.6	1.4

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWT	NWR	NET	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.0	0.0	0.0	3.7	0.5	0.1	0.2	0.4	0.2	1.0
Total Del/Veh (s)	5.3	5.0	3.3	5.9	3.5	5.1	5.4	5.6	3.8	4.8

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	15.5

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	17	0.3	17.7	0.1	24
Bidwell Road	3	6.9	30.0	0.2	23
Clay Street	2	8.7	37.5	0.2	20
Lake Park Boulevard	1	2.1	27.8	0.2	24
Total		17.9	113.1	0.7	22

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.5	26.2	0.2	25
Clay Street	2	7.4	33.5	0.2	20
Bidwell Road	3	10.0	37.2	0.2	20
	17	2.3	32.4	0.2	21
E 11th Street	4	1.6	18.8	0.1	23
Total		21.7	148.1	0.9	22

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	5.9	21.2	0.1	18
E 10th Street	5	1.8	11.2	0.1	22
Isett Avenue	4	1.3	11.4	0.1	21
Total		9.0	43.8	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.4	12.1	0.1	20
E 9th Street	6	5.0	14.3	0.1	17
Total		5.5	26.4	0.1	18

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	NB	NB	SB	SW
Directions Served	T	R	LT	LR
Maximum Queue (ft)	9	13	51	80
Average Queue (ft)	0	0	6	39
95th Queue (ft)	5	6	29	66
Link Distance (ft)	924		924	574
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		200		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	138	75	128	101	51	139
Average Queue (ft)	45	25	60	53	18	60
95th Queue (ft)	93	59	101	85	47	107
Link Distance (ft)	617	617	956			924
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				200	200	
Storage Blk Time (%)						0
Queuing Penalty (veh)						0

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	52	123	188	71	197	62
Average Queue (ft)	14	55	70	20	98	25
95th Queue (ft)	41	103	137	52	166	55
Link Distance (ft)		948	956		635	635
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350			200		
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	51	93	62
Average Queue (ft)	4	13	23
95th Queue (ft)	27	46	49
Link Distance (ft)	557	286	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

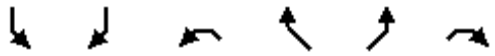
Movement	NW	NE	SW
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	45	59
Average Queue (ft)	2	16	12
95th Queue (ft)	13	43	42
Link Distance (ft)	303	1065	705
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	105	82	70	31	80
Average Queue (ft)	51	38	39	6	41
95th Queue (ft)	81	62	62	25	67
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Network Summary

Network wide Queuing Penalty: 0



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	153	57	34	163	24	25
Future Volume (Veh/h)	153	57	34	163	24	25
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.79	0.75	0.79	0.78	0.64
Hourly flow rate (vph)	188	82	51	233	35	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			270		564	229
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			270		564	229
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		92	95
cM capacity (veh/h)			1305		465	815

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	270	284	79
Volume Left	0	51	35
Volume Right	82	0	44
cSH	1700	1305	611
Volume to Capacity	0.16	0.04	0.13
Queue Length 95th (ft)	0	3	11
Control Delay (s)	0.0	1.7	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.7	11.8
Approach LOS			B

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.2

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	94	127	7	86	135	14
Future Vol, veh/h	94	127	7	86	135	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	86	50	90	79	58
Heavy Vehicles, %	9	2	0	13	3	0
Mvmt Flow	131	167	16	108	193	27

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	271	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	140	-
Critical Hdwy	-	-	4.1	-	6.43	6.2
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.2	-	3.527	3.3
Pot Cap-1 Maneuver	-	-	1275	-	716	924
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1275	-	707	924
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	873	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1275	-	745
HCM Lane V/C Ratio	-	-	0.012	-	0.296
HCM Control Delay (s)	-	-	7.9	0	11.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.2

Intersection	
Int Delay, s/veh	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	164	12	5	190	1	9	1	5	1	0	0
Future Vol, veh/h	2	164	12	5	190	1	9	1	5	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	88	75	58	77	25	69	25	50	25	25	25
Heavy Vehicles, %	0	4	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	5	211	18	10	279	5	15	5	11	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	284	0	0	229	0	0	532	534	220	540	541	282
Stage 1	-	-	-	-	-	-	230	230	-	302	302	-
Stage 2	-	-	-	-	-	-	302	304	-	238	239	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1290	-	-	1351	-	-	461	455	825	456	451	762
Stage 1	-	-	-	-	-	-	777	718	-	712	668	-
Stage 2	-	-	-	-	-	-	712	667	-	770	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1351	-	-	456	449	825	442	445	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	449	-	442	445	-
Stage 1	-	-	-	-	-	-	774	715	-	709	662	-
Stage 2	-	-	-	-	-	-	706	661	-	752	708	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.3	12	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	545	1351	-	-	1290	-	- 442
HCM Lane V/C Ratio	0.056	0.007	-	-	0.004	-	- 0.01
HCM Control Delay (s)	12	7.7	0	-	7.8	0	- 13.2
HCM Lane LOS	B	A	A	-	A	A	- B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	- 0

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	137	21	198	138	18	201
Future Vol, veh/h	137	21	198	138	18	201
Peak Hour Factor	0.86	0.71	0.81	0.85	0.70	0.88
Heavy Vehicles, %	3	0	8	1	7	6
Mvmt Flow	180	33	276	183	29	258
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	12.6	11.5	12.6
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	138	137	21	18	201
LT Vol	0	0	137	0	18	0
Through Vol	198	0	0	0	0	201
RT Vol	0	138	0	21	0	0
Lane Flow Rate	276	183	180	33	29	258
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.442	0.251	0.346	0.052	0.052	0.423
Departure Headway (Hd)	5.759	4.93	6.917	5.652	6.424	5.9
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	627	730	520	634	558	612
Service Time	3.484	2.655	4.648	3.383	4.152	3.628
HCM Lane V/C Ratio	0.44	0.251	0.346	0.052	0.052	0.422
HCM Control Delay	13	9.3	13.3	8.7	9.5	12.9
HCM Lane LOS	B	A	B	A	A	B
HCM 95th-tile Q	2.3	1	1.5	0.2	0.2	2.1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	39	131	2	2	136	126	2	6	7	91	4	63
Future Vol, veh/h	39	131	2	2	136	126	2	6	7	91	4	63
Peak Hour Factor	0.77	0.91	0.50	0.50	0.76	0.93	0.75	1.00	0.63	0.76	0.75	0.94
Heavy Vehicles, %	2	4	0	0	2	4	0	0	0	3	0	2
Mvmt Flow	57	163	5	5	202	153	3	7	13	135	6	76
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	10.6	9.7	8.6	10.6
HCM LOS	B	A	A	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	13%	1%	0%	23%	58%
Vol Thru, %	40%	99%	0%	76%	3%
Vol Right, %	47%	0%	100%	1%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	138	126	172	158
LT Vol	2	2	0	39	91
Through Vol	6	136	0	131	4
RT Vol	7	0	126	2	63
Lane Flow Rate	22	207	153	224	217
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.034	0.308	0.199	0.318	0.312
Departure Headway (Hd)	5.439	5.356	4.677	5.105	5.178
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	662	666	759	698	688
Service Time	3.439	3.135	2.455	3.189	3.257
HCM Lane V/C Ratio	0.033	0.311	0.202	0.321	0.315
HCM Control Delay	8.6	10.5	8.6	10.6	10.6
HCM Lane LOS	A	B	A	B	B
HCM 95th-tile Q	0.1	1.3	0.7	1.4	1.3

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	28	221	223	124	123	25
Future Volume (veh/h)	28	221	223	124	123	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1796	1811	1856	1870	1900
Adj Flow Rate, veh/h	58	320	286	180	165	40
Peak Hour Factor	0.55	0.78	0.88	0.78	0.84	0.71
Percent Heavy Veh, %	0	7	6	3	2	0
Cap, veh/h	582	1122	822	928	243	219
Arrive On Green	0.06	0.62	0.45	0.45	0.14	0.14
Sat Flow, veh/h	1810	1796	1811	1572	1781	1610
Grp Volume(v), veh/h	58	320	286	180	165	40
Grp Sat Flow(s),veh/h/ln	1810	1796	1811	1572	1781	1610
Q Serve(g_s), s	0.7	3.9	4.9	2.5	4.2	1.1
Cycle Q Clear(g_c), s	0.7	3.9	4.9	2.5	4.2	1.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	582	1122	822	928	243	219
V/C Ratio(X)	0.10	0.29	0.35	0.19	0.68	0.18
Avail Cap(c_a), veh/h	669	1122	822	928	686	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.5	4.1	8.5	4.6	19.8	18.4
Incr Delay (d2), s/veh	0.1	0.6	1.2	0.5	3.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.8	1.1	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.6	4.8	9.7	5.0	23.1	18.8
LnGrp LOS	A	A	A	A	C	B
Approach Vol, veh/h		378	466		205	
Approach Delay, s/veh		4.9	7.9		22.2	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.0		12.0	8.2	27.8
Change Period (Y+Rc), s		6.0		5.5	5.5	6.0
Max Green Setting (Gmax), s		30.0		18.5	5.0	19.5
Max Q Clear Time (g_c+I1), s		5.9		6.2	2.7	6.9
Green Ext Time (p_c), s		2.0		0.5	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.2	0.2	0.2	0.2	0.2	0.1
Total Del/Veh (s)	2.1	2.0	3.1	0.3	6.2	4.4	3.0

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	6.4	3.4	8.3	4.9	5.9	6.6	6.7

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	0.9	0.1	0.0	0.1	0.2	0.1	0.1
Total Del/Veh (s)	8.0	5.2	7.4	2.4	16.1	5.0	7.3

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.4	0.4	0.9	1.5	0.2	0.3	6.5	4.3	1.3

5: E 10th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	2.1	0.6	0.4	4.2	1.3	1.9	6.2	6.9	3.4	5.9	1.2

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.0	0.0	0.0	3.6	3.6	0.6	0.1	0.1	0.1	0.2	0.2	0.2
Total Del/Veh (s)	5.7	6.1	5.3	5.4	5.8	3.6	5.2	5.6	3.3	5.4	6.4	3.8

6: E 9th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	5.1

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	14.7

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	17	0.3	17.8	0.1	24
Bidwell Road	3	5.2	29.5	0.2	23
Clay Street	2	8.4	37.4	0.2	20
Lake Park Boulevard	1	2.2	28.3	0.2	24
Total		16.2	113.0	0.7	22

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.3	25.7	0.2	26
Clay Street	2	6.0	31.8	0.2	21
Bidwell Road	3	7.9	35.2	0.2	21
	17	2.0	31.8	0.2	22
E 11th Street	4	1.4	18.4	0.1	23
Total		17.7	142.8	0.9	22

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	5.8	21.2	0.1	18
E 10th Street	5	1.7	11.3	0.1	22
Isett Avenue	4	1.3	11.4	0.1	21
Total		8.9	43.9	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.5	12.1	0.1	20
E 9th Street	6	6.1	15.9	0.1	15
Total		6.5	28.0	0.1	17

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	SB	SW
Directions Served	LT	LR
Maximum Queue (ft)	35	90
Average Queue (ft)	2	43
95th Queue (ft)	15	72
Link Distance (ft)	924	574
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	89	37	160	74	48	107
Average Queue (ft)	41	17	63	43	17	51
95th Queue (ft)	74	41	112	65	45	78
Link Distance (ft)	617	617	956			924
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				200	200	
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	56	150	138	56	126	50
Average Queue (ft)	16	58	58	15	61	16
95th Queue (ft)	46	116	113	45	105	44
Link Distance (ft)		949	956		635	635
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350			200		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	10	41	69
Average Queue (ft)	1	5	25
95th Queue (ft)	9	25	53
Link Distance (ft)	558	285	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

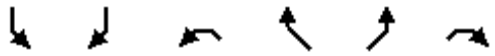
Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	17	34	44	25
Average Queue (ft)	1	2	14	2
95th Queue (ft)	9	15	41	13
Link Distance (ft)	285	303	1065	705
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	105	75	74	40	71
Average Queue (ft)	52	41	42	13	38
95th Queue (ft)	85	63	66	39	64
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0



Movement	SBL	SBR	NWL	NWR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	190	82	68	224	27	59
Future Volume (Veh/h)	190	82	68	224	27	59
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.81	0.76	0.88	0.72	0.76
Hourly flow rate (vph)	250	114	101	288	42	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			364		797	307
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		797	307
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	88
cM capacity (veh/h)			1184		323	726

Direction, Lane #	SB 1	NW 1	NE 1
Volume Total	364	389	130
Volume Left	0	101	42
Volume Right	114	0	88
cSH	1700	1184	517
Volume to Capacity	0.21	0.09	0.25
Queue Length 95th (ft)	0	7	25
Control Delay (s)	0.0	2.8	14.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	14.3
Approach LOS			B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	5.1

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	125	192	11	116	197	15
Future Vol, veh/h	125	192	11	116	197	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	96	60	91	82	79
Heavy Vehicles, %	13	1	8	7	2	5
Mvmt Flow	170	226	21	144	271	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	396	0	356	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	186	-
Critical Hdwy	-	-	4.18	-	6.42	6.25
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.272	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	1131	-	642	866
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	629	866
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	829	-

Approach	NB	SB	SW
HCM Control Delay, s	0	1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBT	NBR	SBL	SBT	SWLn1
Capacity (veh/h)	-	-	1131	-	683
HCM Lane V/C Ratio	-	-	0.018	-	0.429
HCM Control Delay (s)	-	-	8.2	0	14.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.2

Intersection	
Int Delay, s/veh	1.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	239	7	2	286	9	8	1	10	3	1	1
Future Vol, veh/h	3	239	7	2	286	9	8	1	10	3	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	82	56	42	93	50	44	33	56	25	25	25
Heavy Vehicles, %	33	3	0	0	3	0	0	25	0	0	0	0
Mvmt Flow	9	329	14	5	348	20	21	3	20	14	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	343	0	0	727	732	336	734	729	358
Stage 1	-	-	-	-	-	-	354	354	-	368	368	-
Stage 2	-	-	-	-	-	-	373	378	-	366	361	-
Critical Hdwy	4.43	-	-	4.1	-	-	7.1	6.75	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.75	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.75	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.2	-	-	3.5	4.225	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1039	-	-	1227	-	-	342	322	711	338	352	691
Stage 1	-	-	-	-	-	-	667	592	-	656	625	-
Stage 2	-	-	-	-	-	-	652	577	-	657	629	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1039	-	-	1227	-	-	332	317	711	322	346	691
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	317	-	322	346	-
Stage 1	-	-	-	-	-	-	660	585	-	649	622	-
Stage 2	-	-	-	-	-	-	640	574	-	628	622	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.1	14.2	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	437	1227	-	-	1039	-	- 366
HCM Lane V/C Ratio	0.101	0.004	-	-	0.009	-	- 0.062
HCM Control Delay (s)	14.2	7.9	0	-	8.5	0	- 15.5
HCM Lane LOS	B	A	A	-	A	A	- C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	- 0.2

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	194	23	294	194	23	300
Future Vol, veh/h	194	23	294	194	23	300
Peak Hour Factor	0.84	0.82	0.98	0.85	0.72	0.86
Heavy Vehicles, %	2	9	5	3	4	4
Mvmt Flow	261	32	339	258	36	394
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	18.4	15.8	23.1
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	194	194	23	23	300
LT Vol	0	0	194	0	23	0
Through Vol	294	0	0	0	0	300
RT Vol	0	194	0	23	0	0
Lane Flow Rate	339	258	261	32	36	394
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.603	0.405	0.553	0.057	0.071	0.716
Departure Headway (Hd)	6.408	5.659	7.623	6.521	7.053	6.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	632	472	546	505	548
Service Time	4.185	3.436	5.396	4.293	4.831	4.32
HCM Lane V/C Ratio	0.606	0.408	0.553	0.059	0.071	0.719
HCM Control Delay	18.5	12.3	19.5	9.7	10.4	24.3
HCM Lane LOS	C	B	C	A	B	C
HCM 95th-tile Q	4	2	3.3	0.2	0.2	5.8

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	78	181	2	3	175	183	1	10	5	140	5	54
Future Vol, veh/h	78	181	2	3	175	183	1	10	5	140	5	54
Peak Hour Factor	0.77	0.77	0.33	0.38	0.82	0.72	0.25	0.83	0.63	0.82	0.75	0.83
Heavy Vehicles, %	8	2	0	0	2	2	0	0	0	1	0	1
Mvmt Flow	114	266	7	9	241	287	5	14	9	193	8	74
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	2	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	18.5	12.6	10.2	14.6
HCM LOS	C	B	B	B

Lane	NELn1	NWLn1	NWLn2	SELn1	SWLn1
Vol Left, %	6%	2%	0%	30%	70%
Vol Thru, %	62%	98%	0%	69%	3%
Vol Right, %	31%	0%	100%	1%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	178	183	261	199
LT Vol	1	3	0	78	140
Through Vol	10	175	0	181	5
RT Vol	5	0	183	2	54
Lane Flow Rate	27	250	287	387	274
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.051	0.42	0.427	0.631	0.469
Departure Headway (Hd)	6.717	6.043	5.358	5.869	6.167
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	593	669	615	581
Service Time	4.815	3.801	3.116	3.925	4.23
HCM Lane V/C Ratio	0.051	0.422	0.429	0.629	0.472
HCM Control Delay	10.2	13.1	12.1	18.5	14.6
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	0.2	2.1	2.1	4.4	2.5

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	33	314	302	194	176	30
Future Volume (veh/h)	33	314	302	194	176	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1826	1856	1856	1870	1900
Adj Flow Rate, veh/h	58	373	379	296	276	41
Peak Hour Factor	0.64	0.95	0.90	0.74	0.72	0.83
Percent Heavy Veh, %	0	5	3	3	2	0
Cap, veh/h	451	1066	787	975	349	316
Arrive On Green	0.05	0.58	0.42	0.42	0.20	0.20
Sat Flow, veh/h	1810	1826	1856	1572	1781	1610
Grp Volume(v), veh/h	58	373	379	296	276	41
Grp Sat Flow(s),veh/h/ln	1810	1826	1856	1572	1781	1610
Q Serve(g_s), s	0.8	5.6	7.7	4.6	7.7	1.1
Cycle Q Clear(g_c), s	0.8	5.6	7.7	4.6	7.7	1.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	451	1066	787	975	349	316
V/C Ratio(X)	0.13	0.35	0.48	0.30	0.79	0.13
Avail Cap(c_a), veh/h	525	1066	787	975	614	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	5.7	10.9	4.6	20.0	17.3
Incr Delay (d2), s/veh	0.1	0.9	2.1	0.8	4.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	3.2	2.3	3.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.4	6.6	13.0	5.4	24.0	17.5
LnGrp LOS	A	A	B	A	C	B
Approach Vol, veh/h		431	675		317	
Approach Delay, s/veh		6.7	9.7		23.2	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		36.5		15.7	8.3	28.2
Change Period (Y+Rc), s		6.0		5.5	5.5	6.0
Max Green Setting (Gmax), s		30.5		18.0	5.0	20.0
Max Q Clear Time (g_c+I1), s		7.6		9.7	2.8	9.7
Green Ext Time (p_c), s		2.4		0.6	0.0	2.6

Intersection Summary		
HCM 6th Ctrl Delay		11.8
HCM 6th LOS		B

1: Isett Avenue & Lake Park Boulevard Performance by movement

Movement	NBT	NBR	SBL	SBT	SWL	SWR	All
Denied Del/Veh (s)	0.0	0.1	0.2	0.2	0.2	0.2	0.1
Total Del/Veh (s)	2.1	2.3	4.6	0.4	8.0	6.0	3.7

2: Isett Avenue & Clay Street Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1	0.1	0.0	0.1
Total Del/Veh (s)	7.7	4.1	10.2	6.1	6.7	8.9	8.3

3: Isett Avenue & Bidwell Road Performance by movement

Movement	NBL	NBT	SBT	SBR	SEL	SER	All
Denied Del/Veh (s)	1.1	0.1	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	9.7	7.0	9.6	3.0	18.4	5.2	8.9

4: E 11th Street & Cypress Street & Isett Avenue Performance by movement

Movement	SBL	SBT	SBR	NWL	NWT	NWR	NEL	NER	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Total Del/Veh (s)	2.1	0.6	1.3	1.6	0.1	0.6	11.2	5.3	2.0

5: E 10th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1		0.1
Total Del/Veh (s)	4.7	0.7	0.9	2.8	1.3	1.1	7.4	14.8	4.1	8.7		3.5

5: E 10th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	1.2

6: E 9th Street & Cypress Street Performance by movement

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Denied Del/Veh (s)	0.0	0.0	0.0	3.2	3.5	0.8	0.1	0.1	0.1	0.2	0.2	0.2
Total Del/Veh (s)	7.5	7.4	3.5	5.8	6.9	4.7	7.1	6.6	3.6	6.4	6.8	4.8

6: E 9th Street & Cypress Street Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	6.3

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	17.6

Arterial Level of Service: NB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	17	0.4	17.9	0.1	24
Bidwell Road	3	7.0	31.0	0.2	22
Clay Street	2	10.6	39.3	0.2	19
Lake Park Boulevard	1	2.2	28.5	0.2	24
Total		20.2	116.6	0.7	22

Arterial Level of Service: SB Isett Avenue

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Park Boulevard	1	0.4	25.7	0.2	26
Clay Street	2	8.2	33.4	0.2	20
Bidwell Road	3	9.8	37.0	0.2	20
	17	2.5	32.2	0.2	21
E 11th Street	4	2.1	19.0	0.1	23
Total		23.0	147.3	0.9	22

Arterial Level of Service: NW Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 9th Street	6	6.9	22.2	0.1	17
E 10th Street	5	1.5	10.0	0.1	25
Isett Avenue	4	1.5	11.6	0.1	21
Total		9.9	43.7	0.2	20

Arterial Level of Service: SE Cypress Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
E 10th Street	5	0.5	12.2	0.1	20
E 9th Street	6	7.4	17.0	0.1	14
Total		7.9	29.2	0.1	17

Intersection: 1: Isett Avenue & Lake Park Boulevard

Movement	NB	NB	SB	SW
Directions Served	T	R	LT	LR
Maximum Queue (ft)	4	9	74	104
Average Queue (ft)	0	0	8	54
95th Queue (ft)	3	5	42	89
Link Distance (ft)	924		924	574
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		200		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Isett Avenue & Clay Street

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	96	50	172	93	43	144
Average Queue (ft)	52	19	77	55	20	67
95th Queue (ft)	81	45	126	80	45	112
Link Distance (ft)	617	617	956			924
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				200	200	
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 3: Isett Avenue & Bidwell Road

Movement	NB	NB	SB	SB	SE	SE
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	51	176	172	63	181	49
Average Queue (ft)	19	81	84	25	78	20
95th Queue (ft)	46	147	144	57	140	47
Link Distance (ft)		950	956		635	635
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	350			200		
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 4: E 11th Street & Cypress Street & Isett Avenue

Movement	SB	NW	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	47	86	80
Average Queue (ft)	3	13	38
95th Queue (ft)	23	57	66
Link Distance (ft)	557	286	1058
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: E 10th Street & Cypress Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	6	52	31
Average Queue (ft)	1	0	15	4
95th Queue (ft)	17	4	42	22
Link Distance (ft)	286	303	1065	705
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: E 9th Street & Cypress Street

Movement	SE	NW	NW	NE	SW
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	124	93	91	36	83
Average Queue (ft)	67	45	50	13	46
95th Queue (ft)	107	74	79	38	75
Link Distance (ft)	303		425	1076	675
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130			
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Network Summary

Network wide Queuing Penalty: 1

Appendix D – Potential Funding Source

Traffic Safety Improvement Program (TSIP)

Intent of program
The Traffic Safety Improvement Program provides funding for traffic safety improvements or studies on any public roads under the jurisdiction of a public entity. This may include county roads, city streets, state highways, state park and institutional roads.

Who is eligible to request funding?
Public entities that are responsible for public roads

Qualifications for funding
Eligible projects will fall into one of three categories:

- Site-specific improvements: projects intended to increase traffic safety at a specific site
- Traffic control devices: purchase of materials for installation of new, or replacement of obsolete, traffic control devices such as signs or signals
- Studies and outreach: transportation safety research, studies or initiatives

Type of submittal required
Application forms are available at https://iowadot.gov/traffic/traffic-and-safety-programs/tsip/tsip-program.

Application amount minimum/maximum
Site-specific project funding cannot exceed $500,000 per project.

Application deadline
August 15 is the deadline for all types of projects.

Special project requirements
Refer to the Iowa Administrative Code, Sec. 761, Chapter 164.

Type of approval required
Applications are reviewed by an internal/external committee of representatives from cities, counties and the Iowa DOT. Recommendations are then made to the Iowa Transportation Commission, which then approves funding of specific projects.

- Site-specific projects are evaluated by the demonstrated relationship of the project to traffic safety, benefit/cost ratio analysis, the annual funding level, and other criteria.
- Funding for traffic control devices is awarded on the basis of safety benefits of eligible applications, the annual funding level, and other criteria.
- Funding for research, studies and public information initiatives is awarded on the basis of safety research needs, impact on safety, the annual funding level, and other criteria.

Average length of time for acceptance decision
Applications due: August 15
Iowa Transportation Commission decision: usually by December
Funding available: July 1of the following year.

Program's annual funding level
The program's annual funding level is one-half percent of Iowa's Road Use Tax Fund (approximately $7 million per year). New funding for ~~all~~ traffic control device projects cannot exceed $500,000 annually. New funding for ~~all~~ research, studies, and public information initiatives cannot exceed $500,000 annually.

More information/applications
Iowa Department of Transportation
Traffic and Safety Bureau
800 Lincoln Way
Ames, Iowa 50010
515-239-1216
https://iowadot.gov/traffic/traffic-and-safety-programs/tsip/tsip-program.