

Appendix A: Dubuque MPO Sites

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Intersections

Overview

This section provides a review of sites identified as candidates for safety improvements in the Cities of Asbury, Dubuque and Peosta based on having High (≥ 0.25) KAB PCR values (Dubuque) or KABCO (≥ 1.0) values (Asbury and Peosta). [Note: KABCO is defined as K = fatal, A = Incapacitating injury, B = minor injury, C = possible injury, O = property damage only.] Based on the crash trends and existing features of these sites, potential safety countermeasures have been identified that can serve as a starting point for pursuing improvements. While not numbered within the text, the locations are presented in order from highest rated site to lowest. Additional sites throughout the City of Dubuque that have Medium KAB PCR values ($0.05 < 0.25$), or those that have High (≥ 1.0) and Medium ($0.20 < 1.0$) PCR values for KABCO crashes are presented in a supplementary appendix to this plan.

The data sources utilized to conduct network screening and identify site characteristics included:

- Potential for Crash Reduction (PCR) Tool: The Iowa Department of Transportation's (Iowa DOT) PCR Tool is an interactive platform designed to evaluate and compare the safety performance of intersections across the state. By categorizing intersections based on characteristics such as traffic volume and speed limits, the tool helps identify locations where targeted safety interventions can effectively reduce crashes. Locations identified as having High and Medium PCR thresholds for KAB and KABCO crashes were selected as sites where possible safety countermeasures and projects could be identified.
- The Iowa Crash Analysis Tool (ICAT): ICAT, developed by the Iowa Department of Transportation, was utilized to assess safety at specific intersections for the years 2018-2022. Detailed crash reports and collision diagrams generated through ICAT provided critical insights into crash characteristics, contributing factors, and patterns at these sites. This data facilitated a comprehensive safety analysis, enabling the identification of key issues and informing the selection of appropriate safety countermeasures to address identified risks effectively.
- Google Street View: A feature of Google Maps that allows users to view 360-degree panoramic images of streets and other locations around the world, it was used to visually assess road characteristics at intersection sites, including speed limits, control types, signal phasing, lane configurations, roadway elements, marking and signage.
- Roadway Asset Management System (RAMS) data: RAMS is a Linear Reference System (LRS) enabled database used to store roadway data for all public roads in Iowa. This data includes traffic, roadway geometrics, pavement condition, structure and public rail crossing inventory data for every public roadway in the state.

- Intersection Crash data: A GIS file containing geographic and demographic information, traffic and infrastructure data, crash data and prediction model results.
- Speed (non)compliance dashboard: This dashboard is a tool designed to monitor and analyze vehicle speed compliance within a specific area or jurisdiction. It provides visual representations of data related to vehicle speeds, highlighting instances of compliance and non-compliance with established speed limits. Note that the data comes from a limited sample size of vehicles whose telemetry data is being reported, and the results should be viewed accordingly. Still, this data source provides a useful point of reference as to what speed trends may be at a site.

Based on the network screening performed, a total of 13 intersections were identified as falling into the High KAB PCR category within Dubuque, while another five intersection in Asbury and Peosta were identified based on KABCO values. These are reviewed in the remainder of this section. These sites represent the locations with the greatest potential for safety improvements to reduce crashes in each respective city.

Asbury

Asbury Road and Seippel Road

This site is a Four-legged, Undivided, Low Speed, Partial Stop Control intersection ([Google Map Link](#)). It has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The area surrounding the intersection is undeveloped, although residential areas are located nearby, and the pavement surface and delineation are in good condition, ensuring clear visibility of the roadway.

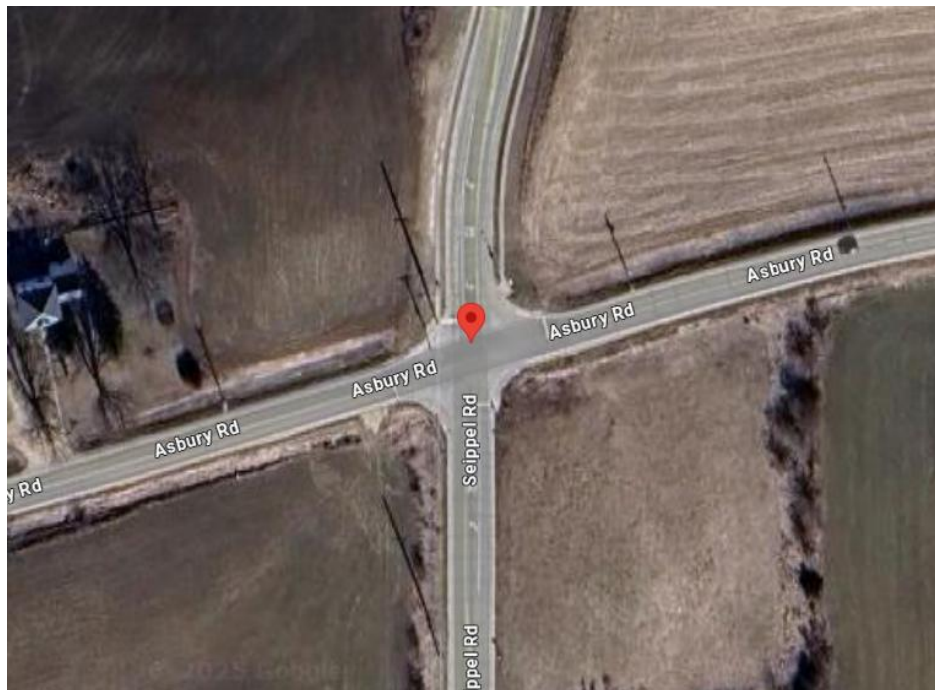


Figure 1: Intersection of Asbury Road and Seippel Road

Crash Summary

Crash data indicate that a total of 17 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and fifteen CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for the majority of crashes. Additionally, angle crashes (oncoming left turn) and rear-end collisions were also reported.

The primary contributing factor to KAB crashes is failure to yield right-of-way (FTYROW) at stop signs, which led to broadside crashes at the intersection. [It is noted that this crash pattern has been addressed in recent years with the conversion of the intersection to all way stop control early 2023.] Other contributing factors include running a stop sign, driver distraction, exceeding the authorized speed limit, improper turning movements, following too closely, etc.

The KAB Annual PCR for the intersection is 0.107166, indicating a medium severity level, while the KABCO Annual PCR is 1.707839, which is considered high. Based on statewide rankings, this intersection is ranked 825th for KAB crashes and 625th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Convert existing stop signs to oversized (Low)
- Reflective post strips could be added to all stop sign posts for increased conspicuity (Low)
- Install intersection ahead signs (Low)
- Install flashing beacons or metal pennants in conjunction with the stop signs (Low)

Asbury Road and Hales Mill Road

This site is a Three-legged, Undivided, Low Speed, Partial Stop Controlled intersection ([Google Map Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential safety countermeasures. The surrounding area is predominantly residential, and the intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the road pavement is in good condition. However, there are no marked crosswalks, which may impact pedestrian safety.



Figure 2: Intersection of Asbury Road and Hales Mill Road

Crash Summary

Crash data indicate that a total of 10 crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and nine CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for the majority of crashes. Additionally, angle crashes (oncoming left turn), rear-end collisions, and sideswipe crashes in opposite direction were also reported, indicating issues with right-of-way compliance, and driver attentiveness.

The primary contributing factor to KABCO crashes at this intersection is failure to yield right-of-way (FTYROW) from stop signs, which has led to multiple broadside collisions. Other major contributing factors include driver distraction, failure to yield when making left turns, driving too fast for conditions, improper turning movements, and operating a vehicle in an unsafe manner. The KAB Annual PCR for this intersection is 0.011071, indicating a low severity level, while the KABCO Annual PCR is 0.659642, which is considered medium. Based on statewide rankings, this intersection is ranked 5602nd for KAB crashes and 1821st for KABCO crashes out of 115,274 intersections statewide, signifying that while severe crashes are low, the overall frequency of crashes is a concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Continue through with the construction of the proposed roundabout for this location (High)
- Provide red pennant flags on stop signs (Low)
- Provide a stop bar on minor road approaches (Low)
- Install flashing beacons on the stop signs (Low)
- Provide all-way stop control (Low)

Asbury Road and Radford Road

This site is a Three-legged, Undivided, Low Speed, Partial Stop Controlled intersection ([Google Map Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential safety countermeasures. The surrounding area is a mix of commercial and residential properties, and the intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the road pavement is in good condition. Additionally, marked crosswalks are provided for pedestrian facilities, but they are only present on two approaches, potentially limiting safe pedestrian movements.

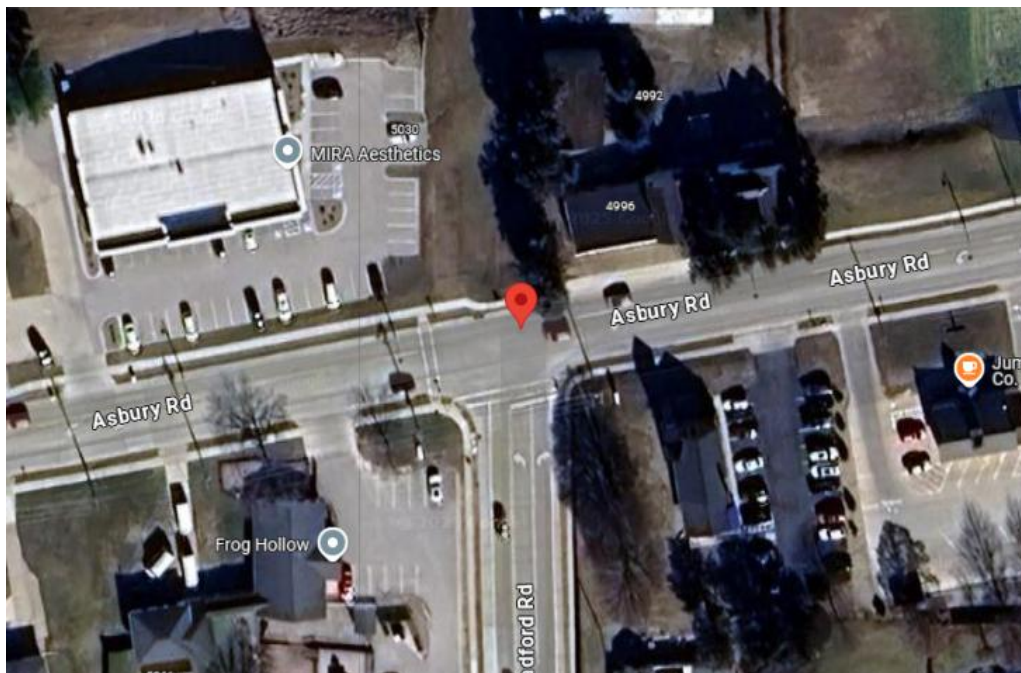


Figure 3: Intersection of Asbury Road and Radford Road

Crash Summary

Crash reports indicate that a total of 12 crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and eleven CO crashes. The predominant manner of collision is rear-end (50%), accounting for most of the crashes at this location. Additionally, broadside (front-to-side), angle (oncoming left turn), sideswipe (same direction), and single-vehicle crashes were also reported.

The primary contributing factor to KABCO crashes at this intersection is following too closely, which has led to multiple rear-end collisions. Other major contributing factors include driver distraction, failure to yield right-of-way (FTYROW) from stop signs, failure to yield when making left turns, improper turning movements, and loss of vehicle control. The KAB Annual PCR for this intersection is 0.006014, indicating a low severity level, while the KABCO Annual PCR is 0.595867, which is considered medium. Based on statewide rankings, this intersection is ranked 6893rd for KAB crashes and 2017th for KABCO crashes out of 115,274 intersections statewide, signifying that while severe crashes are low, the overall frequency of crashes remains a concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide all-way stop control (Low)
- Provide red pennant flags on stop signs (Low)
- Install flashing beacons on stop signs (Low)
- Install rectangular rapid flashing beacon (RRFB) if pedestrian crossings are moved to mid-block (Moderate)
- Install bicycle sign to enhance facilities for cyclists. (Low)

General Safety

In addition to the locations identified through data analysis, the city offered input during a safety plan meeting. The following text provides an overview of the concerns expressed and possible safety projects that may be considered.

A review of data for the city identified the intersection of Saratoga Road and Radford Road as a site that had experienced a number of speed-related and sideswipe crashes. Feedback from the city indicated that this intersection is shared with the City of Dubuque. Located just southwest of the intersection is a middle and elementary school complex. This produces significant traffic during the morning and afternoon arrival and dismissal time periods. There is also a private school located in the northwest corner of the intersection. The speed limit during school hours on Radford Road is 25 mph. Many parents pick up their children along Saratoga Road on both sides of the street. The result is that the roadway becomes a one lane facility at dismissal time. A similar trend occurs on an outlet road near Roosevelt Middle School. Possible treatments to consider in the area include:

- Develop plans to stage parental pick up locations and implement parking restrictions on one side of Saratoga Road and the outlet near Roosevelt Middle School to better manage dismissal pick up activities (Low)

The city indicated that many of the planned improvements are for the construction of pedestrian facilities. These should be pursued city-wide as funding allows.

- The addition of sidewalks should be pursued along Springgreen Drive between Asbury Road and Hales Mill Road. At present, only a portion of sidewalk is present on the north and south ends of this corridor (Medium/High)

Dubuque

Bluff Street and West 9th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has the highest KAB PCR level out of 115,274 intersections statewide, indicating the need for immediate attention and potential safety countermeasures. The surrounding area is predominantly commercial. The intersection has well defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The road delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals **are present**, enhancing pedestrian safety.

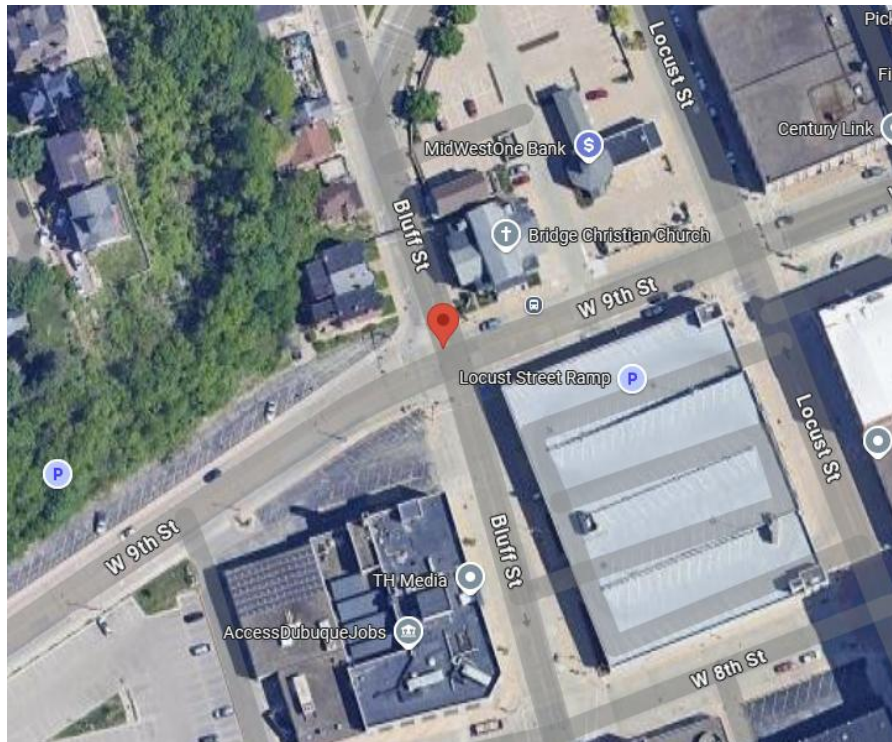


Figure 4: Intersection of Bluff Street and West 9th Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 54 crashes have occurred at this intersection over a five-year period (2018-2022), including eight KAB crashes and forty-six CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for most of the KAB crashes (87.5%). Other reported crash types include rear-end, sideswipe (same direction), and angle (oncoming left turn) collisions, suggesting a mix of signal violations.

The primary contributing factor to KAB crashes at this intersection is running a traffic signal, which accounts for the majority of severe crashes (79.63%). Additional contributing factors include loss of control, failure to signal, following too closely, and failure to yield right-of-way (FTYROW) while making a left turn. The KAB Annual PCR for this intersection is 0.791382, making it a high-severity location. Based on statewide rankings, this intersection is ranked 39th for KAB crashes and 46th for KABCO crashes out of 115,274 intersections, highlighting its critical safety concerns.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize signal timing clearance (Low)
- All Red-interval optimization (Low)
- Add retroreflective backplate borders to signal heads (Low)

Kennedy Road and Pennsylvania Avenue

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in an urban area, and the surrounding environment is predominantly commercial. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The roadway delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals are present, providing pedestrian safety facilities.

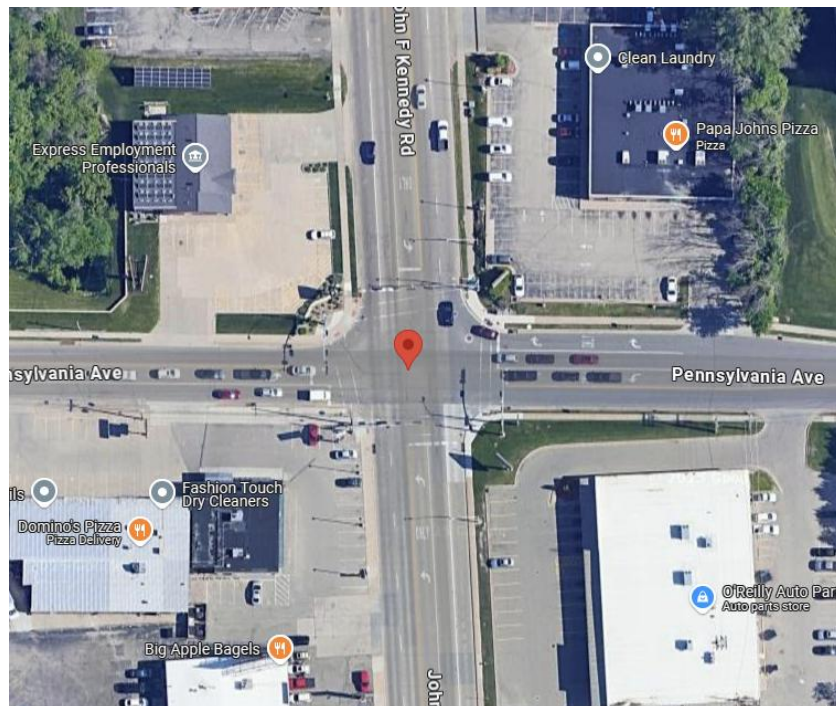


Figure 5: Intersection of Kennedy Road and Pennsylvania Avenue (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 59 crashes have occurred at this intersection over a five-year period (2018-2022), including eight KAB crashes and fifty-one CO crashes. The predominant manner of collision is broadside (37.29%), accounting for the majority of KAB crashes. Other reported crash types include rear-end, angle (oncoming left turn), and head-on collisions, indicating a mix of turning conflicts, and signal violations.

The primary contributing factors to KAB crashes at this intersection included failure to yield right-of-way while making a left turn, running a traffic signal, failure to yield right-of-way from a driveway, and following too closely. The KAB Annual PCR for this intersection is 0.538382, while the KABCO Annual PCR is 2.101679, indicating a high crash frequency. Based on statewide rankings, this site is ranked 91st for KAB crashes and 467th for KABCO crashes out of 115,274 intersections statewide, making it a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate driveway consolidation (High)
- Review all-red interval length and modify if needed (Low)
- Reconfigure signal head orientation to optimize visibility and standardization (Medium)

Central Avenue and East 20th Street

This site is a three-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in an urban area, where Central Avenue operates as a one-way roadway with a speed limit of 25 mph, while East 20th Street is a two-way roadway with a speed limit of 30 mph. Speeding is not a significant issue, as only a very small percentage of vehicles exceed the speed limit by more than 10 mph. The surrounding area is predominantly commercial. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals are present, providing facilities for pedestrian safety.



Figure 6: Intersection of Central Avenue and East 20th Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 27 crashes have occurred at this intersection over a five-year period (2018-2022), including six KAB crashes and twenty-one CO crashes. The predominant manner of KAB collision is single-vehicle (non-collision), accounting for the majority of severe crashes. Other reported crash types include broadside, rear-end, sideswipe (same direction), and angle (oncoming left turn) collisions, indicating a mix of driver control issues, turning conflicts, and intersection-related crashes.

The primary contributing factors to KAB crashes at this intersection include improper turning movements, driver distraction, and loss of control. Among these six KAB crashes, two involved pedestrians, highlighting the need for enhanced pedestrian safety measures. The KAB Annual PCR for this intersection is 0.527477, while the KABCO Annual PCR is 2.333091, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 93rd for KAB crashes and 397th for KABCO crashes out of 115,274 intersections statewide, making it a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install blinking pedestrian crossing sign (Low)
- Install No U-turn sign (Low)

- Install lane assignment pavement markings on the southbound approach (Low)
- Relocate the utility poles from the intersection approaches (High)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Northwest Arterial and Plaza Drive

This site is a four-legged, divided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential safety countermeasures. A significant concern at this location is excessive speeding, as approximately 53% of vehicles exceed the speed limit by more than 10 mph+ on Northwest Arterial based on available data. The surrounding area is predominantly commercial. The intersection has well-defined curbs on minor roads; there are no curb ramps or sidewalks, but a bike trail does run parallel to the Northwest Arterial. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. There are no marked crosswalks providing facilities for pedestrian safety.

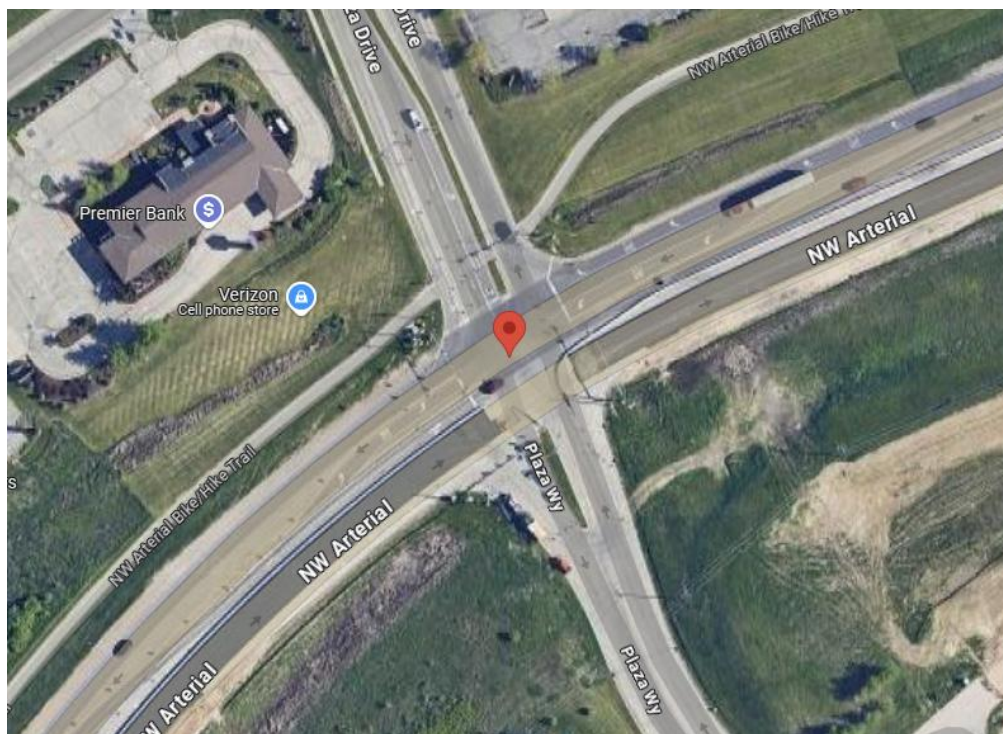


Figure 7: Intersection of Northwest Arterial and Plaza Drive (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 18 crashes have occurred at this intersection over a five-year period (2018-2022), including six KAB crashes and twelve CO crashes. The predominant manner of collision is broadside (50%), which accounts for the majority of severe crashes. Other reported crash types include angle (oncoming left turn), rear-end, and sideswipe (same direction) collisions, suggesting turning conflicts, signal violations, and aggressive driving.

The primary contributing factors to KAB crashes at this intersection include running a traffic signal and failure to yield right-of-way (FTYROW) while making a left turn. Additionally, reckless driving behaviors have been identified as contributing factors to crash occurrences at this location. The KAB Annual PCR for this intersection is 0.459806, while the KABCO Annual PCR is 1.746321, indicating a high crash frequency. Based on statewide rankings, this site is ranked 119th for KAB crashes and 607th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bar on minor road approaches (Low)
- Install intersection ahead warning signs and enhance with flashing beacons (Low)
- Review all red clearance interval and adjust if needed (Low)
- Add left-turn and right-turn lane assignment markings on the pavement on northbound approach (moderate)
- Investigate addition of pedestrian features, such as crosswalks and signals, if needed (Low/Moderate)

East 20th Street and Jackson Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The surrounding area is predominantly commercial. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals are present, providing facilities for pedestrian safety.

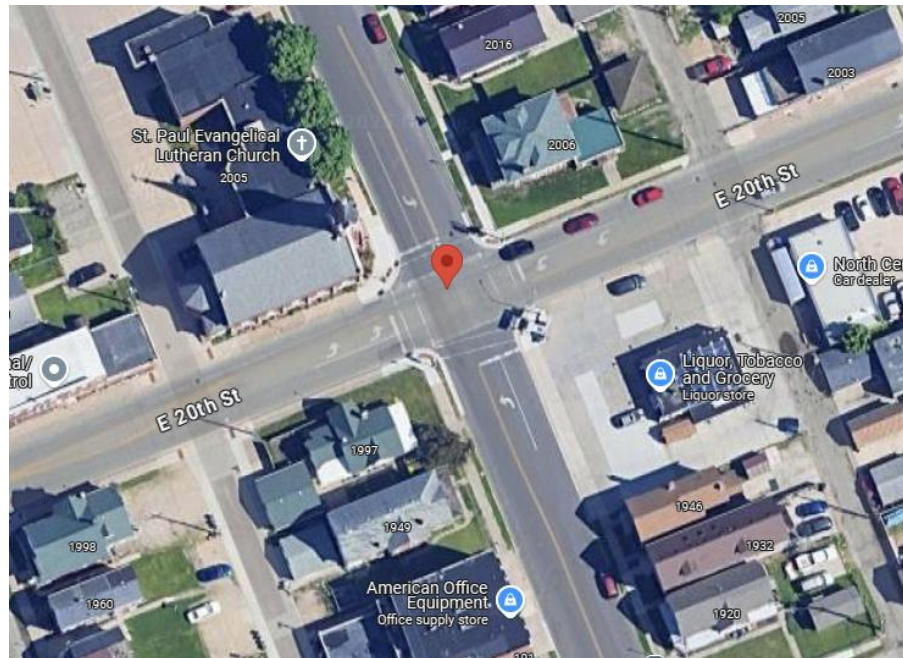


Figure 8: Intersection of East 20th Street and Jackson Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 27 crashes have occurred at this intersection over a five-year period (2018-2022), including five KAB crashes and twenty-two CO crashes. The crashes are varied in type, with two KAB crashes being broadside, while the others involve rear-end, sideswipe (same direction), and head-on collisions. This suggests a mix of turning conflicts, signal violations, and driver misjudgments.

The primary contributing factors to KAB crashes at this intersection include running traffic signals, left turns, loss of control, reckless driving, and other driver-related errors. A significant number of bicycle-related crashes have also been reported at this location, indicating a need for improved cyclist safety measures. The KAB Annual PCR for this intersection is 0.418294, while the KABCO Annual PCR is 2.327288, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 140th for KAB crashes and 400th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install bicycle signage and pavement marking on roads. Signage can be enhanced with LED lighting to increase nighttime conspicuity (Low)
- Improve bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)
- Consider multiphase signal timing (Low)

- Relocate the utility pole on westbound approach (Moderate)

US 20/Dodge Street and Wacker Drive

This site four-legged, divided, moderate speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in an urban area, and the surrounding land use is predominantly commercial. The intersection has well-defined curbs on minor roads; there are no curb ramps or sidewalks. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. There are no marked crosswalk facilities for pedestrian safety.

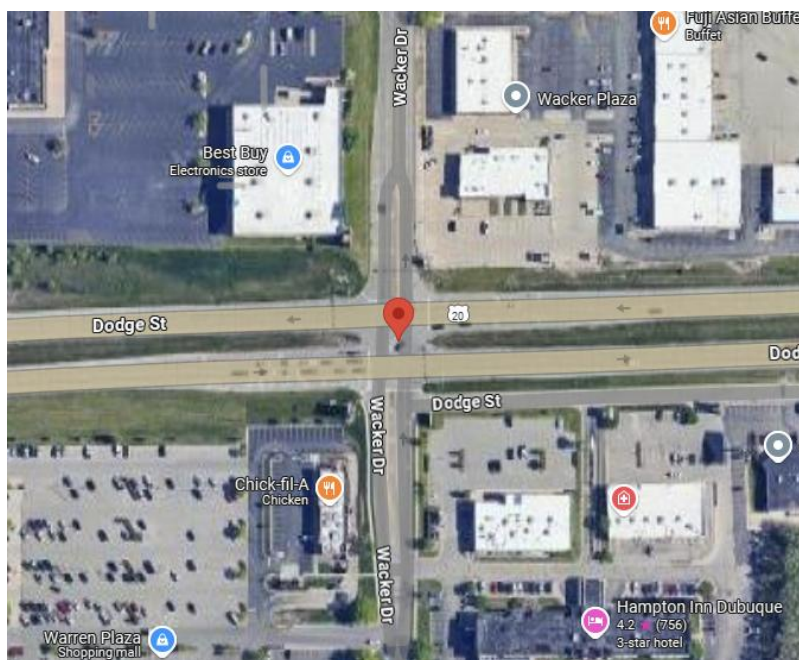


Figure 9: Intersection of US 20/Dodge Street and Wacker Drive (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 84 crashes have occurred at this intersection over a five-year period (2018-2022), including nine KAB crashes and seventy-five CO crashes. The crash types at this intersection vary, with KAB crashes involving rear-end, broadside, angle, head-on, and non-collision incidents. The majority of KAB crashes (55.56%) were broadside collisions, indicating significant risks associated with right-of-way violations and traffic signal compliance issues.

The primary contributing factor to KAB crashes at this intersection is running traffic signals, leading to high-severity crashes. For KABCO crashes, the predominant causes are loss of control, running traffic signals, following too close, and failing to yield right-of-way while making left turn. The KAB Annual PCR for this intersection is 0.413412, while the KABCO Annual PCR is 6.034437, indicating a high crash frequency. Based on statewide rankings, this

intersection is ranked 145th for KAB crashes and 68th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install retroreflective traffic signal backplates (Low)
- Flashing Yellow Arrow for left turn movements (Low)
- Determine if offset left turn lanes on US 20 are feasible and construct (High)

East 14th Street and Elm Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The land use surrounding the intersection is mixed, with residential homes in the northwest quadrant and commercial areas in the remaining quadrants. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. There are no marked crosswalks present.

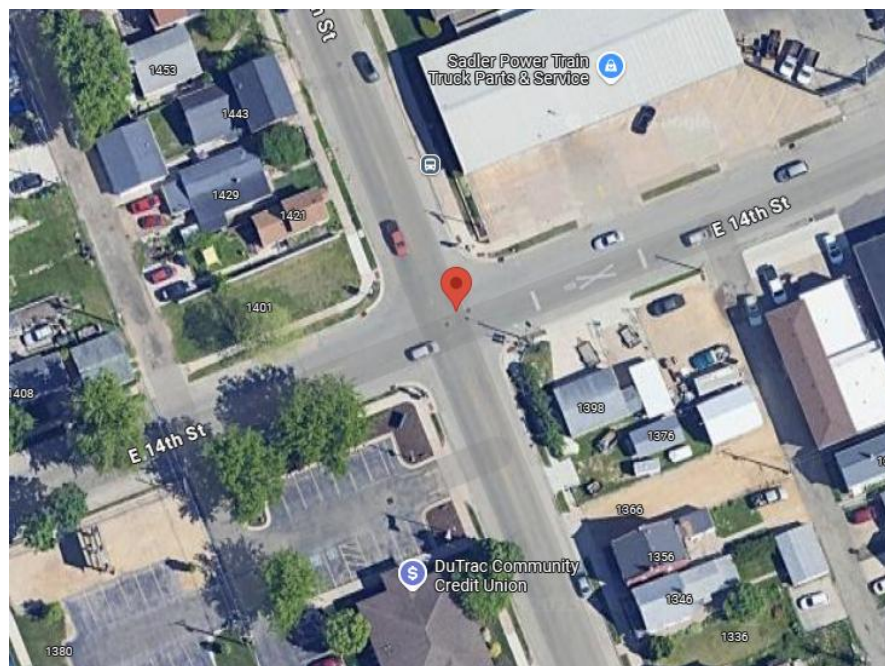


Figure 10: Intersection of East 14th Street and Elm Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 29 crashes have occurred at this intersection over a five-year period (2018-2022), including five KAB crashes and twenty-four CO crashes. The majority of both KAB and CO crashes are broadside collisions (75.86%), indicating significant risks

associated with right-of-way violations and traffic signal compliance issues. Other crash types include rear-end, sideswipe (same direction), and non-collision (single-vehicle) incidents.

The primary contributing factor to KAB crashes at this intersection is signalized and higher speed, leading to high-severity crashes. Additionally, this intersection has experienced non-motorist crashes, suggesting potential risks for pedestrians and cyclists. The KAB Annual PCR for this intersection is 0.413031, while the KABCO Annual PCR is 2.999092, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 146th for KAB crashes and 279th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on intersection approaches (Low)
- Provide marked crosswalks (Low)
- Install pedestrian and bicycle signage and enhance these with LED lights (Low)
- Improve bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)
- Provide a stop bar on the minor road approaches (Low)
- Move the railroad crossing sign to enhance visibility on the northbound approach, ensuring that drivers making a right turn are aware of the railroad crossing ahead (Low)
- Provide left-turn lanes at intersection (Moderate)

Central Avenue and 14th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The surrounding area is predominantly commercial. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals are present, providing facilities for pedestrian safety.

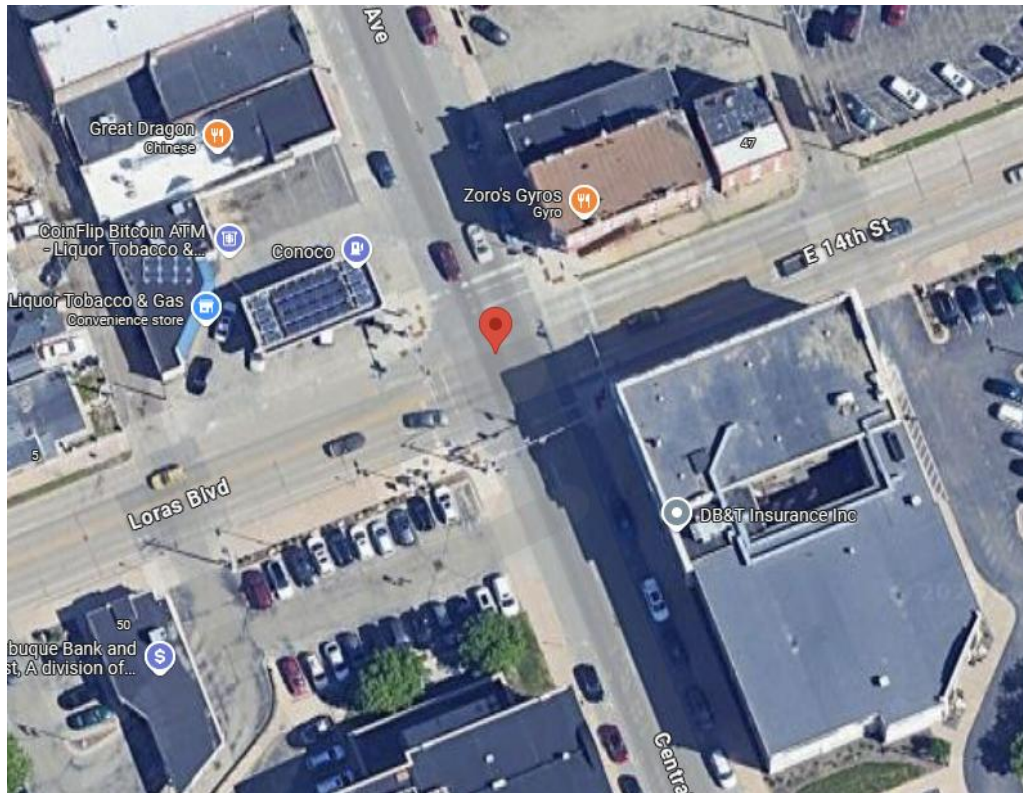


Figure 11: Intersection of Central Avenue and 14th Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 40 crashes have occurred at this intersection over a five-year period (2018-2022), including five KAB crashes and thirty-five CO crashes. The crash types at this intersection vary, with KAB crashes involving broadside (40%), non-collision (20%), and angle (20%) collisions. The majority of KAB and CO crashes are caused by running traffic signals, indicating a significant compliance issue.

The primary contributing factors to KAB crashes at this intersection include running traffic signals, failure to yield right-of-way while making a left turn, and pedestrian-related crashes. The KAB Annual PCR for this intersection is 0.409631, while the KABCO Annual PCR is 3.888649, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 149th for KAB crashes and 181st for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on intersection approaches on SB approach (Low)
- Install pedestrian crossing signage (Low)
- Provide left-turn channelization on SB approach (Moderate)

- Improve visibility of the intersection by providing lighting (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

East 9th Street and White Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. Speeding is not a major concern, as data indicated that only a small percentage of vehicles exceed the speed limit by more than 10 mph. The surrounding area is predominantly commercial. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection. The delineation and pavement are in good condition. Additionally, marked crosswalks and pedestrian signals are present, providing for pedestrian safety.

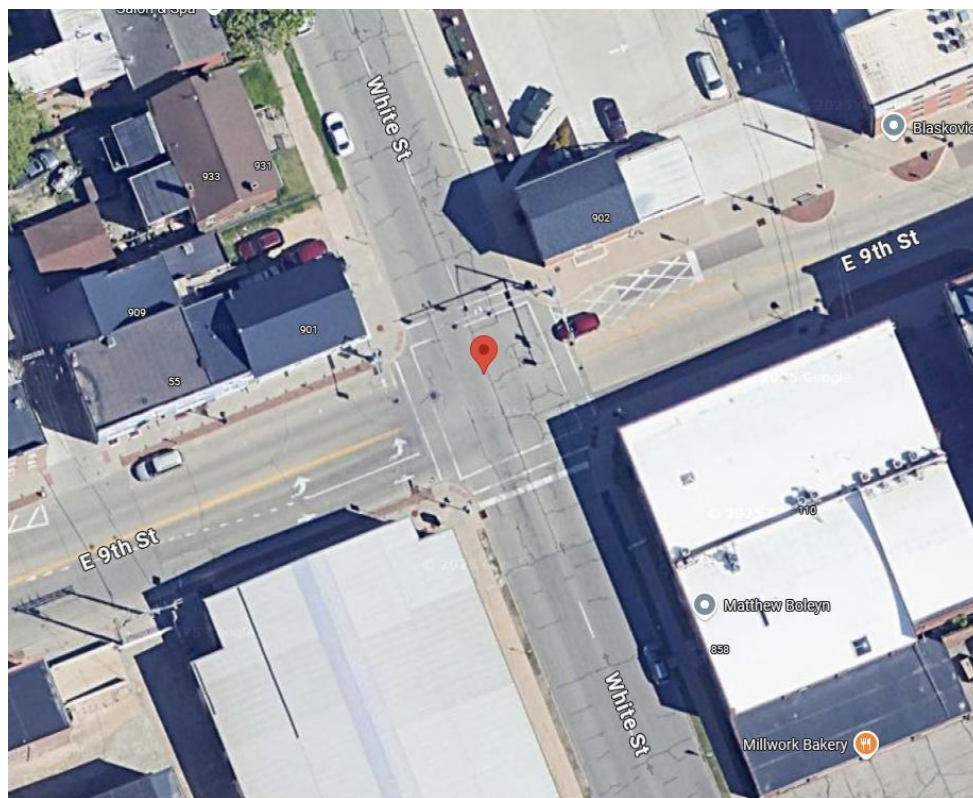


Figure 12: Intersection of East 9th Street and White Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 18 crashes have occurred at this intersection over a five-year period (2018-2022), including four KAB crashes and fourteen CO crashes. The majority of both KAB and CO crashes are broadside collisions (55.56%), suggesting significant risks associated with right-of-way violations and traffic signal compliance issues. Other crash types include non-collision (single-vehicle), rear-end, sideswipe (same direction), and angle (oncoming left turn) crashes.

The primary contributing factor to KAB crashes at this intersection is running traffic signals, which is the same for CO, leading to multiple broadside collisions. Other contributing factors are loss of control, making improper turns, failure to yield right-of-way while making left turn, failure to yield right-of-way to pedestrian, and improper or erratic lane departure. The KAB Annual PCR for this intersection is 0.302398, while the KABCO Annual PCR is 1.233488, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 239th for KAB crashes and 934th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Improve visibility of the intersection by providing lighting (Moderate)
- Install night-time flash with steady operation (Low)
- Relocate the utility poles near intersection approaches (Moderate)
- Install pedestrian crossing signage (Low)
- Install lane directional signage (Low)
- Install sign ahead signage (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Fengler Street and Kerper Boulevard

This site is a three-legged, divided, low speed, signalized intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The surrounding area is predominantly industrial. The intersection has well-defined curbs, however, curb ramps and sidewalks are only on minor roads. Overhead lighting is present at the intersection. The pavement is in good condition. There are no marked crosswalks present.

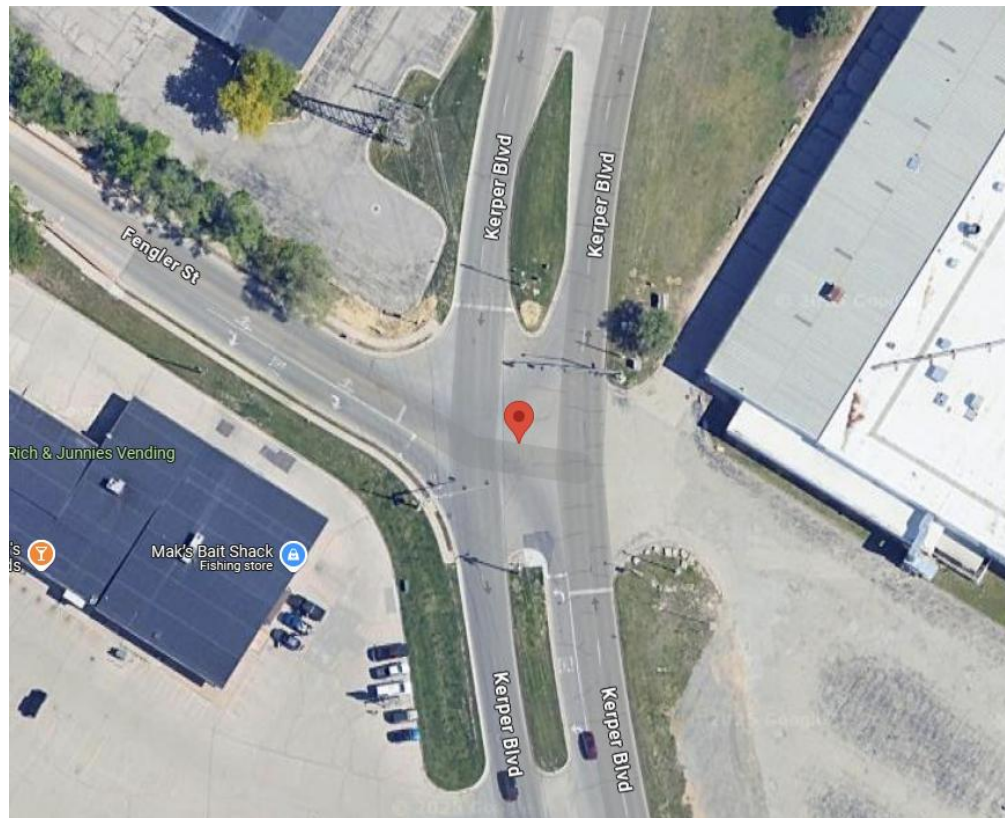


Figure 13: Intersection of Fengler Street and Kerper Boulevard (Image: Google Maps)

Crash Summary

Crash reports indicate that 18 crashes have occurred at this intersection over a five-year period (2018-2022), including four KAB crashes and fourteen CO crashes. The majority of both KAB and CO crashes are angle, broadside, head-on, rear-end, and sideswipe (both same and opposite direction) crashes. The primary contributing factor to crashes at this intersection are failure to yield right-of-way while making a left turn, improper turns, failure to yield right-of-way from driveway, erratic lane changes, and loss of control. The KAB Annual PCR for this intersection is 0.299581, while the KABCO Annual PCR is 1.54081, indicating a high crash frequency. Based on statewide rankings, this intersection is ranked 248th for KAB crashes and 713th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install protected only left-turn phasing on the northbound approach (Moderate)
- Perform a sight distance study (Low)
- Correct sight distance blockages if possible (Moderate/High)

Kennedy Road and Kaufmann Avenue

This site is a four-legged, undivided, low speed, partially stop-controlled intersection ([Google Map Link](#)). It has a higher PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The surrounding area is predominantly residential. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. There are no marked crosswalks present.

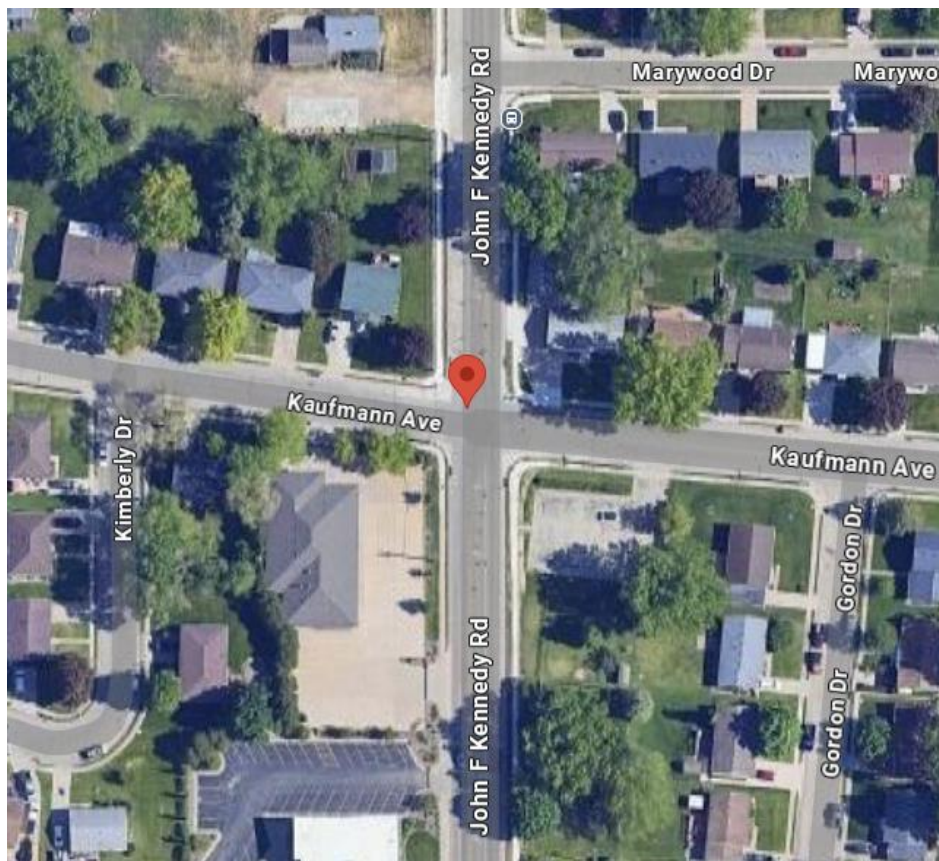


Figure 14: Intersection of Kennedy Road and Kaufmann Avenue (Image: Google Maps)

Crash Summary

Crash reports indicate that 26 crashes have occurred at this intersection over a five-year period (2018-2022), including four KAB crashes and 22 CO crashes. The majority of both KAB and CO crashes are broadside collisions, suggesting significant risks associated with right-of-way violations and stop sign compliance issues. Other crash types include rear-end, angle (oncoming left turn), head-on (front-to-front), and non-collision (single-vehicle) crashes. The primary contributing factors to crashes include running stop signs, making left turns, and failing to yield right-of-way from stop signs. The KAB Annual PCR for this intersection is 0.294301, while the KABCO Annual PCR is 2.957828, indicating a high crash frequency. Based on rankings, this intersection is ranked 264th for KAB crashes and 284th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on minor road approaches (Low)
- Install pedestrian crossing signage (Low)
- Provide marked crosswalks (Low)
- Install a Rapid Rectangular Flashing Beacon for pedestrians on primary roadway (Moderate)
- Install pennants to increase stop sign conspicuity (Low)
- Provide channelized left-turn lanes on east and west approaches (Moderate)
- Convert the intersection to a roundabout (High)

East 5th Street and White Street

This site has a high PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop-controlled intersection located in an commercial area ([Google Map Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection, and the pavement is in good condition. There are no marked crosswalks present.

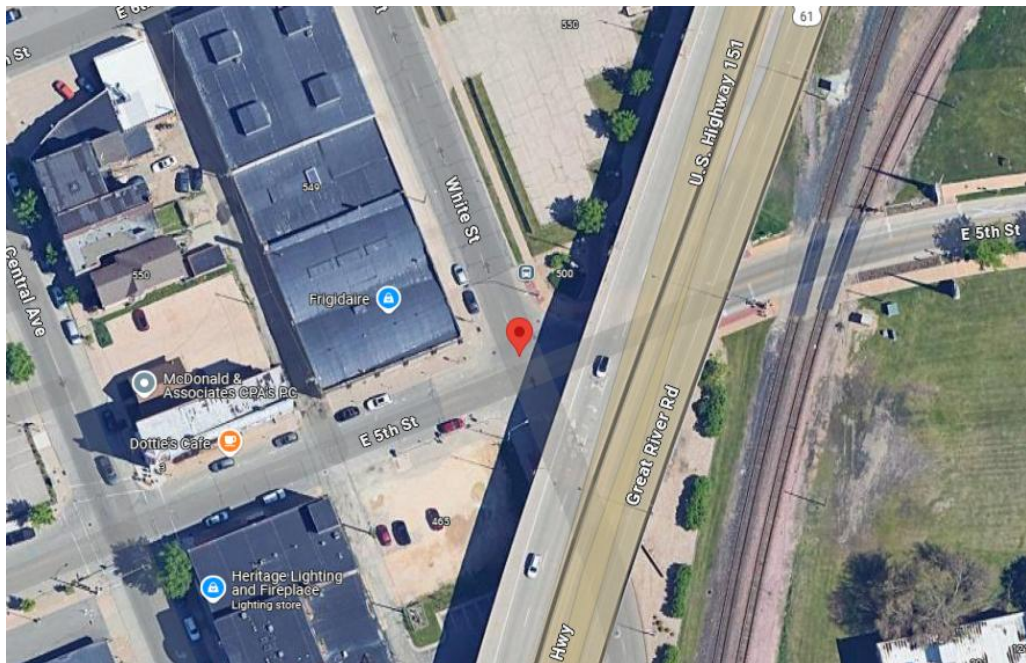


Figure 15: Intersection of East 5th Street and White Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 28 crashes have occurred at this intersection over a five-year period (2018-2022), including four KAB crashes and 24 CO crashes. The data shows that two of the KAB crashes are broadside, while the other two are non-collision. The predominant manner

of collision for KABCO crashes is broadside (53.57%), followed by rear-end (10.71%), head-on (10.71%), angle-oncoming left turn (7.14%), sideswipe same direction (3.57%), and non-collision crashes (3.57%).

The primary contributing factors to KAB crashes are running the stop sign, failure to yield right-of-way from stop signs, improper backing, improper turns, and failure to yield right-of-way to pedestrian. The KAB Annual PCR for the intersection is 0.290421, indicating a high severity level, while the KABCO Annual PCR is 3.370855, which is also considered high. Based on rankings, this intersection is ranked 274th for KAB crashes and 234th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on intersection approaches (Low)
- Install pedestrian and bicycle warning signage (Low)
- Install a rectangular rapid flashing beacon for pedestrian crossing (Moderate)
- Improve pedestrian and bicycle facilities (Moderate)
- Provide marked crosswalks (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Central Avenue and 17th Street

This site has a high PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, signalized intersection located in a commercial area ([Google Map Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection. The pavement is in good condition. Additionally, there are marked crosswalks and pedestrian signals, providing facilities for pedestrian safety.

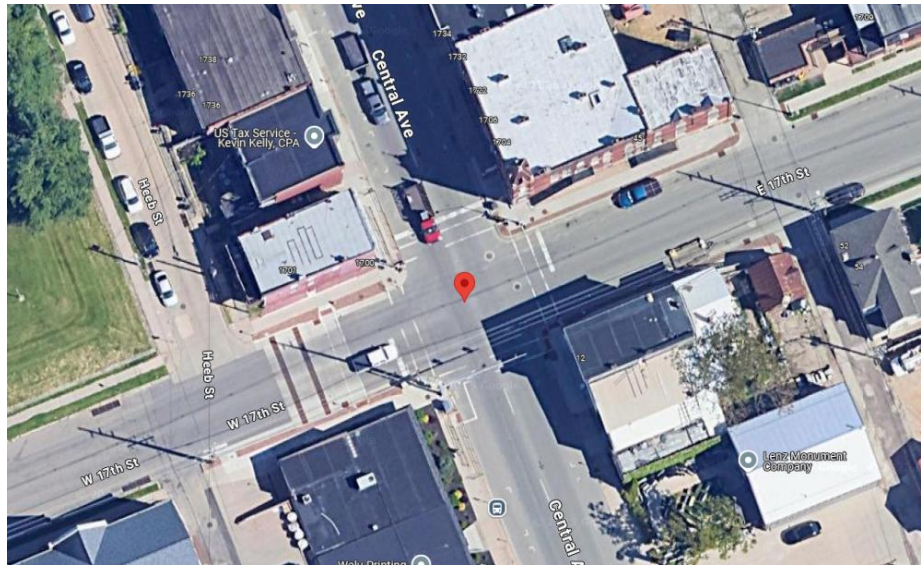


Figure 16: Intersection of Central Avenue and 17th Street (Image: Google Maps)

Crash Summary

Crash reports indicate that a total of 35 crashes have occurred at this intersection over a five-year period (2018-2022), including four KAB crashes and thirty-one CO crashes. The data shows that two of the KAB collisions are broadside, while the other two are non-collision. The predominant manner of collision for KABCO crashes is broadside (42.86%), followed by rear-end (28.57%), non-collision (11.43%), sideswipe (11.43%), and angle-oncoming left turn (5.71%).

The primary contributing factors to the crashes at this intersection include ran traffic signal (34.29%), loss of control (17.14%), improper turns (11.43%), driver distraction, and run off the road right. The KAB Annual PCR for the intersection is 0.280017, indicating a high severity level, while the KABCO Annual PCR is 4.557126, which is also considered high. Based on rankings, this intersection is ranked 297th for KAB crashes and 137th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install pedestrian and bicycle warning signage (Low)
- Improve pedestrian and bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)
- Restrict or eliminate parking on approaches (Low)
- Provide left-turn channelization on east approach (High)
- Relocate hazardous roadside objects from the west approach (High)

Great River Road and Maquoketa Drive

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, divided, low speed, signalized intersection located in an urban area ([Google Maps Link](#)). The surrounding area is predominantly residential land use, with some commercial uses also present. The intersection lacks well-defined curbs in some places, and it does not have any curb ramps or sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. There are no marked crosswalks present.

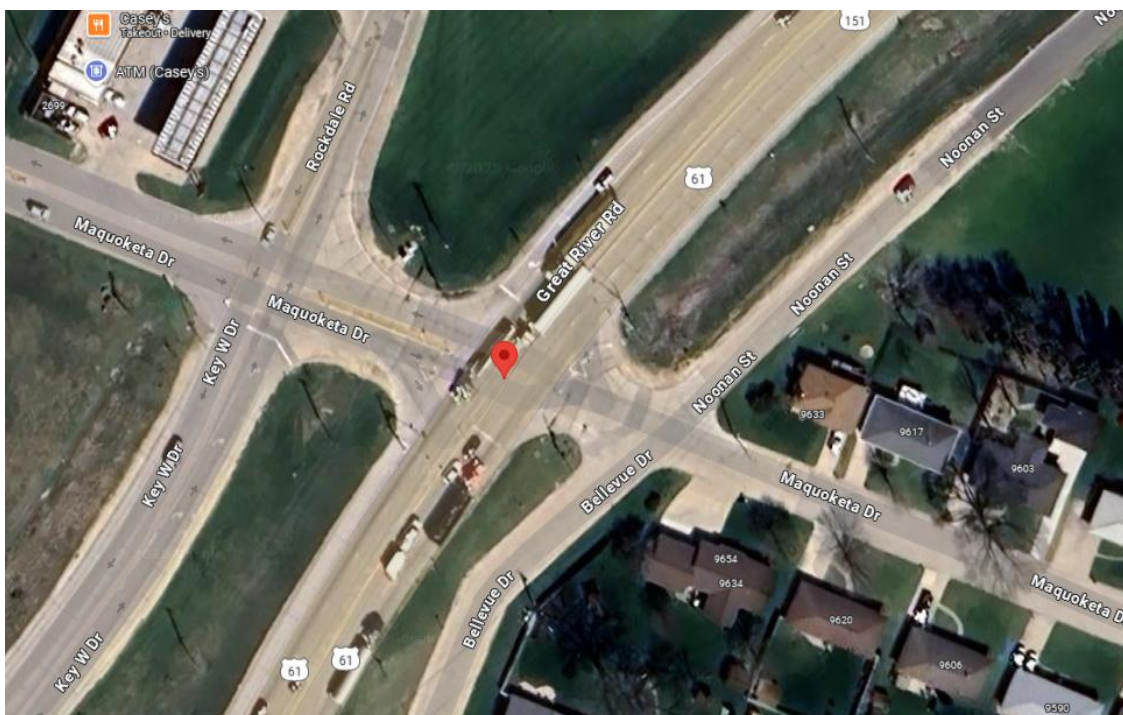


Figure 17: Intersection of Great River Road and Maquoketa Drive

Crash Summary

Crash reports indicate that a total of 23 crashes have occurred at this intersection over a five-year period (2018-2022), including five KAB crashes and eighteen CO crashes. The predominant manner of collision for KAB crashes includes non-collision (single vehicle), rear-end, angle (oncoming left turn), and sideswipe (same direction) crashes. However, for KABCO crashes, rear-end collisions are the most frequent, followed by non-collision crashes.

The primary contributing factors to KAB crashes at this intersection include loss of control, failure to yield right-of-way while making a left turn, reckless driving, and exceeding the authorized speed limit. Additionally, driver distraction, and improper lane changing were identified as other crash causes. The KAB Annual PCR for the intersection is 0.20223, indicating a medium severity level, while the KABCO Annual PCR is -1.11263. Based on rankings, this intersection is ranked 404th for KAB crashes and 114,390th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install intersection ahead warning signage and flashing beacons (Low)
- Add lane assignment markings on the pavement (Low)
- Investigate whether pedestrian infrastructure is needed and construct (Moderate)

Embassy West Drive and Pennsylvania Avenue

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop-controlled intersection located in an urban area ([Google Maps Link](#)). The north leg of the intersection is on an upgrade into the intersection, which may impact driver visibility and stopping distance. The north side of the intersection is primarily a residential area, while the south side includes commercial establishments. The intersection has curbs, curb ramps, sidewalks, and well-maintained vegetation. The delineation and pavement are in good condition. There are no marked crosswalks providing facilities present.

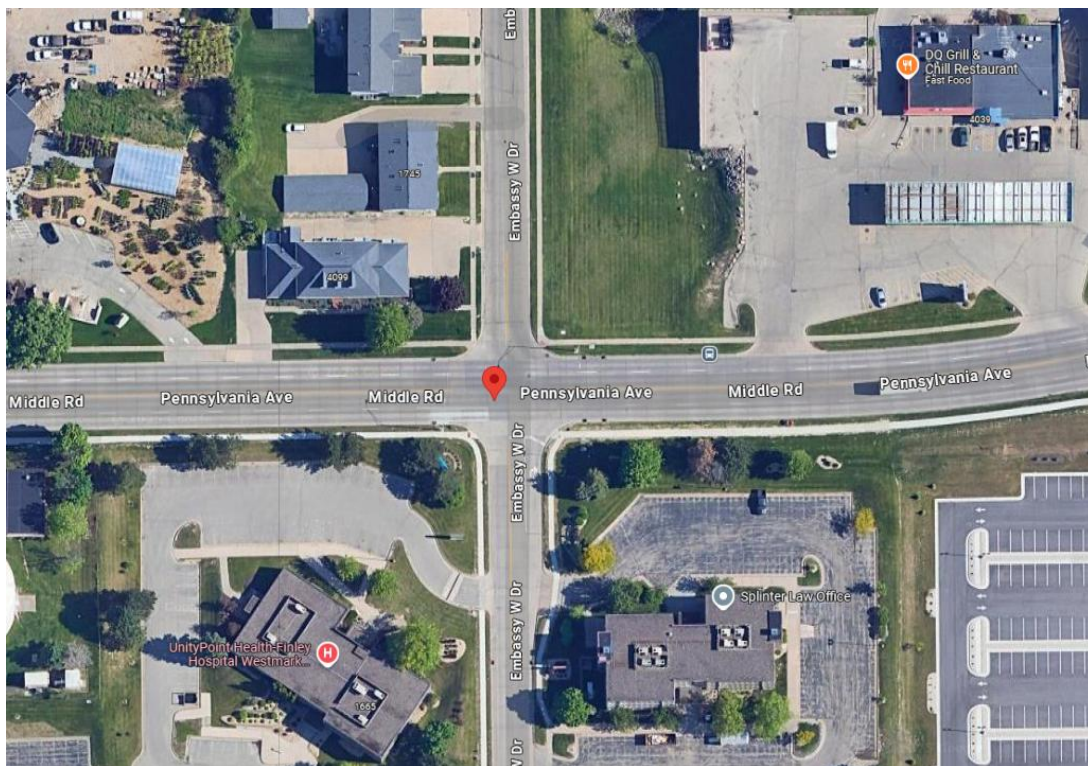


Figure 18: Intersection of Embassy West Drive and Pennsylvania Avenue

Crash Summary

Crash reports indicate that a total of 12 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and nine CO crashes. The predominant manner of collision includes angle (oncoming left turn), sideswipe (same direction) and broadside (front-

to-side) crashes, each accounting for 33.33% of incidents. Additionally, rear-end (front-to-rear) crashes were also reported, suggesting potential issues related to driver attentiveness, and turning maneuvers.

The primary contributing factor to KAB crashes at this intersection is failure to yield right-of-way while making a left turn, which led to broadside and angle collisions. Other contributing factors include running a stop sign, making an improper turn, driving too fast for conditions, and loss of control. The KAB Annual PCR for the intersection is 0.198006, indicating a medium severity level, while the KABCO Annual PCR is 0.263051, which is also considered medium. Based on rankings, this intersection is ranked 447th for KAB crashes and 4,108th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide supplementary stop signs mounted on the left side of the roadway on north approach (Low)
- Provide left-turn lanes on the east and west approaches (Moderate)
- Provide pavement markings with supplementary messages, such as STOP AHEAD on minor roadway (Low)
- Install intersection ahead warning signs (Low)
- Add red pennants to stop signs to increase conspicuity (Low)

Humke Road and Seippel Road

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, high speed, partially stop-controlled intersection located in an urban area ([Google Maps Link](#)). The intersection has well-defined curbs and maintained vegetation; however, it does not have curb ramps or sidewalks. The delineation and pavement are in good condition. Existing lighting may be insufficient to adequately illuminate the entire intersection.



Figure 19: Intersection of Humke Road and Seippel Road

Crash Summary

Crash reports indicate that a total of six crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and three CO crashes. The predominant manner of KABCO crashes includes broadside (50%), rear-end (33.33%), and head-on (16.67%). The primary contributing factors to the crashes at this intersection are loss of control, failure to yield right of way from a stop sign, and running a stop sign. The KAB Annual PCR for the intersection is 0.19758, indicating a medium severity level, while the KABCO Annual PCR is 0.292547, which is also considered medium. Based on rankings, this intersection is ranked 450th for KAB crashes and 3,704th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as STOP AHEAD on the east and west approaches (Low)
- Provide left-turn lanes at intersections on north and south approaches (Moderate)
- Provide a wider (larger) stop bar on the west approach (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bars on the minor approaches (Low)

Northwest Arterial and Holliday Drive

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a three-legged, divided, high speed, signalized intersection

located in an urban area ([Google Maps Link](#)). The northwest and southwest sides are predominantly commercial, and a bicycle trail nearby the intersection includes stop control and appropriate signage. However, there are no sidewalks at this intersection. The road delineation and pavement are in good condition.

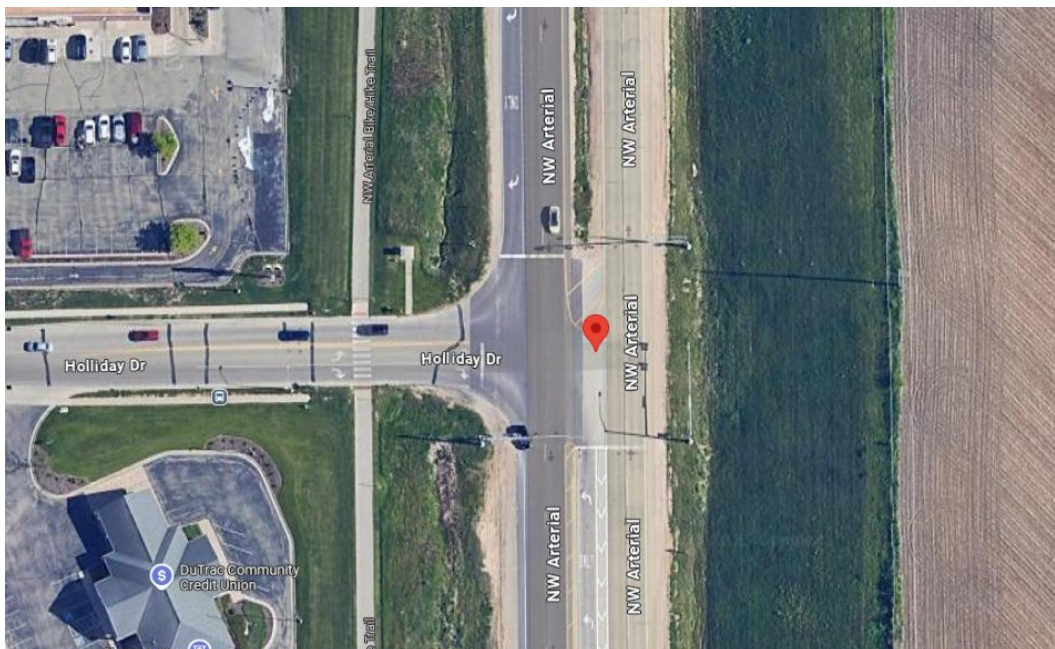


Figure 20: Intersection of Northwest Arterial and Holliday Drive

Crash Summary

Crash reports indicate that a total of 19 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and sixteen CO crashes. The predominant manner of collision for KAB crashes includes broadside, rear-end, and non-collision. That non-collision one is a case of pedestrian fatality. Other collision types for CO crashes such as sideswipe (same direction), head-on (front to front), and other unspecified crash types also occurred.

The primary contributing factors to KAB crashes are loss of control, failure to yield right-of-way (FTYROW) while making a left turn, and other unidentified causes. Other contributing factor for CO crashes are making improper turn, improper lane changing, followed too close, and many more. The KAB Annual PCR for the intersection is 0.197246, indicating a medium severity level, while the KABCO Annual PCR is 1.489064, which is considered high. Based on statewide rankings, this intersection is ranked 452nd for KAB crashes and 740th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the all-red interval are needed (Low)
- Install retroreflective traffic signal backplates (Low)
- Improve visibility of the intersection during nighttime by providing additional lighting (Moderate)

Central Avenue and 9th Street

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, signalized intersection located in a predominantly commercial area ([Google Maps Link](#)). The intersection has curbs, curb ramps, and sidewalks, as well as marked crosswalks and pedestrian signals to enhance pedestrian safety. The delineation and pavement are in good condition, and overhead lighting is present.

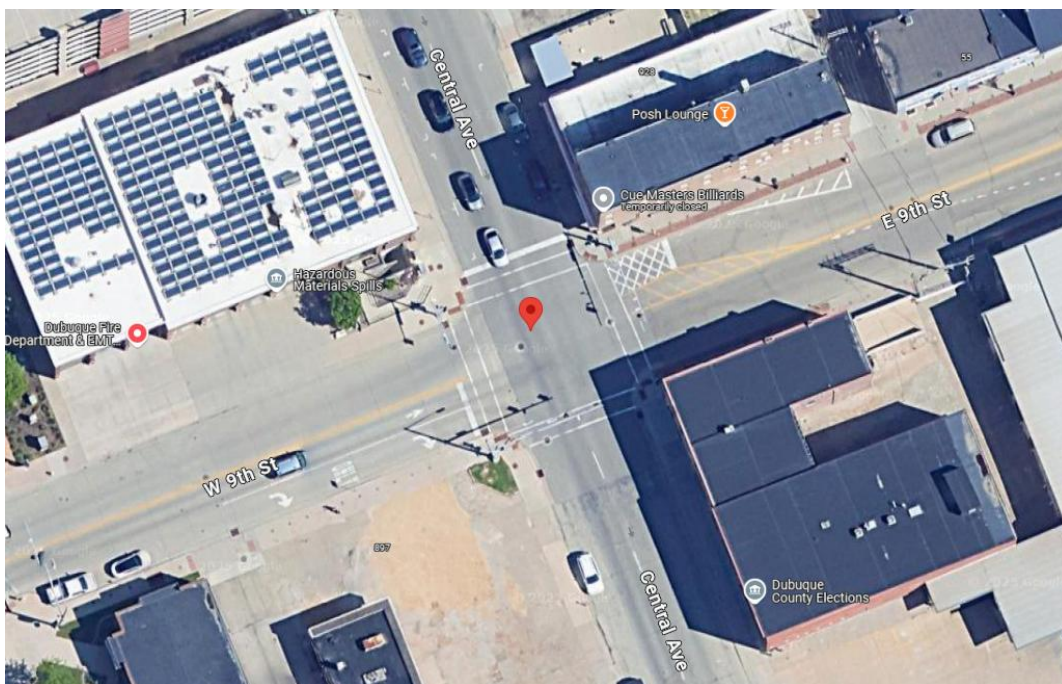


Figure 21: Intersection of Central Avenue and 9th Street

Crash Summary

Crash reports indicate that a total of 23 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and 20 CO crashes. The predominant manner of KABCO collision in this intersection is broadside (39.13%), followed by sideswipe same direction (30.43%) and rear-end (17.39%). Additionally, angle, head-on, and other types of collisions were also reported, suggesting issues with lane-keeping, turning movements, and driver attentiveness. The data shows that among the three KAB crashes, two of them were rear-end and one was broadside collision.

The primary contributing factors to KAB crashes are ran a traffic signal, driver distraction, and loss of control. Other contributing factors to other crashes include making improper turns, and

improper or erratic lane changes. The KAB Annual PCR for the intersection is 0.189239, indicating a medium severity level, while the KABCO Annual PCR is 1.483263, which is considered high. Based on rankings, this intersection is ranked 501st for KAB crashes and 744th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation on north approach (Low)
- Provide left-turn channelization with associated lane markings (Moderate)
- Provide public information and education on distracted driving (Low)

Northwest Arterial and Chavenelle Road

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, divided, moderate speed, signalized intersection located in a predominantly commercial area ([Google Maps Link](#)). The intersection features curbs on the minor roads; only one side of the intersection has curb ramps, and sidewalks. The road delineation and pavement are in good condition. Overhead light is present ensuring visibility at night. There are no marked crosswalks providing facilities for pedestrian safety, however, it has pedestrian signals as a facility for pedestrian.

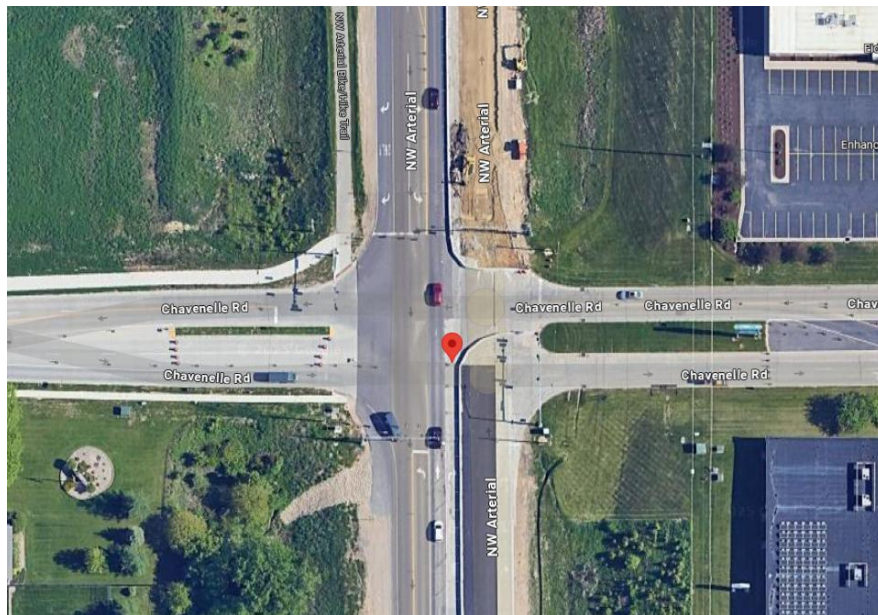


Figure 22: Intersection of Northwest Arterial and Chavenelle Road

Crash Summary

Crash reports indicate that a total of 32 crashes have occurred at this intersection over a five-year period (2018-2022), including five KAB crashes and twenty-seven CO crashes. The data shows

that various types of KAB crashes occurred at this intersection, including angle, head-on, rear-end, non-collision and other impact types. The predominant manner of CO collision is rear-end, followed by angle crashes, and head-on. The data suggests that rear-end crashes significantly contribute to the total crashes at this intersection.

The primary contributing factors to KAB crashes include running a traffic signal, failing to yield the right of way when making a left turn, loss of control, and driver distraction. Most of the CO crashes occurred due to loss of control, followed by running traffic signal and followed too close. The KAB Annual PCR for the intersection is 0.183026, indicating a medium severity level, while the KABCO Annual PCR is 0.854911, which is also considered medium. Based on statewide rankings, this intersection is ranked 519th for KAB crashes and 1,409th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Improve geometry of bicycle facilities (Moderate)
- Install retroreflective traffic signal backplates (Low)
- Optimize signal timing clearance (Low)

US 20 and Brunskill Road

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a three-legged, divided, moderate speed, partial stop-control intersection ([Google Maps Link](#)). The intersection does not have any curbs, curb ramps, or sidewalks. The delineation and pavement are in good condition. There are no marked crosswalks providing facilities in the vicinity, as it appears that pedestrian traffic is not present in this location. The design of this intersection, along with nearby intersections, is complex. One nearby driveway/intersection primarily serves a hotel and restaurant.

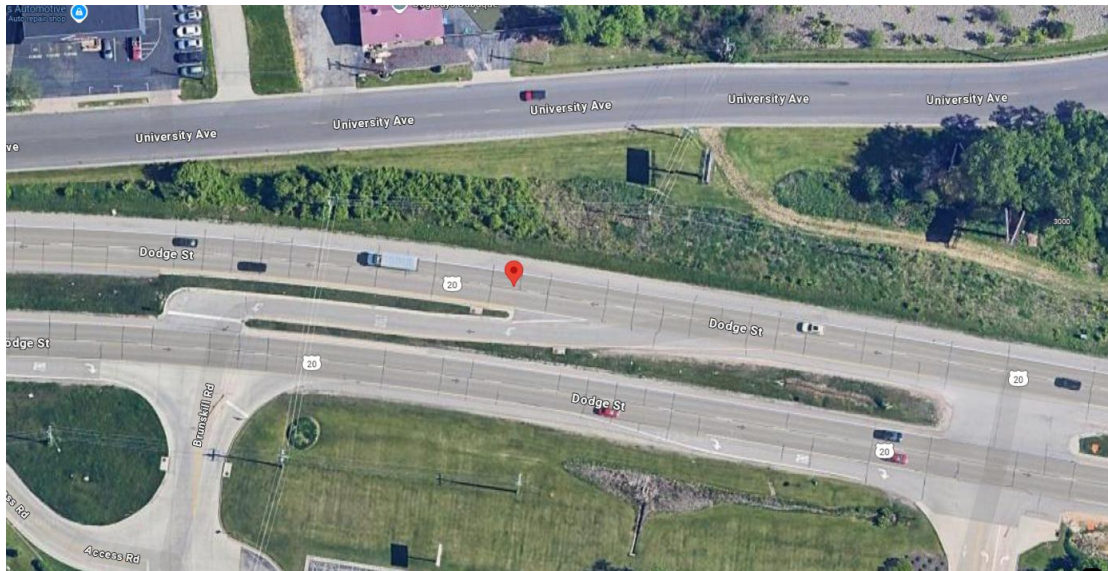


Figure: Intersection of US 20 and Brunskill Road

Crash Summary

Crash reports indicate that a total of 23 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and twenty CO crashes. The predominant manner of KABCO collision include rear-end crashes (56.52%), broadside crashes (26.09%), and smaller occurrences of angle, non-collision, and sideswipe crashes. Among the three KAB crashes, two of them are rear-end and one of them are broadside collision. The primary contributing factors to KAB crashes at this intersection are loss of control, following too closely, and failing to yield the right-of-way. Additional contributing factors include driver distraction, speeding, running a stop sign, reckless driving and improper turning movements. The KAB Annual PCR for the intersection is 0.181315, indicating a medium severity level, while the KABCO Annual PCR is 0.829864, which is also categorized as medium. Based on statewide rankings, this intersection is ranked 527th for KAB crashes and 1,439th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing beacons at the stop-controlled intersection (Low)
- Intersection consolidation/access management (High)
- Install protective shielding/guardrails as needed where roadside hazards exist (Moderate)

Alta Vista Street and Loras Boulevard

This site has a medium PCR level for KAB crashes, highlighting the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop-control intersection ([Google Maps Link](#)). The east approach is on an upgrade into the

intersection. The surrounding area includes a mix of educational and residential land use. The intersection has curbs, curb ramps, and sidewalks present, and the pavement and delineation are in good condition. However, there are no marked crosswalks.

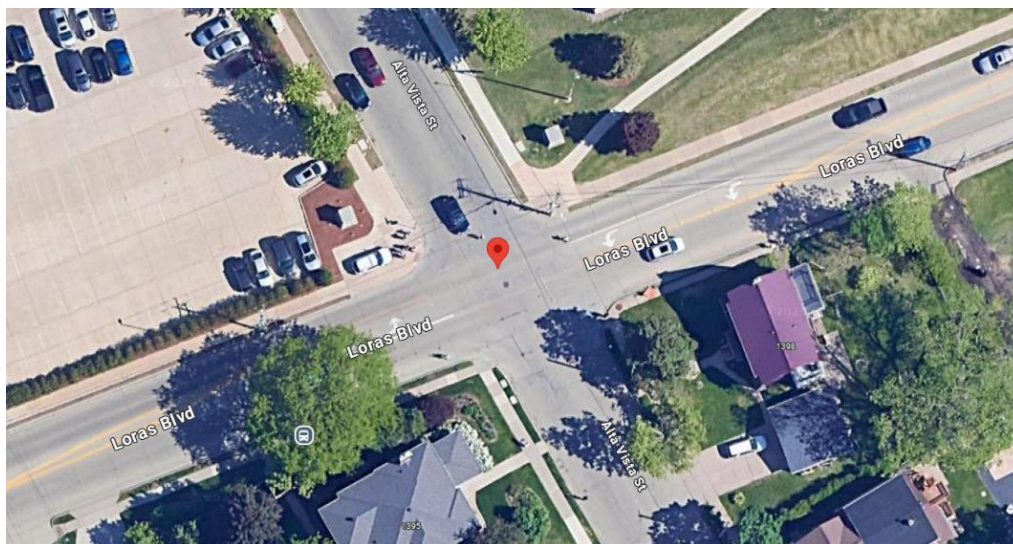


Figure 23: Intersection of Alta Vista Street and Loras Boulevard

Crash Summary

Crash reports indicate that a total of 15 crashes occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and twelve CO crashes. The predominant manner of KABCO collision includes broadside (40%), angle-oncoming left turn (20%), and non-collision (20%). These crash patterns suggest issues related to right-of-way compliance, turning maneuvers, and driver attentiveness. The primary contributing factors to KAB crashes at this intersection are failure to yield the right-of-way, improper turning movements, and driver distraction. Additional contributing factors include speeding and loss of control. The KAB Annual PCR for this location is 0.177275, indicating a medium severity level, while the KABCO Annual PCR is 1.477338, which is considered high. Based on statewide rankings, this intersection is ranked 548th for KAB crashes and 749th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary warning messages, such as STOP AHEAD (Low)
- Improve visibility of intersections by providing enhanced signing and delineation on east approach (Low)
- Investigate conversion to all-way stop-control (Low)
- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)

- Provide stop bars on minor road approaches (Low)
- Consider addition of crosswalk markings (Low)
- Install Rapid Rectangular Flashing Beacon (Medium)

East 16th Street and Elm Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and pedestrian signals. However, there are no marked crosswalks at this intersection. The delineation and pavement are in good condition. Overhead lighting is present.

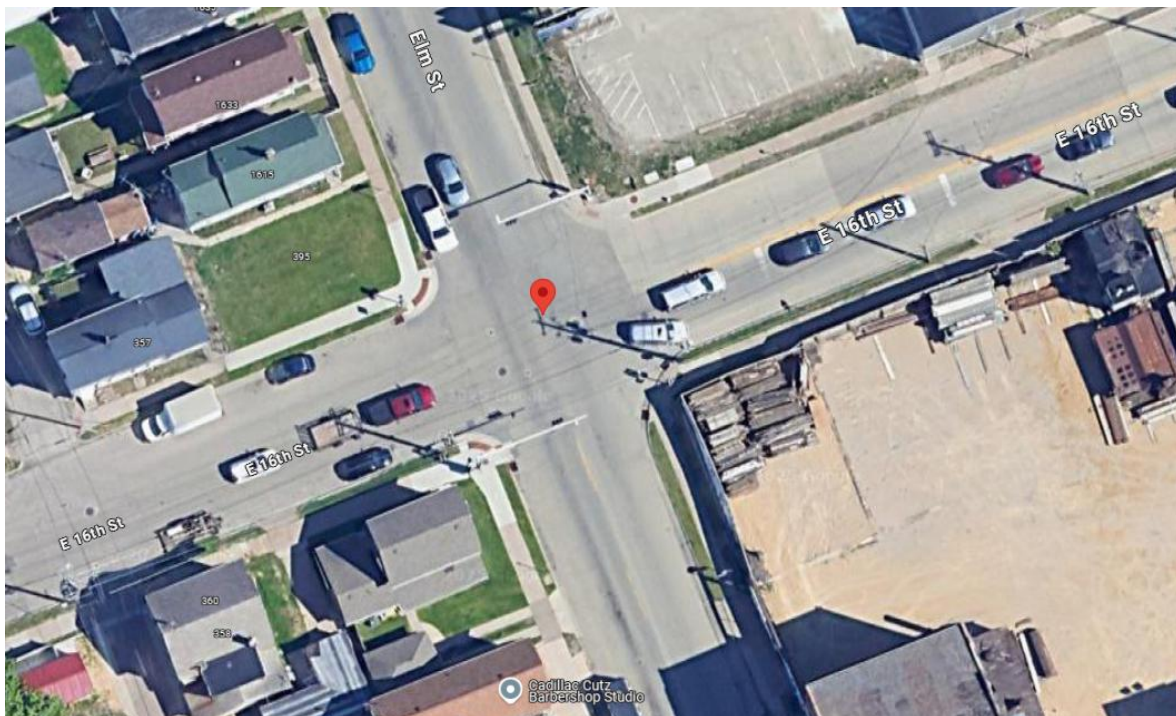


Figure 24: Intersection of East 16th Street and Elm Street

Crash Summary

Crash reports indicate that a total of 17 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and 14 CO crashes. The predominant manner of collision is broadside (front-to-side), followed by non-collision crashes. Additionally, angle and rear-end crashes were recorded for CO crashes. The primary contributing factors to KAB crashes include running a traffic signal and failure to yield the right-of-way. Loss of control is another predominant factor for CO crashes. The KAB Annual PCR for the intersection is 0.167449, indicating a medium severity level, while the KABCO Annual PCR is -0.061391. Based on statewide rankings, this intersection is ranked 596th for KAB crashes and 101,389th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bar on minor road approaches (Low)
- Employ multiphase signal operations (Moderate)
- Provide left-turn channelization (Moderate/High)
- Place the railroad crossing sign to enhance visibility on the south approach (Low)

East 17th Street and Jackson Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection with a medium PCR level for KAB crashes, highlighting the need for attention and potential countermeasures ([Google Maps Link](#)). The area surrounding the intersection is primarily residential. It features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The delineation and pavement are in good condition.

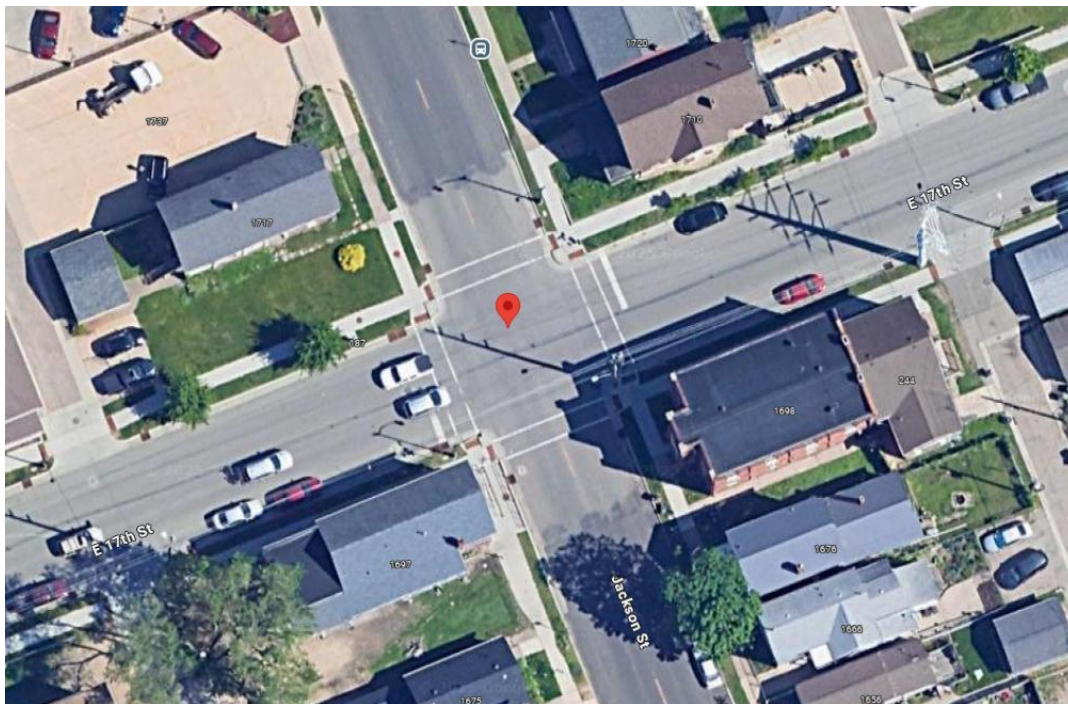


Figure 25: Intersection of East 17th Street and Jackson Street

Crash Summary

Crash reports indicate that a total of 13 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and ten CO crashes. The predominant manner of collision in this intersection is broadside (front-to-side). All of three KAB crashes involve broadside collisions, and the contributing factor to all these crashes is running a stop sign. Additionally, one rear-end collision was also reported at this site. The primary contributing

factors to KABCO crashes at this intersection include running stop signs, failure to yield the right-of-way at stop signs, and loss of control. The KAB Annual PCR for the intersection is 0.152908, indicating a medium severity level, while the KABCO Annual PCR is 1.403969, which is considered high. Based on statewide rankings, this intersection is ranked 644th for KAB crashes and 803rd for KABCO crashes out of 115,274 intersections statewide, underscoring its importance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Investigate conversion to all-way stop-control (Low)
- Install flashing beacons on stop-controlled approaches (Low)

University Avenue and Booth Street

This site is a four-legged, undivided, low speed, partially stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and school zone crosswalk signs. However, there are no marked crosswalks to support pedestrian safety. The delineation and pavement are in good condition. Overhead lighting is present.

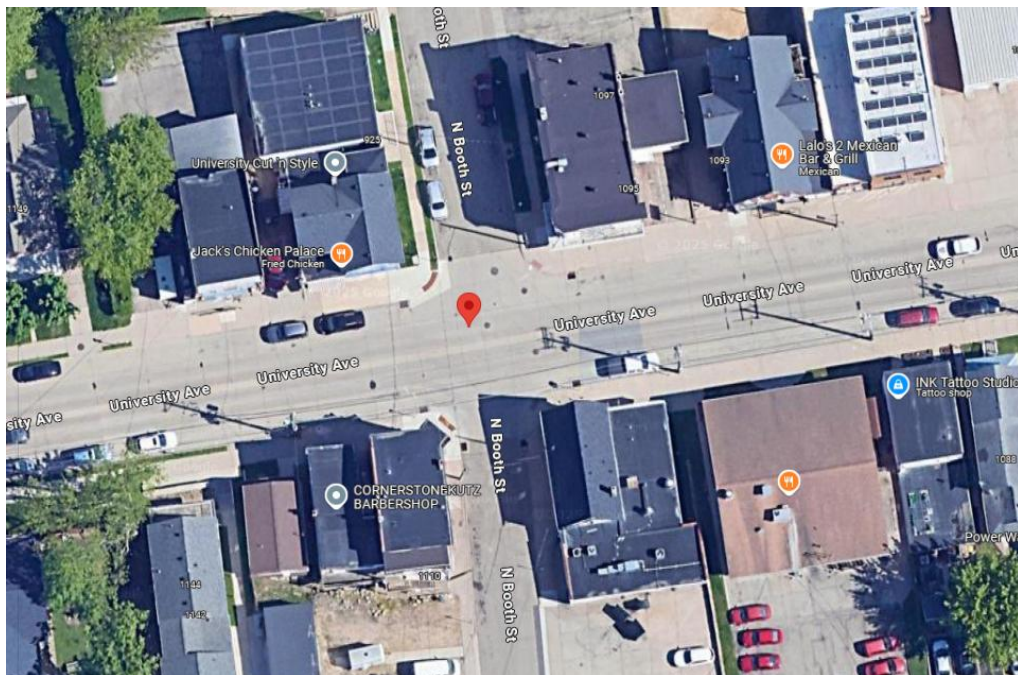


Figure 26: Intersection of University Avenue and Booth Street

Crash Summary

Crash reports indicate that a total of 13 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and ten CO crashes. The predominant manner of collision is broadside (front-to-side). Additionally, rear-end, head-on, and angle collisions were reported, suggesting potential issues with right-of-way compliance and driver attentiveness. The primary contributing factor to KAB crashes is failure to yield right-of-way from a stop sign, which led to broadside crashes at the intersection. Other contributing factors include driver distraction due to manually operated electronic communication devices, making improper turns, and FTYROW from parking. The KAB Annual PCR for the intersection is 0.139336, indicating a medium severity level, while the KABCO Annual PCR is 1.295354, which is considered high. Based on statewide rankings, this intersection is ranked 714th for KAB crashes and 884th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)
- Install intersection ahead warning signs (Low)
- Restrict or eliminate parking on intersection approaches (Low)

US 20 and Century Drive

This site is a four-legged, divided, moderate speed, signalized intersection. It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and includes curbs on the minor roads but lacks curb ramps, sidewalks, and marked crosswalks. Overhead lighting is present, and the delineation and pavement are in good condition.

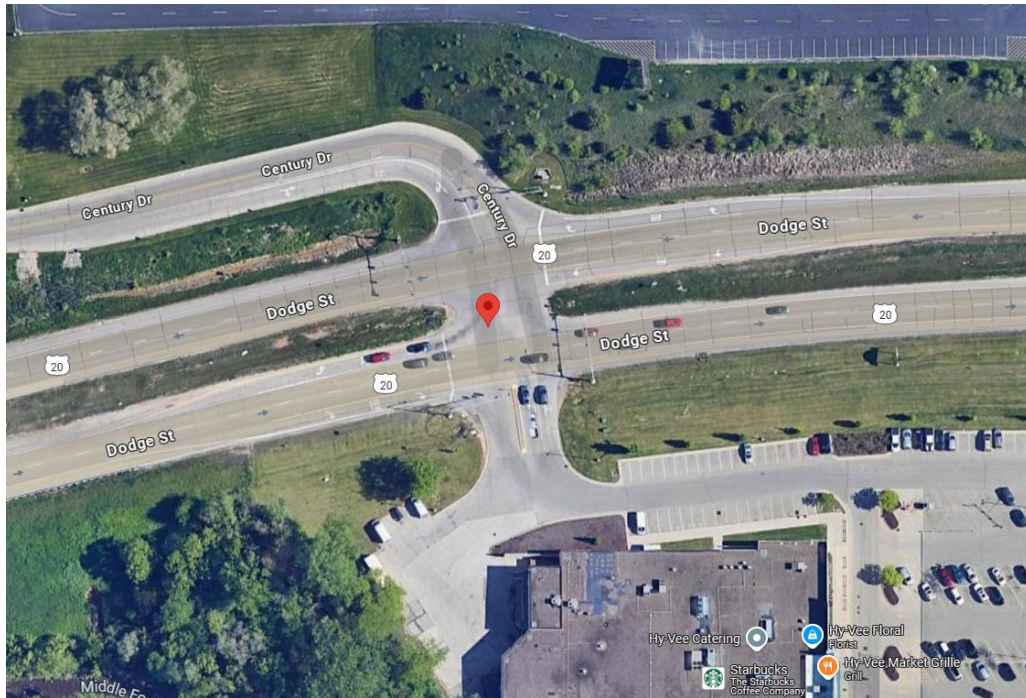


Figure 27: Intersection of US 20 and Century Drive

Crash Summary

Crash reports indicate that a total of 42 crashes have occurred at this intersection over a five-year period (2018–2022), including six KAB crashes and thirty-six CO crashes. The predominant manner of KABCO collision is rear-end (front-to-rear), followed by sideswipe collisions and broadside crashes. Among the six KAB crashes, three were broadside, two were rear-end, and one was an angle (oncoming left turn) crash. This distribution suggests issues related to both right-of-way violations and vehicle control.

The primary contributing factors to the KAB crashes were running the traffic signal and loss of control. Other contributing factors across all crashes include improper or erratic lane changes, following too closely, and various forms of driver distraction. The KAB Annual PCR for the intersection is 0.128459, indicating a medium severity level. Based on statewide rankings, this intersection is ranked 746th for KAB crashes and 114,367th for KABCO crashes out of 115,274 intersections statewide. Despite the low overall crash severity ranking, the higher relative severity of KAB crashes at this location signals the need for targeted interventions.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide turn lane markings (Low)
- Install retroreflective traffic signal backplates (Low)

- Review signal timings and determine if changes are needed in the yellow and all red clearance intervals (Low/Moderate)
- Add pedestrian facilities if needed (Moderate)

US 52/US 61 and Lake Eleanor Road

This site is a four-legged, divided, high-speed, partial stop-controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. The surrounding area consists of a mix of commercial, residential, and undeveloped land uses. The intersection lacks curbs, curb ramps, sidewalks, and marked crosswalks. While the pavement and delineation are in good condition, lighting at the intersection is possibly inadequate.

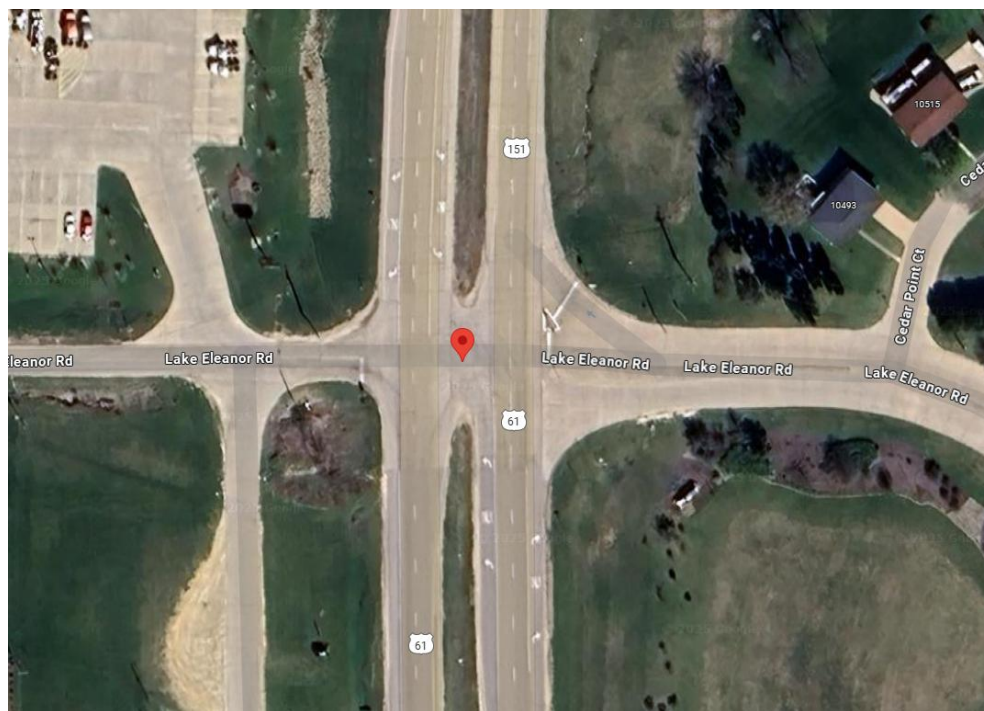


Figure 28: Intersection of US 52/US 61 and Lake Eleanor Road

Crash Summary

Crash reports indicate six crashes occurred at this intersection over a five-year period (2018–2022), including three KAB crashes and three CO crashes. Among the KAB crashes, two were broadside (front-to-side) and one was an angle collision (oncoming left turn). For KABCO crashes, the most frequent manner of collision was broadside, followed by rear-end, sideswipe, and angle crashes, each contributing one crash to the total. These patterns highlight potential issues with turning movements. The primary contributing factor to the KAB crashes was failure to yield right-of-way while making a left turn. Other factors included loss of control and one crash with an unknown cause. Similarly, the dominant contributing factor to KABCO crashes was failure to yield during left-turn maneuvers, followed by loss of control. The KAB Annual PCR is 0.120386, indicating a medium severity level, while the KABCO Annual PCR is -

0.368725, which is considered low. Based on statewide rankings, this intersection is ranked 770th for KAB crashes and 112,203rd for KABCO crashes out of 115,274 intersections, emphasizing its significance in terms of severe crash occurrences.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install red pennants or flashing beacons on stop signs (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Install Cross Traffic Does Not Stop warning plaques (Low)
- Install intersection ahead warning signs on US 52/US 61 (Low)

East 25th Street and Jackson Street

This intersection in the city of Dubuque is a Four-legged, undivided, low speed, partial stop controlled intersection with a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures ([Google Maps Link](#)). A park and playground are located in the southeast section of the intersection. The intersection features curbs, curb ramps, and sidewalks. The road delineation and pavement are in good condition, but the lighting is inadequate. There are no marked crosswalks providing facilities for pedestrian safety.

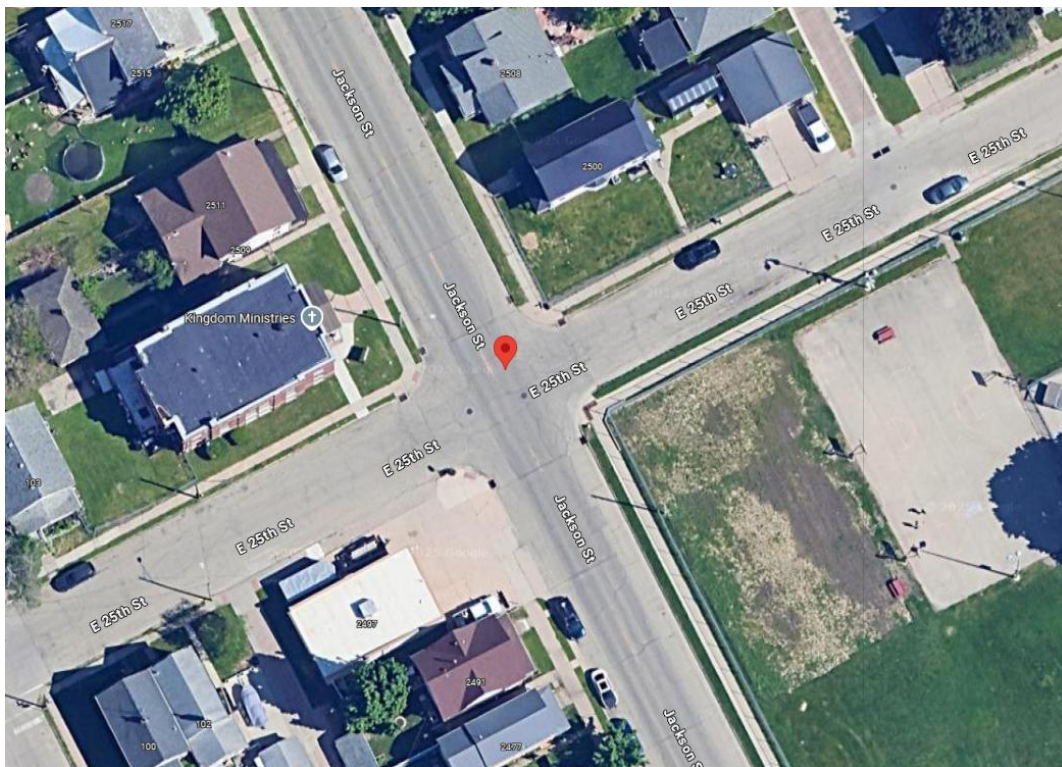


Figure 29: Intersection of East 25th Street and Jackson Street

Crash Summary

Crash reports indicate that four crashes have occurred at this intersection over a five-year period (2018-2022), all of which were KAB crashes. The predominant manner of collision includes broadside (front-to-side), sideswipe (same direction), and non-collision incidents, suggesting potential issues with right-of-way compliance and driver attentiveness. The primary contributing factors to KAB crashes are running a stop sign, speeding, and other violations. The KAB Annual PCR for the intersection is 0.118394, indicating a medium severity level, while the KABCO Annual PCR is 0.233832, which is considered high. Based on statewide rankings, this intersection is ranked 778th for KAB crashes and 4,525th for KABCO crashes out of 115,274 intersections statewide, emphasizing the need for safety improvements at this location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install larger regulatory and warning signs if feasible (Low)
- Provide a stop bar on minor road approaches (Low)
- Restrict or eliminate parking on intersection approaches (Low)
- Install flashing beacon with bicycle and pedestrian warning signs (Low)
- Provide marked crosswalks (Low)
- Improve pedestrian and bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)
- Consider conversion to all-way stop-control (Low)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)
- Provide additional overhead lighting (Moderate)

Rhomberg Avenue and Stafford Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection with a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures ([Google Maps Link](#)). The area is a mix of commercial and residential land use. The intersection features curbs, curb ramps, and sidewalks. The delineation and pavement are in good condition, but there are no marked crosswalks present.



Figure 30: Intersection of Rhomberg Avenue and Stafford Street

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and 13 CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for two of the three KAB crashes. Additional crash types include rear-end, non-collision, and angle crashes, suggesting potential issues with driver behavior and compliance. The primary contributing factors to KAB crashes at this location include loss of control and failure to yield the right-of-way at a stop sign. Other contributing factors for CO crashes include improper backing, making an improper turn, and failing to yield the right-of-way to pedestrian. The KAB Annual PCR for the intersection is 0.115296, indicating a medium severity level, while the KABCO Annual PCR is 1.640778, which is considered high. Based on statewide rankings, this intersection is ranked 787th for KAB crashes and 656th for KABCO crashes out of 115,274 intersections statewide, emphasizing its status as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install red pennants on stop sign to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)
- Restrict or eliminate parking on intersection approaches (Low)
- Consider conversion to all-way stop-control (Low)
- Provide left-turn lanes at intersection (Moderate)

- Improve pedestrian and bicycle facilities (Moderate)
- Install bicycle warning signs (Low)

Locust Street and West 4th Street

This site is a four-legged, undivided, low speed, signalized intersection with a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures ([Google Maps Link](#)). The area is predominantly commercial. The intersection has curbs, curb ramps, and sidewalks. The delineation and pavement are in good condition. Additionally, there are marked crosswalks and pedestrian signals present.



Figure 31: Intersection of Locust Street and West 4th Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and ten CO crashes. Among the two KAB crashes, one of them is broadside collision, while the other is a rear-end collision. The predominant manner of KABCO collision in this intersection is broadside (front-to-side). Additionally, rear-end and sideswipe (same direction) collisions were also reported, suggesting potential issues with right-of-way compliance and driver attentiveness. The primary contributing factors to the crashes at this location include running traffic signal, making improper turns, and driver distraction. The KAB Annual PCR for the intersection is 0.107142, which is classified as medium, while the KABCO Annual PCR is 0.637279, also falling in the medium range. The intersection ranks 832nd for KAB crashes and 1903rd for KABCO crashes out of 115,274 intersections statewide, emphasizing its relative risk level.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Low/Moderate)
- Provide left-turn channelization on south approach (Moderate)
- Install overhead traffic signals to improve visibility (High)

Asbury Road and Cherry Street

This site has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop-controlled intersection located in a predominantly residential area ([Google Maps Link](#)). The intersection has curbs, curb ramps, and sidewalks, but there are no marked crosswalks present.

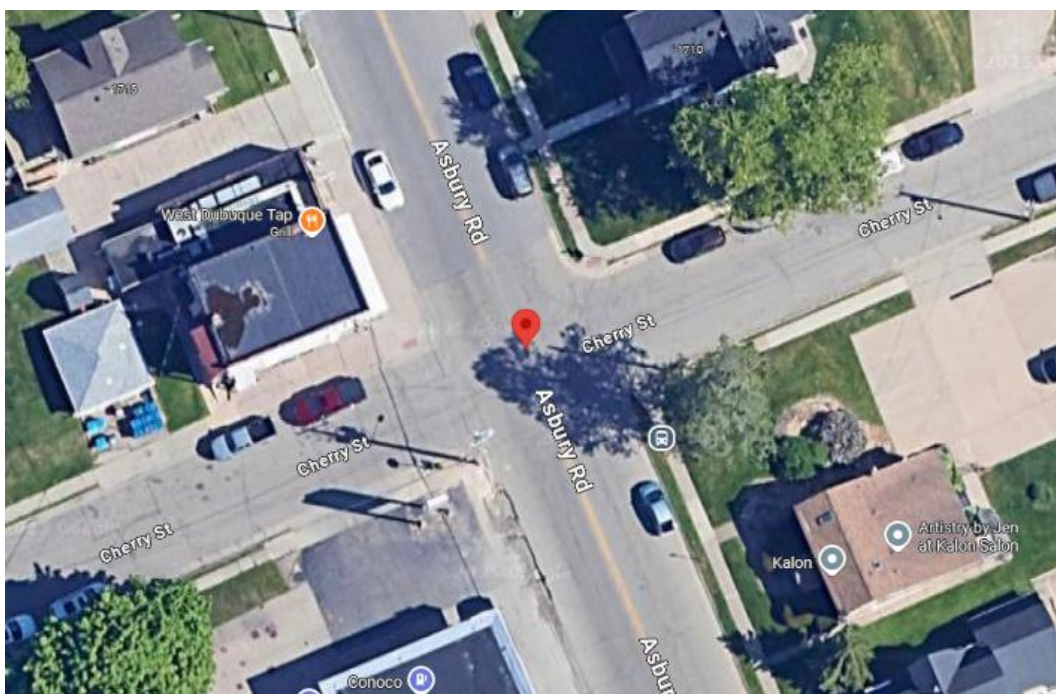


Figure 32: Intersection of Asbury Road and Cherry Street

Crash Summary

Crash reports indicate that a total of nine crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and seven CO crashes. The predominant manner of collision for KAB crashes includes one broadside (front-to-side) collision and one non-collision event. For KABCO crashes, the most common types of collisions include broadside, rear-end, angle, non-collision, sideswipe, and other unspecified collisions. The primary contributing factors to KAB crashes include running a stop sign and failing to yield the right of way to pedestrians. Additional contributing factors for KABCO crashes involve loss of control, driver distraction, improper passing in prohibited areas, and failing to yield to pedestrians. The KAB Annual PCR for the intersection is 0.106933, indicating a medium

severity level, while the KABCO Annual PCR is 0.378332, also considered medium. Based on statewide rankings, this intersection is ranked 855th for KAB crashes and 3,074th for KABCO crashes out of 115,274 intersections statewide, signifying the need for safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide supplementary stop signs on the left side of the roadway (Low)
- Provide red pennants on stop signs (Low)
- Provide a stop bar on minor road approaches (Low)
- Install pedestrian crossing signs (Low)
- Provide marked crosswalks (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Install rectangular rapid flashing beacon (RRFB) (Moderate)

Central Avenue and West 5th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The area is predominantly commercial. The intersection has curbs, curb ramps, and sidewalks. Additionally, there are marked crosswalks and pedestrian signals. The delineation and pavement are in good condition. Overhead lighting is present.

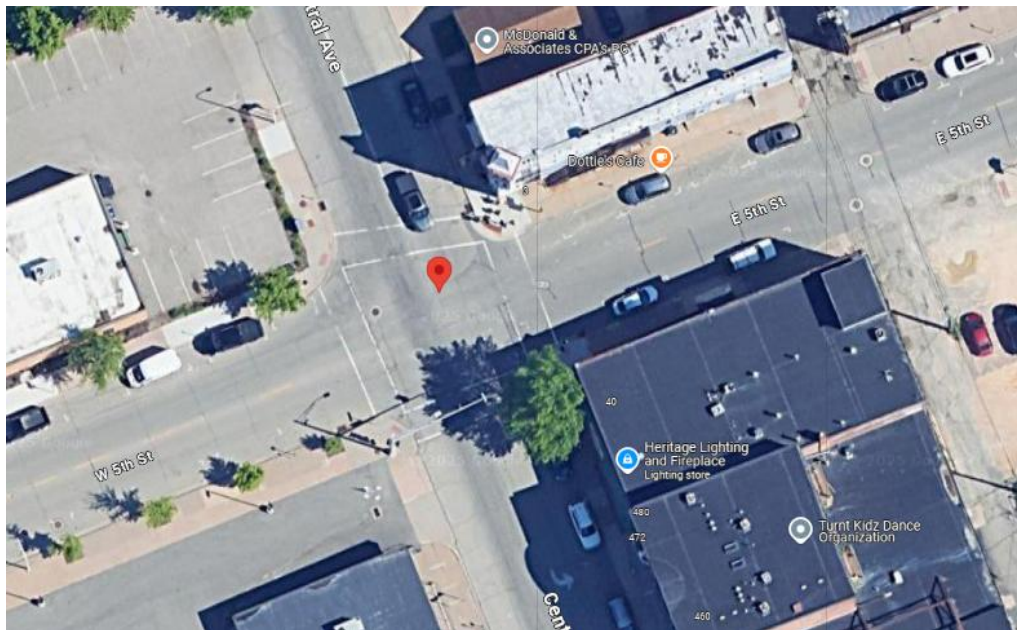


Figure 33: Intersection of Central Avenue and West 5th Street

Crash Summary

Crash reports indicate that 13 crashes occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and eleven CO crashes. The predominant manner of collision for KAB crashes includes broadside (front-to-side) and non-collision (single-vehicle crashes), each accounting for 50% of the reported incidents. The broader KABCO crash data shows that crashes included broadside collisions, rear-end collisions, and various other crash types such as non-collision, sideswipe, and other specified incidents. The primary contributing factors to KAB crashes at this intersection include running a traffic signal and failure to yield the right-of-way while making a left turn. Other factors contributing to KABCO crashes include driver distraction, improper backing, loss of control, and running traffic signals. The KAB Annual PCR for the intersection is 0.106313, indicating a medium severity level, while the KABCO Annual PCR is 0.883592, also categorized as medium. Based on statewide rankings, this intersection is ranked 889th for KAB crashes and 1365th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a safety concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Low)
- Provide left-turn channelization (Moderate)
- Install overhead traffic signals on east and west approaches to improve signal visibility (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

US 61 and Grandview Avenue South Interchange

This site has the medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a diamond interchange with stop control on the exit ramp portions of the roadway ([Google Maps Link](#)). The overhead lighting appears to be adequate, and the intersections feature curbs, curb ramps, and sidewalks. The pavement in good condition.



Figure 34: Intersection of US 61 and Grandview Avenue South Interchange (note ongoing construction in this aerial view)

Crash Summary

Crash reports indicate that a total of nine crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and seven CO crashes. The predominant manner of collision for KABCO crashes includes broadside, rear-end, head-on, non-collision, and rear-to-side. The two KAB crashes consist of one head-on collision and one non-collision collision. The primary contributing factor to KAB crashes is loss of control, which resulted in severe outcomes. Other major causes of crashes at this intersection include failure to yield right-of-way from a stop sign, improper backing, and running a stop sign. The KAB Annual PCR for the intersection is 0.106088, indicating a medium severity level, while the KABCO Annual PCR is 0.50431, which is also categorized as medium. Based on statewide rankings, this intersection is ranked 894th for KAB crashes and 2365th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Improve the visibility of existing bicycle signage (Low)
- Improve bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)

Main Street and West 14th Street

This site is a four-legged, undivided, low speed, signalized intersection with a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures ([Google Maps Link](#)). The area is predominantly residential, although there is a church at the northeast quadrant of the intersection. The lighting condition is adequate in this intersection. The intersection has curbs, curb ramps, and sidewalks. The delineation and pavement are in good condition. Additionally, there are marked crosswalks and pedestrian signals.

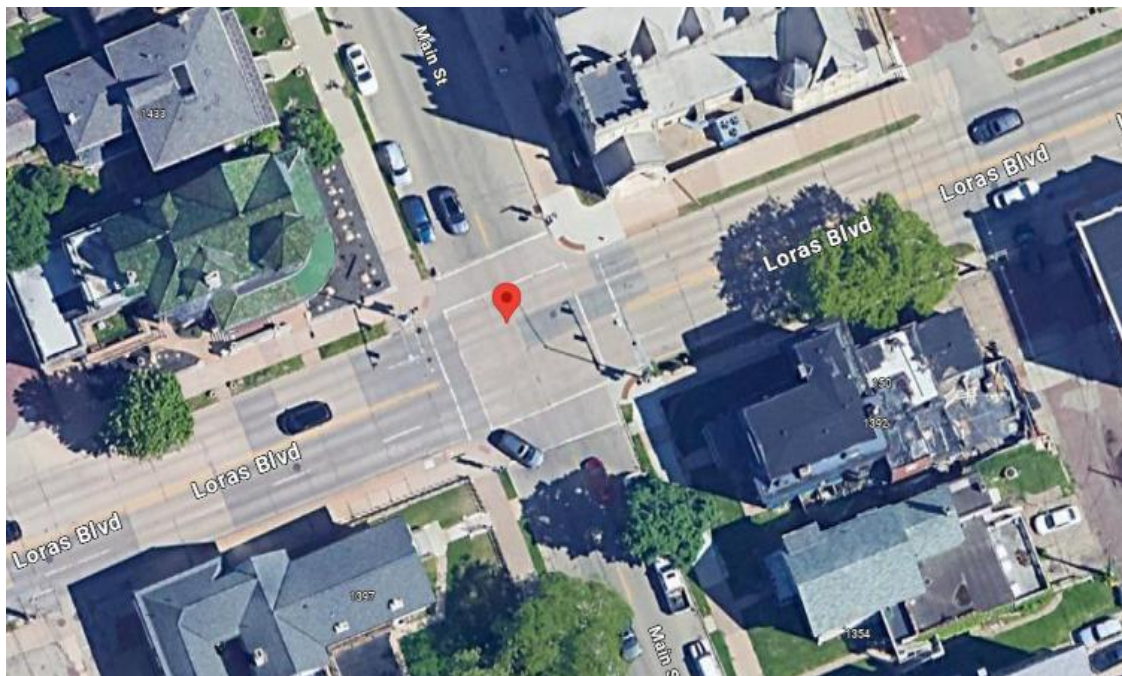


Figure 35: Intersection of Main Street and West 14th Street

Crash Summary

Crash reports indicate that 20 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and 18 CO crashes. The predominant manner of collision for both KAB and CO crashes is broadside (front-to-side), accounting for a significant portion of incidents at this location. Other collision types recorded in KABCO crashes include rear-end, sideswipe (same direction), angle (oncoming left turn), head-on (front-to-front), non-collision (single vehicle), and other unspecified collisions. The primary contributing factors to KAB crashes at this intersection include running a traffic signal and failure to yield the right-of-way while making a left turn. The major causes behind KABCO crashes are also linked to running traffic signals, loss of control, improper turning movements, failure to yield at left turns, and improper backing. The KAB Annual PCR for this intersection is 0.106014, categorizing it under medium severity, whereas the KABCO Annual PCR is 1.766149, which is considered high. Based on statewide rankings, this intersection holds the 902nd position for KAB crashes and the 595th position for KABCO crashes out of 115,274 intersections statewide, underscoring its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide left-turn channelization (Moderate)
- Employ multiphase signal operation (Moderate)
- Employ signal coordination (Implementing this may require a traffic signal coordination study) (Moderate/High)

East 11th Street and White Street

This site is a four-legged, undivided, low speed, signalized intersection with a medium PCR level for KAB crashes, requiring immediate attention and potential countermeasures ([Google Maps Link](#)). The area consists of a mixture of commercial and educational land use. An elementary school is located on the northwest side of the intersection. School zone crossing signs are in place to alert drivers of pedestrian presence. Additionally, there are marked crosswalks and pedestrian signals. The intersection has curbs, visible traffic signals, and good lighting conditions. The delineation and pavement are in good condition.

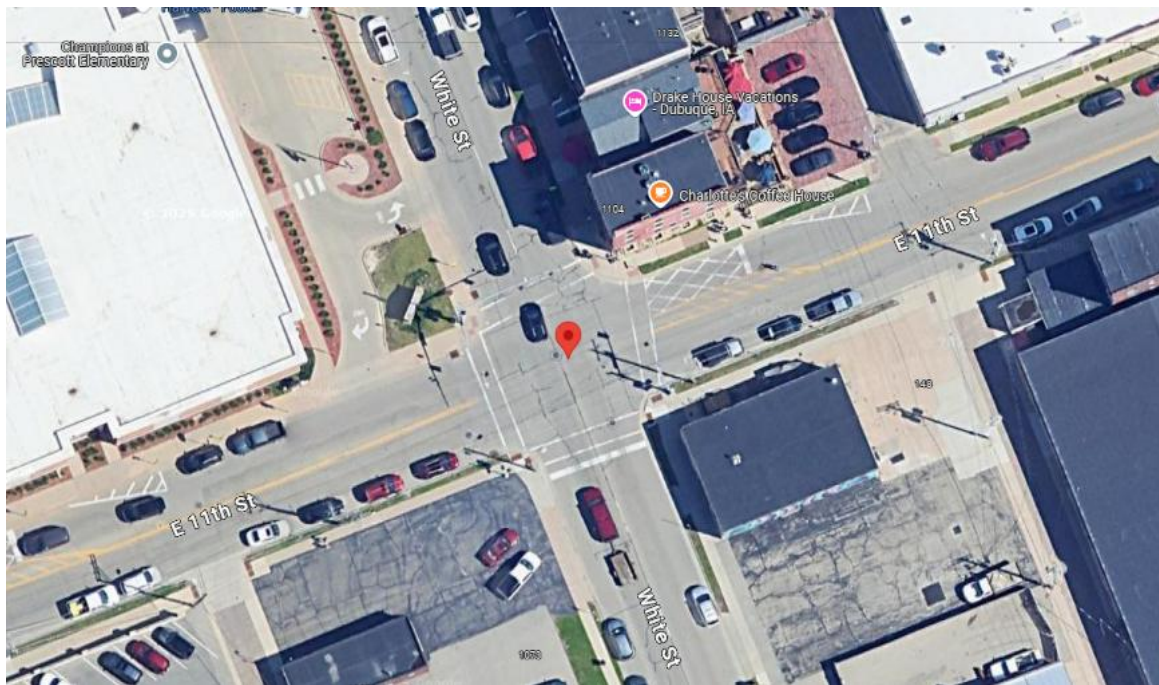


Figure 36: Intersection of East 11th Street and White Street

Crash Summary

Crash reports indicate that 21 crashes occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and 19 CO crashes. The predominant manner of collision in KAB crashes is broadside (front-to-side), accounting for both incidents. Additionally, for KABCO crashes, broadside collisions remain the most common, followed by rear-end and

sideswipe (same direction) collisions. The primary contributing factor to KAB crashes is running a traffic signal, which led to severe broadside collisions at the intersection. Other contributing factors for KABCO crashes include making improper turns, improper or erratic lane changes, driver distraction, loss of control, and following too closely. The KAB Annual PCR for the intersection is 0.105856, classifying it as medium severity, while the KABCO Annual PCR is 2.078111, which is high. Based on statewide rankings, this intersection ranks 908th for KAB crashes and 472nd for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red change interval (Low)
- Employ multiphase signal operation (Low/Moderate)
- Provide left-turn channelization on south approach (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Locust Street and West 10th Street

This site is a four-legged, undivided, low speed, signalized intersection with a medium PCR level for KAB crashes, highlighting the need for attention and possible countermeasures ([Google Maps Link](#)). The surrounding area is predominantly commercial, as well as two churches. The intersection is equipped with well-defined curbs, curb ramps, and sidewalks, while the delineation and pavement appear to be in good condition. Additionally, marked crosswalks and pedestrian signals are present.

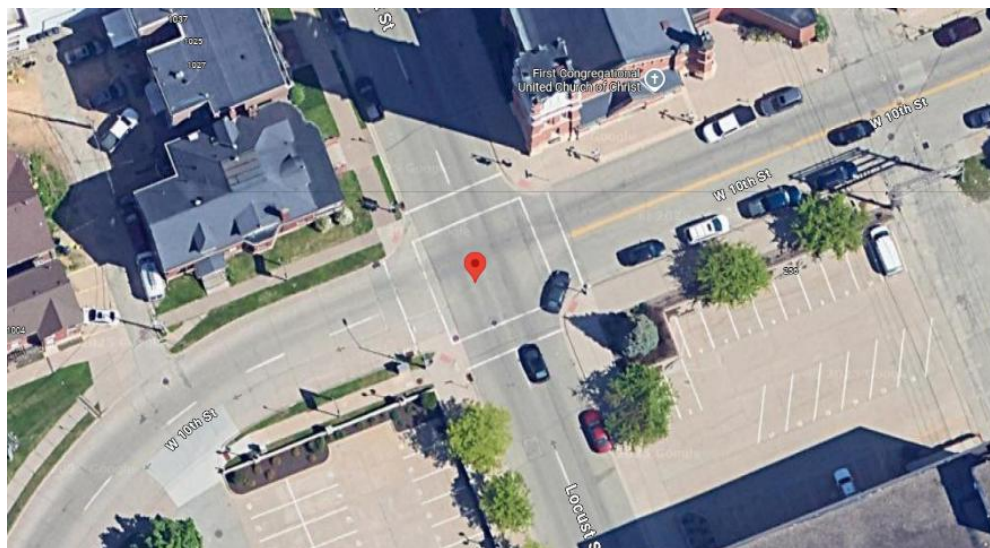


Figure 37: Intersection of Locust Street and West 10th Street

Crash Summary

Crash data from a five-year period (2018-2022) indicates that a total of 19 crashes occurred at this intersection, including two KAB crashes and seventeen CO crashes. The predominant manner of collision is broadside (front-to-side). Other notable collision types include sideswipe (same direction), rear-end (front-to-rear), and rear-to-rear crashes. The primary contributing factor to KAB crashes at this intersection is running a traffic signal. Additionally, major causes for KABCO crashes include driver distraction, improper backing, and operating a vehicle in an erratic or reckless manner. The KAB Annual PCR for this intersection is 0.105826, which is classified as medium, while the KABCO Annual PCR is 2.13559, indicating a high level of overall crash severity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on intersection approaches (Low)
- Optimize yellow and all red clearance intervals (Low)
- Install retroreflective traffic signal backplates (Low)
- Install overhead traffic signals to improve visibility (Moderate/High)
- Improve visibility of the intersection by providing overhead lighting (Moderate)

Loras Boulevard and Wood Street

This site is a four-legged, undivided, low speed, partially stop controlled intersection with a medium PCR level for KAB crashes, highlighting the need for attention and potential countermeasures ([Google Maps Link](#)). The area is predominantly residential. There is an upward slope transitioning to a downward slope from the east to the west leg of the intersection. The intersection has well-defined curbs, curb ramps and sidewalks. The road pavement is in good condition. There are no marked crosswalks present.

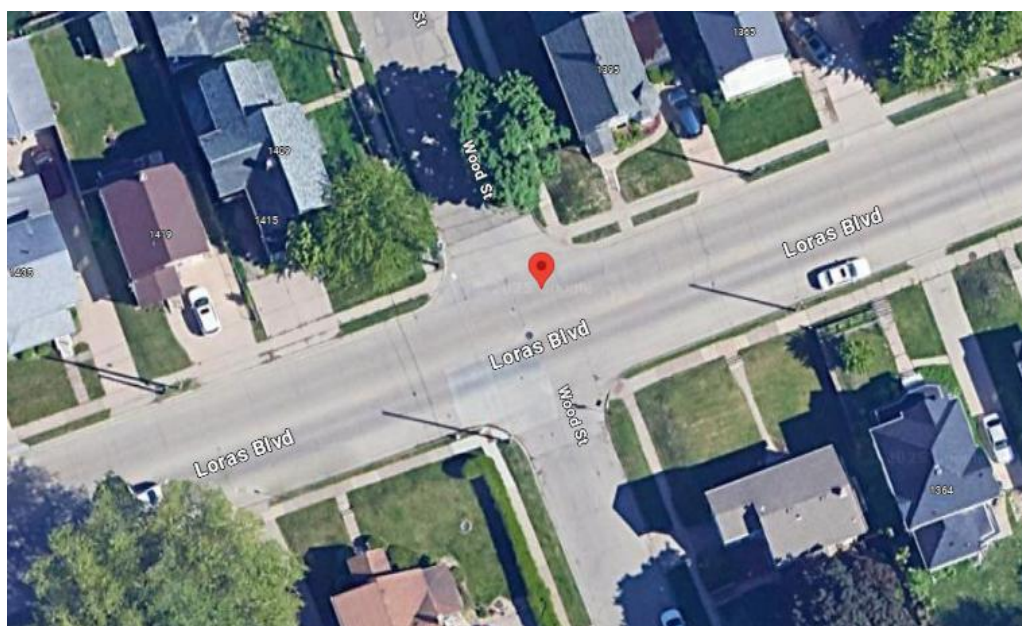


Figure 38: Intersection of Loras Boulevard and Wood Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and six CO crashes. The predominant manner of collision for KAB crashes is rear-end (front to rear), which accounts for 100% of the KAB crashes. Additionally, for KABCO crashes, rear-end collisions account for half of all incidents, while other crash types include angle (oncoming left turn), head-on (front to front), sideswipe (same direction), and rear-to-side collisions. The primary contributing factors to KAB crashes are loss of control and following too closely, which led to rear-end collisions at this intersection. Other contributing factors for KABCO crashes include improper turning movements, driver distraction, and failing to yield the right-of-way while making a left turn. The KAB Annual PCR for the intersection is 0.105312, indicating a medium severity level, while the KABCO Annual PCR is 0.345413, which is also considered medium. Based on statewide rankings, this intersection is ranked 923rd for KAB crashes and 3,286th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants on stop signs (Low)
- Provide stop bars on minor road approaches (Low)
- Provide left-turn lanes on EB-WB approaches (Moderate)
- Clear sight triangles on approaches to the intersection (Low/Moderate)
- Restrict or eliminate parking on east and west approaches (Low)
- Relocate utility poles; if relocation is not feasible, install retro-reflective tape to poles (Low/Moderate)
- Cut down the tree along the north approach (northeast quadrant) (Medium)

Grandview Avenue and Kaufmann Avenue

This site has the medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop-controlled intersection ([Google Maps Link](#)). The area is predominantly residential. The intersection has well-defined curbs, curb ramps and sidewalks. Overhead lighting is present. There are no marked crosswalks present.

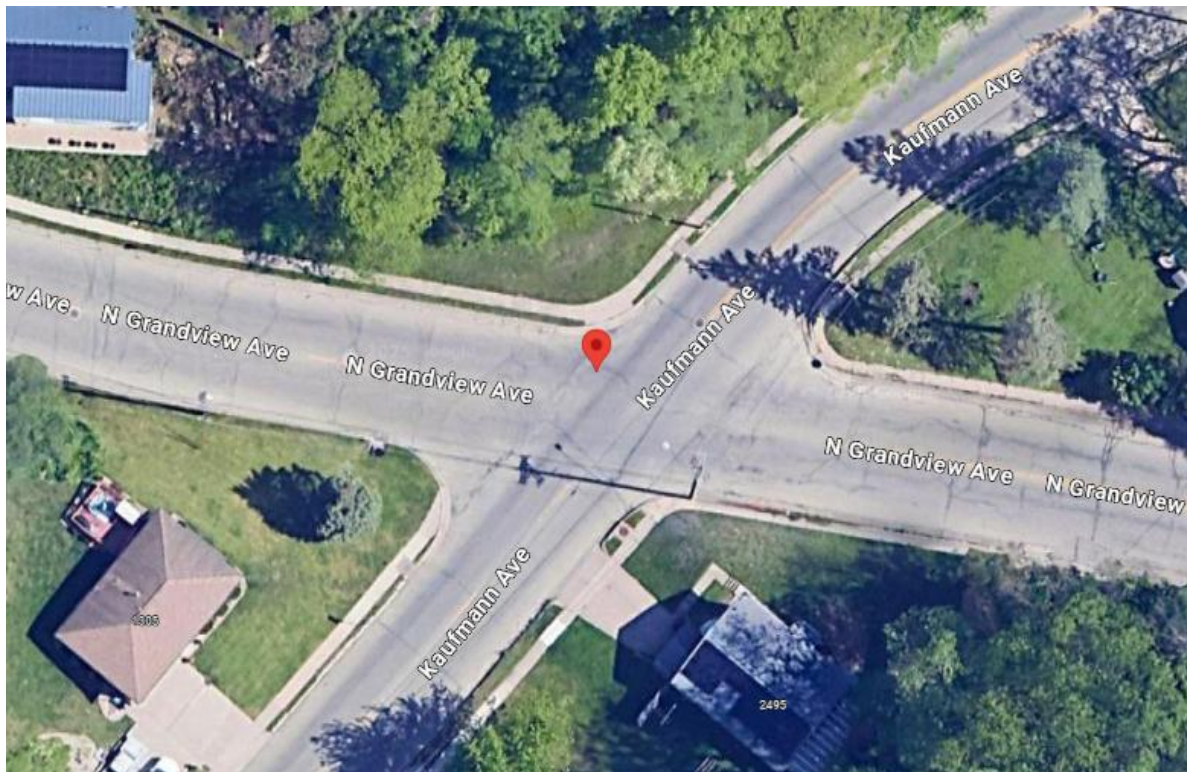


Figure 39: Intersection of Grandview Avenue and Kaufmann Avenue

Crash Summary

Crash data over a five-year period (2018-2022) indicates that 24 crashes have occurred at this intersection, including two KAB crashes and twenty-two CO crashes. The predominant manner of collision for KAB crashes is broadside (front-to-side), with both incidents being classified under this type. For KABCO crashes, broadside collisions accounted for the majority of cases, while rear-end and non-collision incidents represented a smaller proportion of crashes. The primary contributing factors to KAB crashes are running a stop sign and failure to yield the right of way from a stop sign. These same factors are also responsible for many of the CO crashes recorded at this intersection. The KAB Annual PCR for this intersection stands at 0.105051, indicating a medium severity level, whereas the KABCO Annual PCR is 2.85966, classifying it as high. In terms of statewide rankings, this intersection is positioned at 926th for KAB crashes and 298th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate conversion to all-way stop-control (Low)
- Provide red pennants or flashing beacons on stop signs (Low)
- Provide stop bars on minor road approaches (Low)

- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)

Fengler Street and Garfield Avenue

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, all way stop controlled intersection located in a predominantly residential area ([Google Maps Link](#)). The intersection has well-defined curbs, curb ramps, sidewalks, and overhead lighting, and the pavement is in good condition.

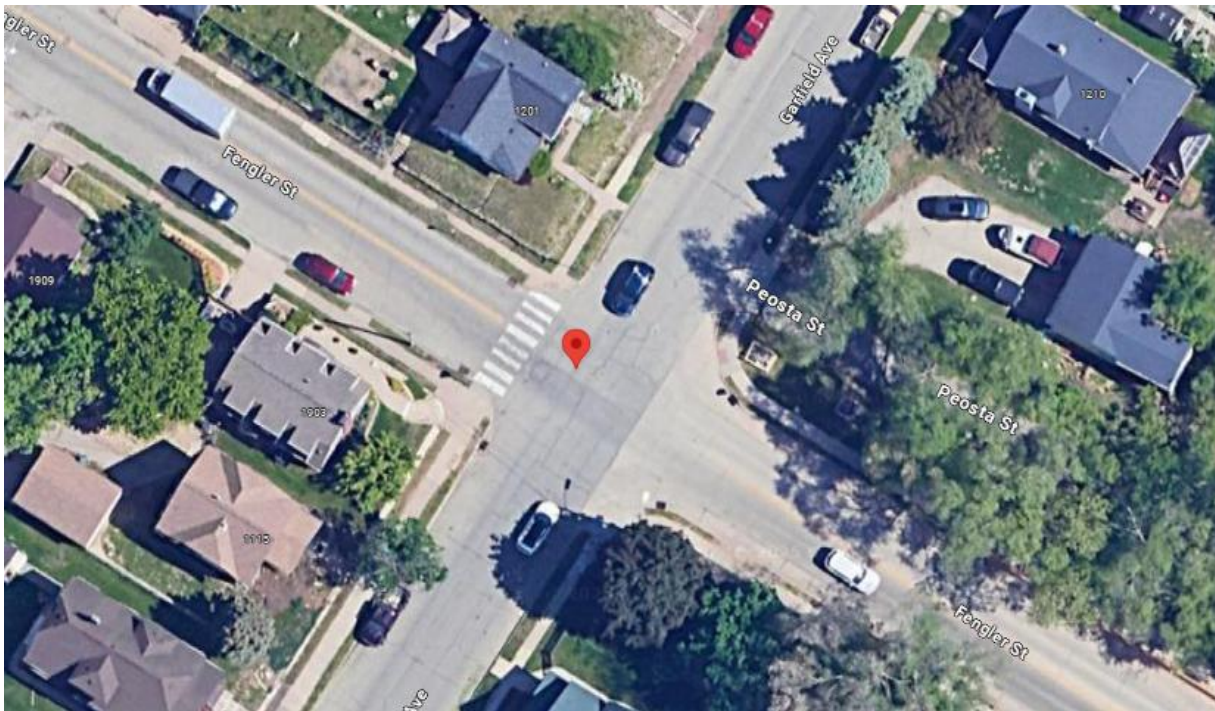


Figure 40: Intersection of Fengler Street and Garfield Avenue

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and eight CO crashes. The predominant manner of collision for KAB crashes includes one broadside (front-to-side) collision and one rear-end (front-to-rear) collision. Among the KABCO crashes, broadside collisions were the most frequent, followed by angle crashes (oncoming left turn), head-on collisions (front-to-front), rear-end crashes, and sideswipe crashes (same direction). The primary contributing factors to KAB crashes are running a stop sign and loss of control of the vehicle. Other contributing factors for KABCO crashes include failure to yield right-of-way from a stop sign, FTYROW while making a left turn, making improper turns, and loss of control. The KAB Annual PCR for the intersection is 0.104277, indicating a medium severity level, while the KABCO Annual PCR

is 0.14026, which is considered low. Based on statewide rankings, this intersection is ranked 949th for KAB crashes and 6426th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on all approaches (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Install red pennants on stop signs (Low)
- Provide left-turn lanes on intersection approaches (Moderate)

Locust Street and West 14th Street

This site is a Four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. Additionally, there are marked crosswalks and pedestrian signals present.



Figure 41: Intersection of Locust Street and West 14th Street

Crash Summary

Crash reports indicate that 40 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and 38 CO crashes. The predominant manner of collision for KAB crashes includes one broadside (front-to-side) crash and one non-collision incident. For KABCO crashes, broadside crashes are the most prevalent, as well as rear-end, non-collision, and a mix of angle and sideswipe crashes. The primary contributing factor to KAB crashes is running a traffic signal and loss of control, which led to severe crashes at the intersection. For KABCO crashes, the major contributing factors include failing to obey traffic signals, improper left turns, following too closely, loss of control, and making improper turns. The KAB Annual PCR for the intersection is 0.10295, indicating a medium severity level, while the KABCO Annual PCR is 5.280748, which is considered high. Based on statewide rankings, this intersection is ranked 986th for KAB crashes and 92nd for KABCO crashes out of 115,274 intersections statewide, making it one of the higher-risk locations.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on minor road approaches (Low)
- Optimize yellow and all red change intervals (Low)
- Install retroreflective traffic signal backplates (Low)
- Employ multiphase signal operation (Moderate)
- Restrict or eliminate parking on intersection approaches (Low)
- Relocate the signal poles away from the road edge (Moderate)

East 22nd Street and Jackson Street

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection located in a mixed-use area with both commercial and residential land use present ([Google Maps Link](#)). The intersection features well-defined curbs, curb ramps, and sidewalks. Additionally, overhead lighting is present, and the pavement is in good condition.

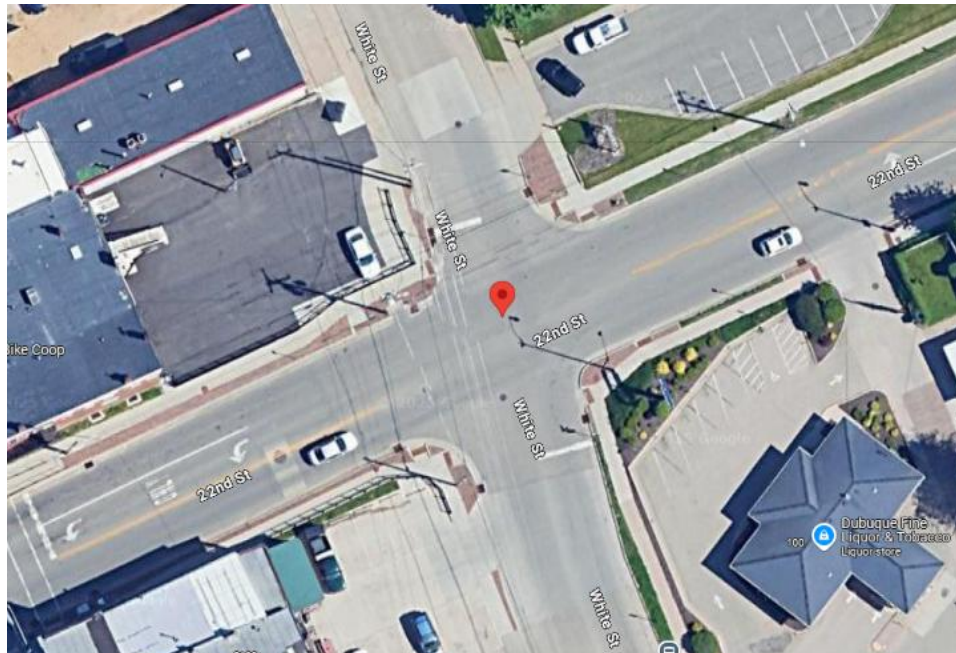


Figure 42: Intersection of East 22nd Street and Jackson Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and eleven CO crashes. The predominant manner of collision is broadside (front-to-side), which accounts for the majority of the KABCO crashes. Both of the KAB crashes are broadside collision type. Other reported CO crash types include rear-end collisions, non-collision crashes, angle (oncoming left turn) crashes, and sideswipe (same direction) crashes. The significant proportion of broadside collisions suggests potential issues with right-of-way compliance and traffic control effectiveness. The primary contributing factor to KAB crashes at this intersection is failure to yield the right-of-way from a stop sign, which led to broadside collisions. Additionally, dominant contributing factors for CO crashes include loss of control, running a stop sign, and failing to yield the right-of-way from a stop sign and driver distraction. The KAB Annual PCR for the intersection is 0.101783, which is categorized as medium severity, while the KABCO Annual PCR is 1.217841, considered high. Based on statewide rankings, this intersection is ranked 1010th for KAB crashes and 941st for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install red pennants or flashing beacons to increase conspicuity (Low)
- Investigate conversion to all-way stop-control (Low)

- Relocate utility poles; if relocation is not feasible, install retro-reflective tape to poles (Low/Moderate)

Madison Street, Main Street and West 17th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection with a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures ([Google Maps Link](#)). The surrounding area is predominantly residential, and the intersection features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are marked crosswalks present, but they are located only on two sides of the intersection.

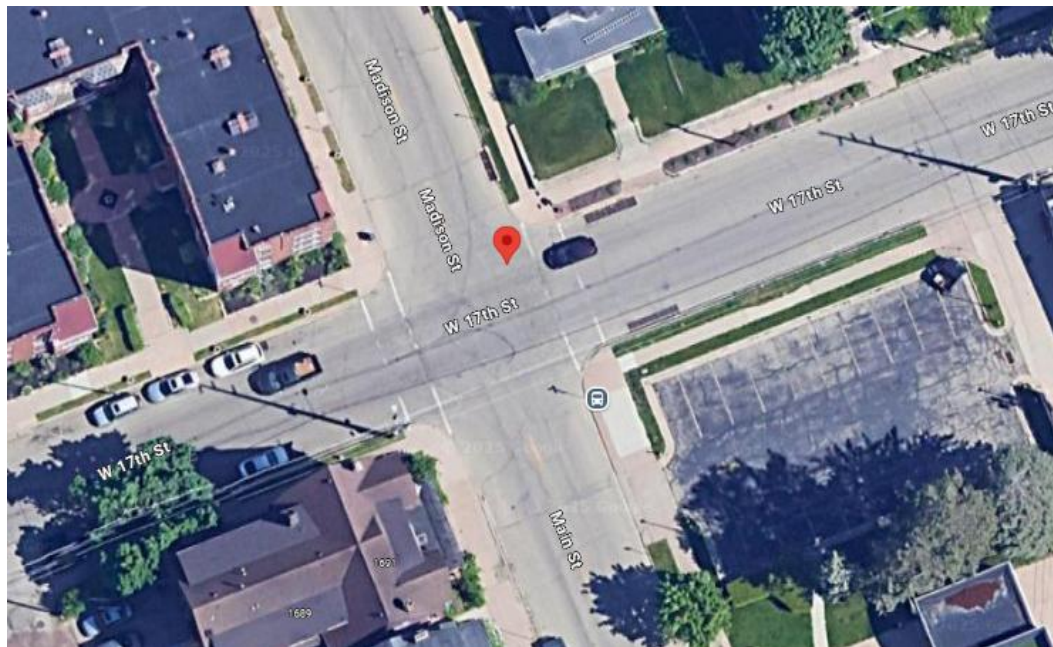


Figure 43: Intersection of Madison Street, Main Street and West 17th Street

Crash Summary

Crash data from 2018 to 2022 indicates that 28 crashes occurred at this intersection, including two KAB crashes and twenty-six CO crashes. The predominant manner of collision for both KAB and KABCO crashes is broadside (front-to-side), while other types of crashes include sideswipe, angle crashes involving left-turning vehicles, and rear-end collisions. The primary contributing factor to KAB crashes is running a stop sign, which directly led to broadside collisions. Similarly, the dominant contributing factors for CO crashes include failing to yield the right-of-way from a stop sign and running a stop sign. Other notable contributing factors include driver distraction, loss of control, and improper parking. The KAB Annual PCR for this intersection is 0.10106, indicating a medium severity level, while the KABCO Annual PCR is 3.449528, which is considered high. Based on statewide rankings, this intersection is ranked 1029th for KAB crashes and 221st for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on minor road approaches (Low)
- Restrict or eliminate parking on intersection approaches (Low)
- Investigate conversion to all-way stop-control (Low)
- Install flashing beacons on stop signs to increase conspicuity (Low)
- Relocate the bus stop away from the intersection approach (low/Moderate)

Fremont Avenue and US 20 Ramp

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, signalized intersection, with the west and east legs serving as exit and entrance ramps to US 20, respectively ([Google Maps Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present and the pavement is in good condition. Additionally, there are marked crosswalks and pedestrian signals present.

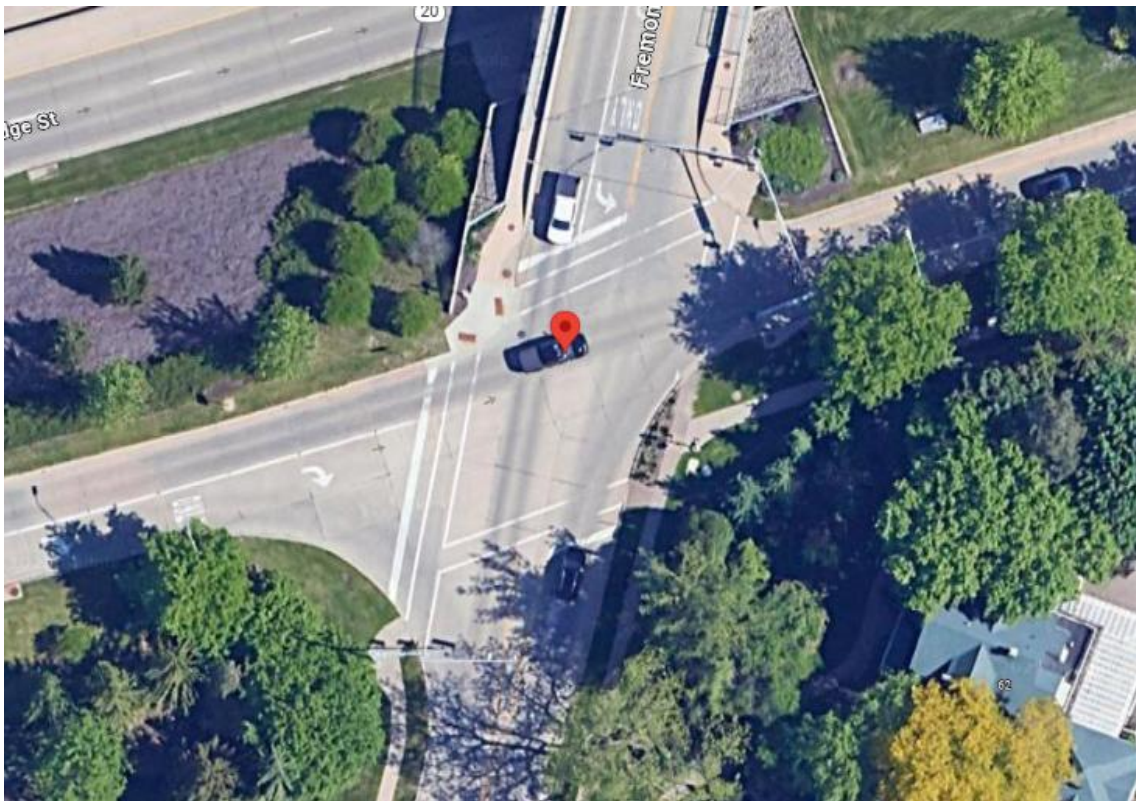


Figure 44: Intersection of Fremont Avenue and US 20 Ramp

Crash Summary

Crash reports indicate that a total of 10 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and eight CO crashes. The predominant manner of collision for KAB crashes includes broadside (front-to-side) and non-collision crashes. Rear-end collisions also represent a significant portion of CO crashes at this intersection. The primary contributing factor to KAB crashes is running a traffic signal and driving too fast for conditions, both of which contributed to severe collisions. Additionally, CO crashes were primarily caused by following too closely, driver distraction, and loss of control. The KAB Annual PCR for the intersection is 0.098615, indicating a medium severity level. However, the KABCO Annual PCR is negative, which may indicate inconsistencies in reporting or calculations. Based on statewide rankings, this intersection is ranked 1,076th for KAB crashes and 110,121st for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red signal timing clearance intervals (Low)
- Install retro-reflective tape to poles (Low)
- Install retroreflective traffic signal backplates (Low)

East 22nd Street and Windsor Avenue

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. On the western side of the intersection, there is a church and a mall, while the other sides are residential areas. The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. Additionally, there are marked crosswalks present.



Figure 45: Intersection of East 22nd Street and Windsor Avenue

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and nine CO crashes. The predominant manner of collision for KAB crashes includes an angle (oncoming left turn) and a non-collision (single vehicle). Additionally, rear-end, sideswipe (same direction), broadside (front-to-side), and head-on (front-to-front) collisions were also reported in KABCO crashes. The primary contributing factors to KAB crashes include loss of control and passing in an unsafe manner, which resulted in severe crashes. Other contributing factors for CO crashes include failure to yield right-of-way at an uncontrolled intersection, making improper turns, and engaging in risky passing maneuvers. The KAB Annual PCR for the intersection is 0.094639, indicating a medium severity level, while the KABCO Annual PCR is 0.856087, also classified as medium. Based on statewide rankings, this intersection is ranked 1133rd for KAB crashes and 1406th for KABCO crashes out of 115,274 intersections statewide, underscoring its significance as a moderate-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on approaches (Low)
- Restrict or eliminate parking on intersection approaches (Low)
- Optimize yellow and all red clearance intervals (Low)
- Install overhead traffic signals (Moderate)

- Install school crossing signs (Low)
- Relocate the utility poles; if relocation is not feasible, install retroreflective tape to poles (Moderate)

Bluff Street and West 5th Street

This site has the medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). The area is a mixture of commercial and residential land-use. The intersection features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. Additionally, there are marked crosswalks and pedestrian signals present.

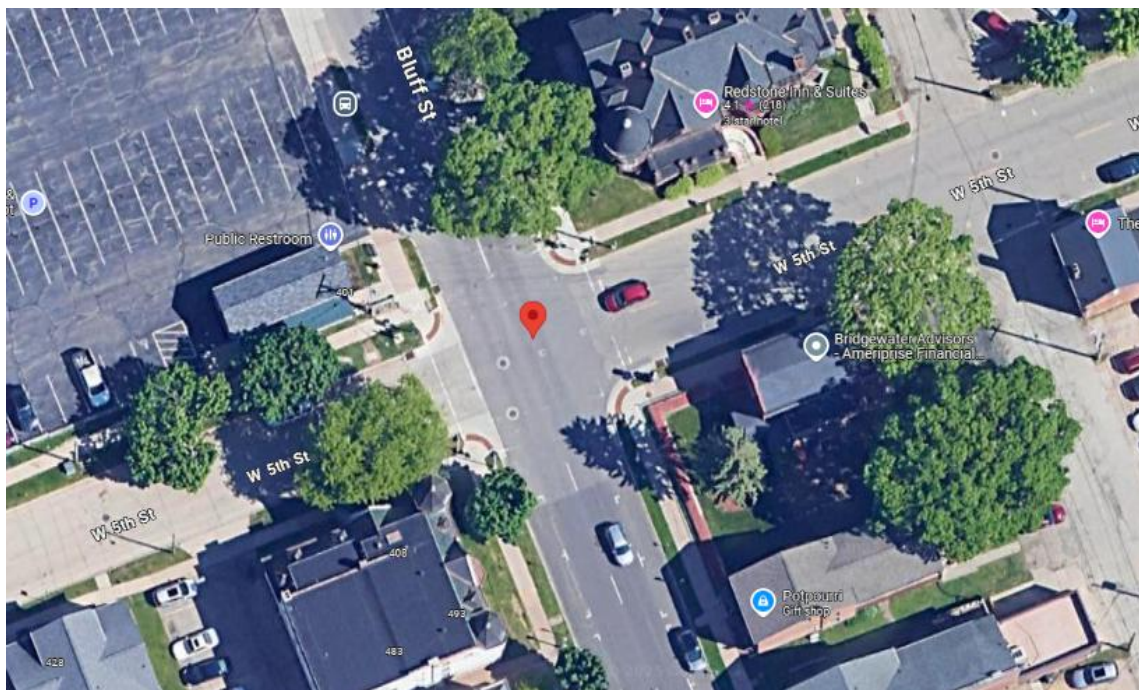


Figure 46: Intersection of Bluff Street and West 5th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and six CO crashes. The predominant manner of collision for both KAB and KABCO crashes includes rear-end and non-collision types. Other crash types include broadside and sideswipe, same-direction collisions. The primary contributing factors to the KAB crashes are loss of control and failure to yield the right of way to pedestrians. Additionally, for CO crashes, making improper turns and loss of control were among the major causes. The KAB Annual PCR for the intersection is 0.091443, indicating a medium severity level, while the KABCO Annual PCR is 0.526619, also classified as medium. Based on statewide rankings, this intersection is ranked 1192nd for KAB crashes and 2254th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install pedestrian crossing signs (Low)
- Provide left-turn channelization (Moderate)
- Restrict or eliminate parking on intersection approaches (Low)

US 20 and Cedar Cross Road

This site is a four-legged, divided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area, but lacks well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition.

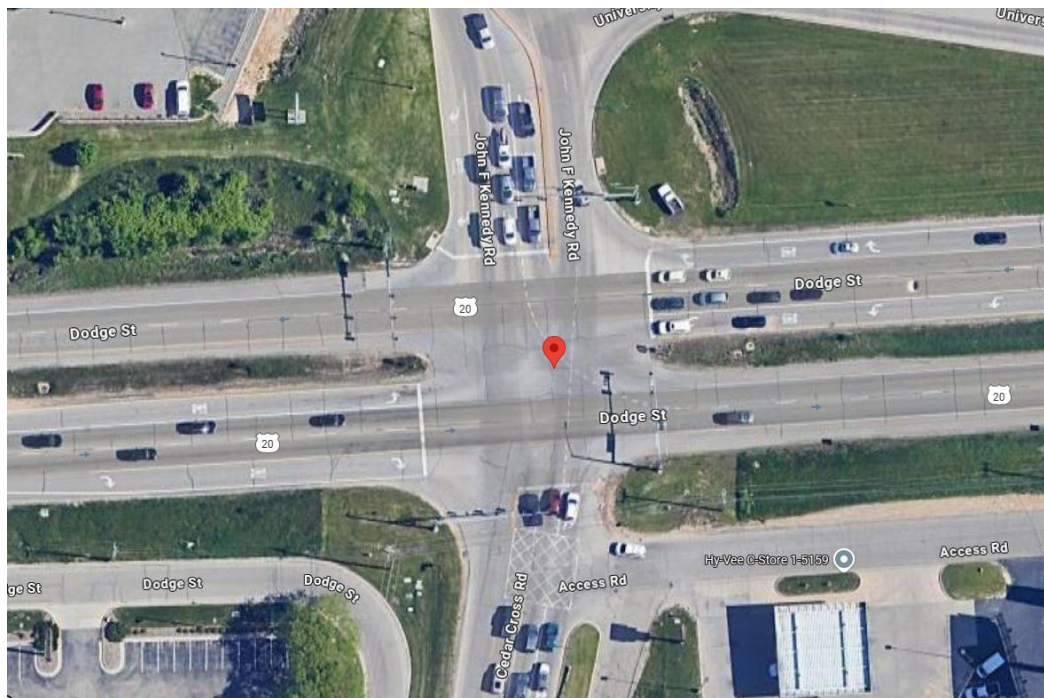


Figure 47: Intersection of US 20 and Cedar Cross Road

Crash Summary

Crash reports indicate that 101 crashes have occurred at this intersection over a five-year period (2018–2022), including seven KAB crashes and ninety-four CO crashes. The predominant manner of KABCO collision is rear-end (front-to-rear), accounting for over half of all crashes. Broadside (front-to-side) collisions are the next most frequent, followed by sideswipe (same direction) and angle (oncoming left turn) crashes. KAB crashes also show a similar pattern, with the majority being rear-end, followed by broadside, angle and non-collision. The primary contributing factor to KAB crashes is loss of control, responsible for over half of the severe

crashes, followed by following too closely, failure to yield right-of-way while making left-turn and running a traffic signal. For KABCO crashes, the leading causes were also loss of control, following too closely, running traffic signal, failure to yield right-of-way from stop sign, driver distraction, improper backing, and improper lane changing. The KAB Annual PCR for the intersection is 0.089767, indicating a medium severity level, while the KABCO Annual PCR is 5.73234, which is considered very high. Based on statewide rankings, this intersection is ranked 1221st for KAB crashes and 80th for KABCO crashes out of 115,274 intersections statewide, making it a high-risk site that warrants significant attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing beacons on the stop sign on the access road (Low)
- Optimize the yellow and all red signal timing clearance intervals (Low)
- Install retroreflective traffic signal backplates (Low)

Wacker Drive and Parking Entrances

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, divided, low Speed, partial stop controlled intersection ([Google Maps Link](#)). The area is predominantly commercial. Overhead lighting is present at the intersection and the pavement is in good condition. There are no marked crosswalks present.

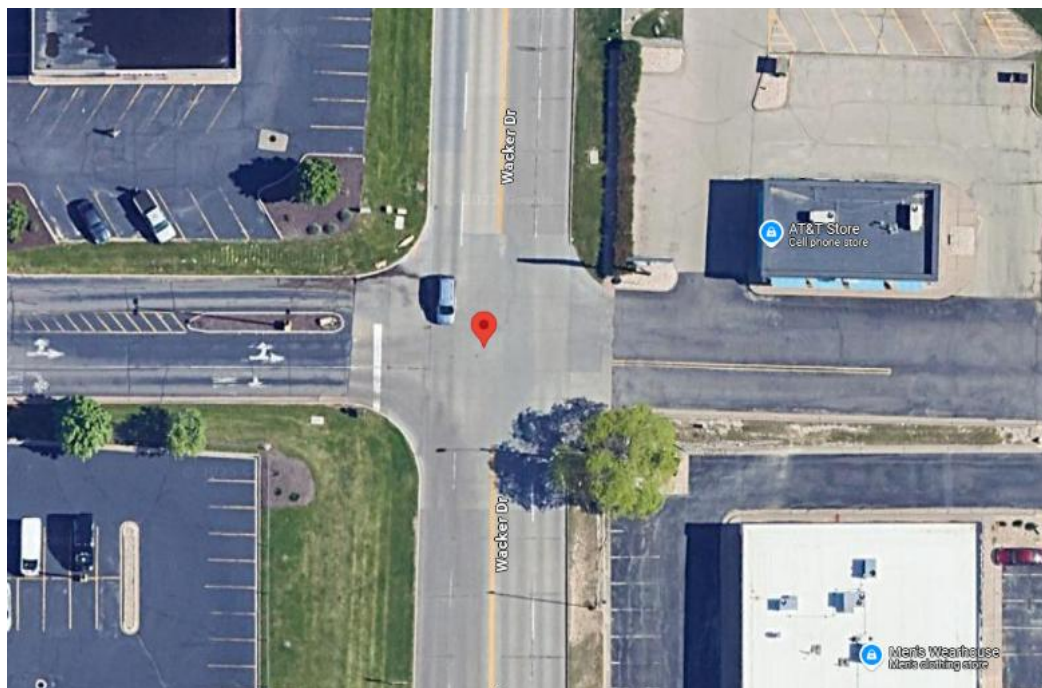


Figure 48: Intersection of Wacker Drive and Parking Entrances

Crash Summary

Crash reports indicate that 24 crashes have occurred at this intersection over a five-year period from 2018 to 2022, including two KAB crashes and twenty-two CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for the majority of crashes. Additionally, angle crashes (oncoming left turn), rear-end collisions, sideswipe (same direction), and head-on collisions were also reported, suggesting potential issues with right-of-way compliance and driver behavior. The two KAB crashes were classified as one rear-end collision and one angle collision. The primary contributing factors to KAB crashes at this intersection include failure to yield the right-of-way from a stop sign and making improper turns. The same issues also contributed significantly to CO crashes, along with failure to yield the right-of-way from a driveway, which was a dominating factor. Other contributing factors included failing to yield while making a left or right turn and improper turning movements. The KAB Annual PCR for the intersection is 0.088219, indicating a medium severity level, while the KABCO Annual PCR is 3.047159, which is considered high. Based on statewide rankings, this intersection is ranked 1234th for KAB crashes and 272nd for KABCO crashes out of 115,274 intersections statewide, making it a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants on stop signs to improve conspicuity (Low)
- Provide a wider stop bar on minor-road approaches (Low)
- Provide shared through and left-turn lane channelization on north and south approaches (Moderate)

Algona Street and Bennett Street

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). The area is predominantly residential. The intersection features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. There are no marked crosswalks present.

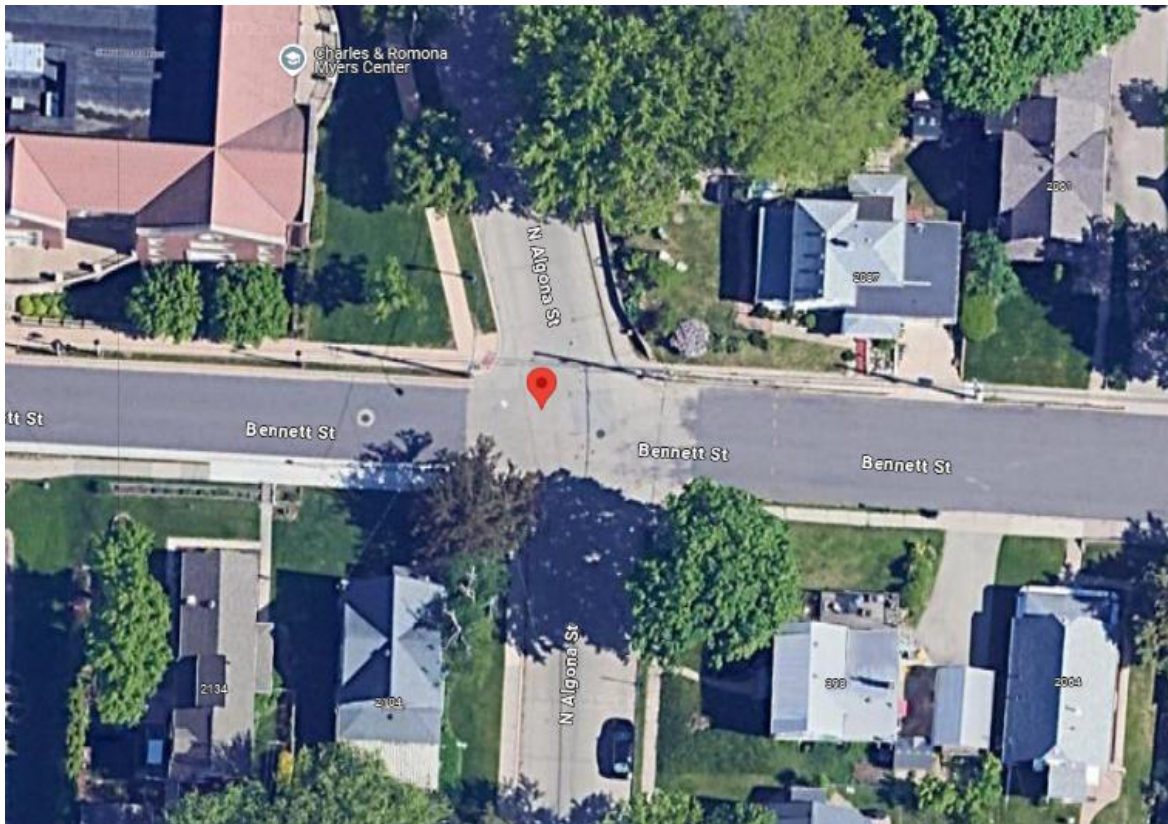


Figure 49: Intersection of Algona Street and Bennett Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and four CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for the majority of crashes. Additionally, non-collision crashes and sideswipe crashes in the same direction were also recorded. The primary contributing factor to KAB crashes is running a stop sign and other unspecified causes. Other contributing factors to CO crashes include failure to yield right-of-way from stop signs, loss of control, and improper turns. The KAB Annual PCR for the intersection is 0.087967, indicating a medium severity level, while the KABCO Annual PCR is 0.368373, which is also considered medium. Based on statewide rankings, this intersection is ranked 1,240th for KAB crashes and 3,123rd for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a location that requires safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install pedestrian crossing signs (Low)
- Provide marked crosswalks (Low)
- Install red pennants or flashing beacons on the stop signs to increase conspicuity (Low)

- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate)
- Provide stop bars on minor road approaches (Low)

Fengler Street and Rhomberg Avenue

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection located in a predominantly residential area ([Google Maps Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks, along with overhead lighting. The pavement is in good condition. There are no marked crosswalks present.

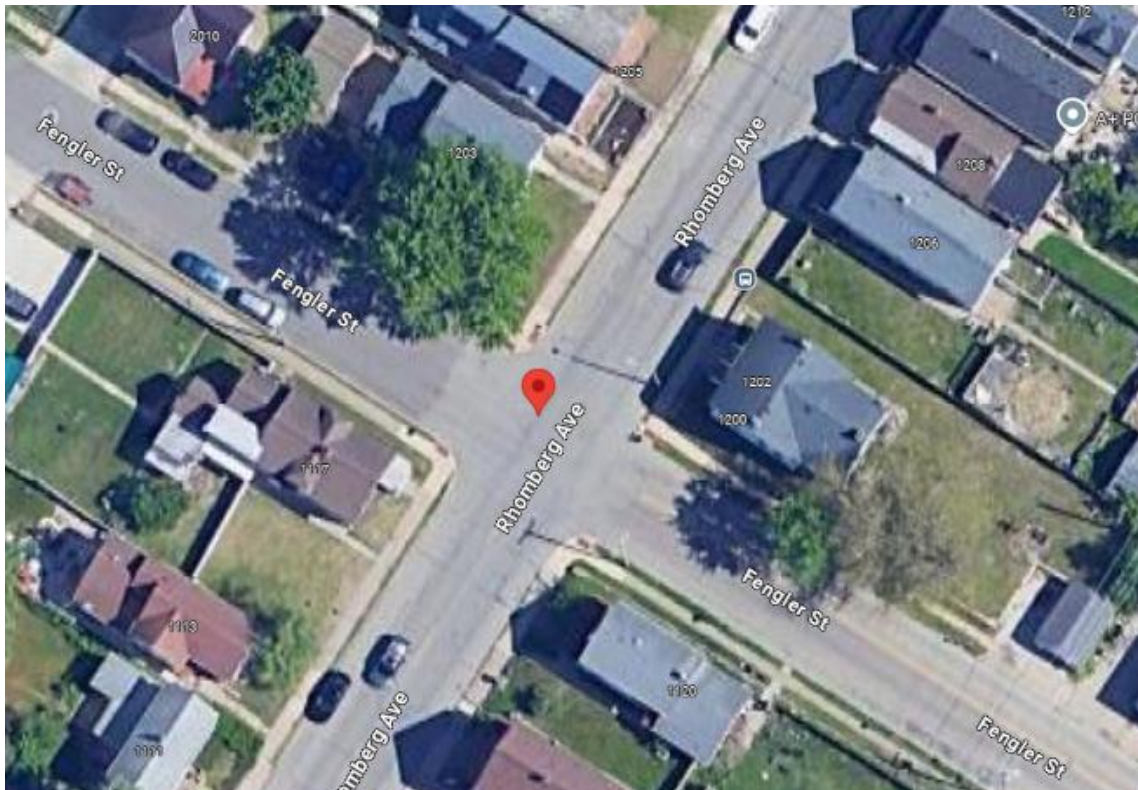


Figure 50: Intersection of Fengler Street and Rhomberg Avenue

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and fourteen CO crashes. The predominant manner of collision includes broadside (front-to-side), non-collision (single vehicle), rear-end (front-to-rear), angle (oncoming left turn), and sideswipe (same direction). Among the KAB crashes, one was a broadside collision, while the other was a non-collision. The primary contributing factors to KAB crashes are failure to yield right-of-way to pedestrians and failure to yield at an uncontrolled intersection. The dominant contributing factor to CO crashes is loss of control. Other contributing factors include failure to yield right-of-way from stop sign, improper turning and failure to keep in the proper lane. The KAB Annual PCR for this intersection is 0.085591,

indicating a medium severity level, while the KABCO Annual PCR is 1.695846, which is considered high. Based on statewide rankings, this intersection is ranked 1,268th for KAB crashes and 631st for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Restrict or eliminate parking on intersection approaches (Low)
- Improve bicycle facilities (Moderate)
- Provide stop bars on minor road approaches (Low)

East 24th Street and Jackson Street

This site is a four-legged, undivided, low speed, all way stop controlled intersection with a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures ([Google Maps Link](#)). The area is predominantly residential and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. Additionally, there are marked crosswalks present.

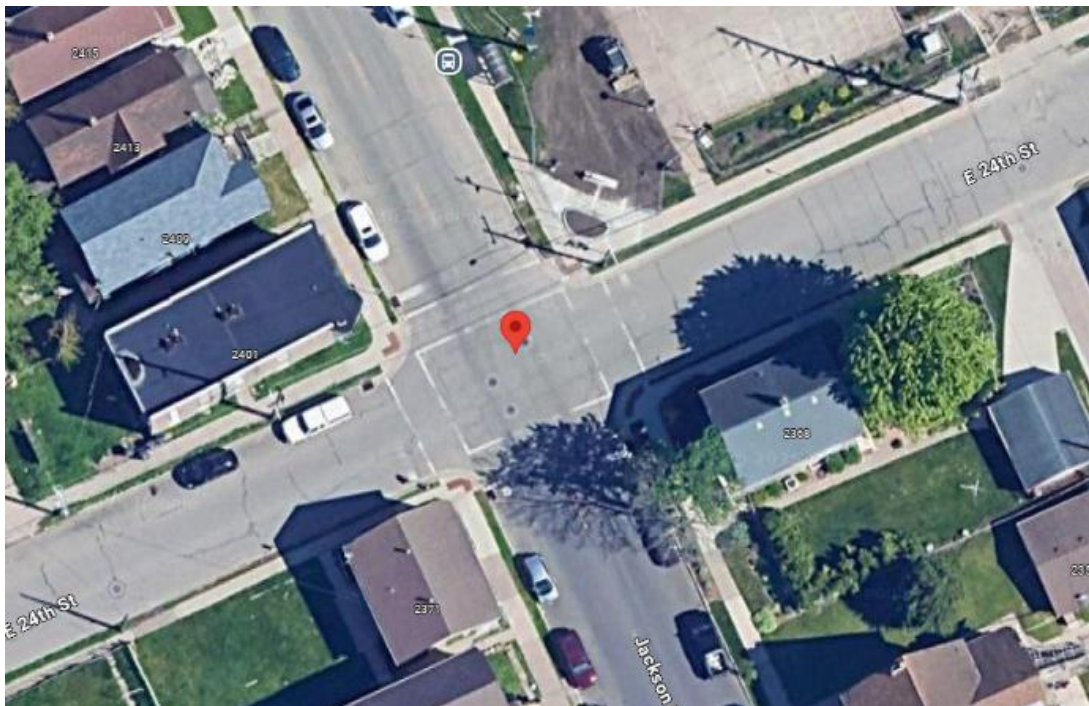


Figure 51: Intersection of East 24th Street and Jackson Street

Crash Summary

Crash reports indicate that 17 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and fifteen CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for a significant proportion of crashes, followed by rear-end and non-collision incidents. Among the KAB crashes, one was a broadside collision, while the other was a non-collision. The primary contributing factors to KAB crashes are running a stop sign and other unspecified causes. The dominating contribution factors to CO crashes include failure to yield the right-of-way from a stop sign, failure to keep in proper lane, and loss of control. The KAB Annual PCR for this intersection is 0.08338, indicating a medium severity level, while the KABCO Annual PCR is 1.98473, which is considered high. Based on statewide rankings, this intersection is ranked 1293rd for KAB crashes and 510th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Flashing LED Pedestrian Crossing Signs (Low/Moderate)
- Provide red pennant flags on stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)
- Improve bicycle facilities (Moderate)
- Restrict or eliminate parking on intersection approaches (Low)

Kennedy Road and Kennedy Circle

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, divided, low speed, partial stop controlled intersection located in a predominantly commercial area ([Google Maps Link](#)). The intersection has well-defined curbs, curb cuts, and sidewalks, along with overhead lighting. The pavement is in good condition. There are crosswalks present only on one side of the intersection.

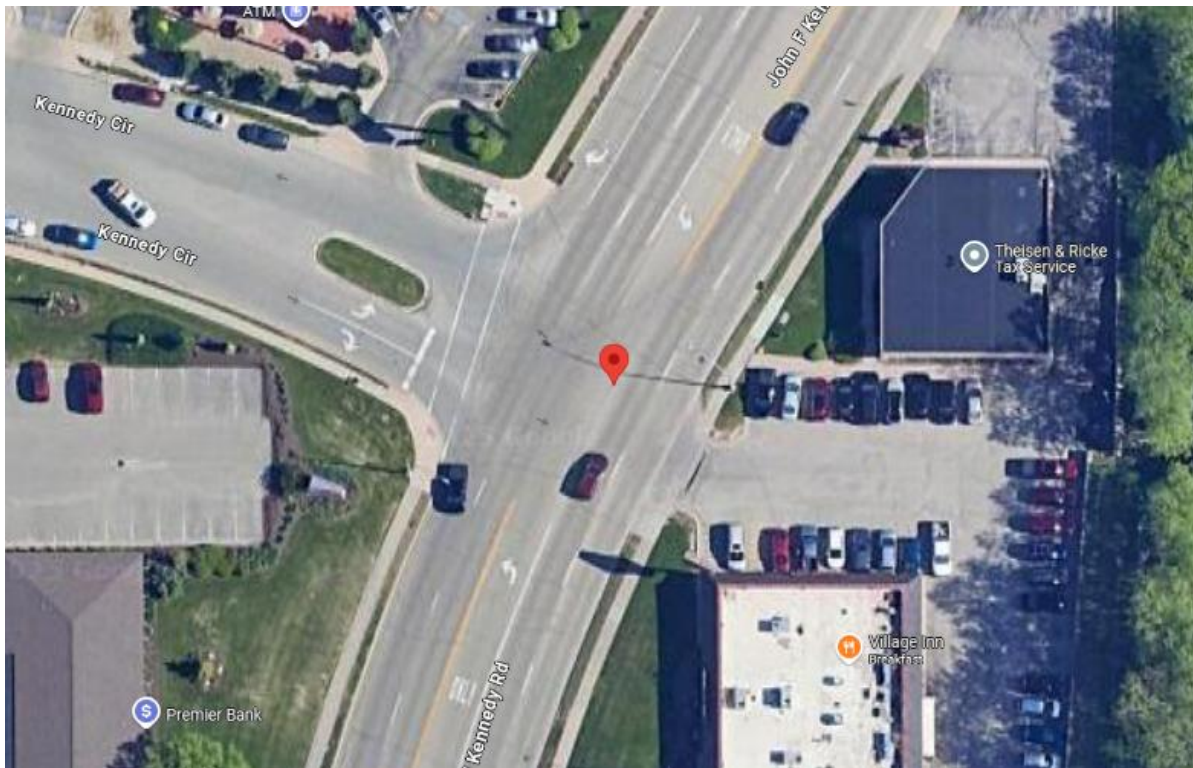


Figure 52: Intersection of Kennedy Road and Kennedy Circle

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and ten CO crashes. The predominant manner of collision is angle (oncoming left turn) and rear-end (front-to-rear), accounting for the KAB crashes. Additional crash types recorded in the KABCO category include broadside (front-to-side), sideswipe (same direction), non-collision, and rear-to-rear crashes, reflecting various collision risks at the intersection. The primary contributing factors to KAB crashes include failing to yield the right of way while making a left turn and loss of control. Among CO crashes, the main causes involve improper backing, erratic lane changes, improper turns, and failure to yield from driveways. The KAB Annual PCR for this intersection is 0.081878, indicating a medium severity level, while the KABCO Annual PCR is 0.985141, also categorized as medium. Based on statewide rankings, this intersection is ranked 1315th for KAB crashes and 1215th for KABCO crashes out of 115,274 intersections statewide, signifying the need for targeted safety interventions.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)

- Investigate and apply access management (Moderate)

East 14th Street and White Street

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). The area is predominantly a commercial area. It has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection and the pavement is in good condition. Additionally, there are marked crosswalks and pedestrian present.



Figure 53: Intersection of East 14th Street and White Street

Crash Summary

Crash reports indicate that 39 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and 37 CO crashes. The predominant manner of collision is broadside (front-to-side), while other reported collision types include sideswipe (same direction), angle (oncoming left turn), rear-end (front-to-rear), non-collision (single vehicle), and head-on (front-to-front). The primary contributing factor to the KAB crashes is running a traffic signal. Other significant contributing factors to CO crashes include making improper turns, loss of control, and failure to yield right-of-way when making left turns. Additionally, improper or erratic lane changes and other miscellaneous factors also contributed to crashes at this intersection. The KAB Annual PCR for this intersection is 0.080622, which falls into the medium severity range, while the KABCO Annual PCR is 4.669363, classified as high. Based on statewide rankings, this intersection is ranked 1,336th for KAB crashes and 130th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate and install alternative pedestrian signaling system (Moderate)
- Provide left-turn and right-turn channelization on south approach (High)
- Optimize signal timings (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Kennedy Road and Carter Road

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a three-legged, undivided, low speed, partial stop controlled intersection located in a predominantly commercial area ([Google Maps Link](#)). The intersection features well-defined curbs, curb ramps, and sidewalks, with overhead. The pavement is in good condition; however, there are no marked crosswalks present.

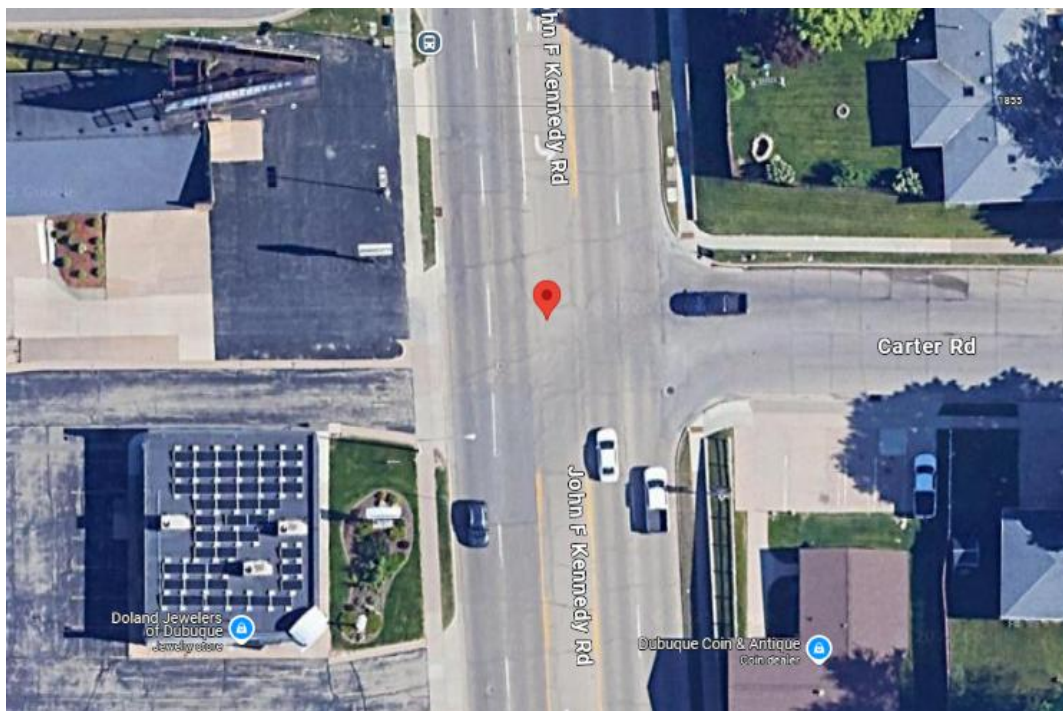


Figure 54: Intersection of Kennedy Road and Carter Road

Crash Summary

Crash reports indicate that 39 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and 36 CO crashes. The predominant manner of collision is broadside (front-to-side), followed by rear-end and angle crashes. Two of the three KAB crashes were broadside collisions, while one involved an angle collision. The leading contributing factors to the KAB crashes were failure to yield the right-of-way from a stop sign

and failure to yield the right-of-way from a driveway. The dominant contributing factor for the CO crashes was failure to yield the right-of-way from a stop sign. Other contributing factors to crashes at this intersection include loss of control, running a stop sign, following too closely, failure to yield while making a left turn or from a driveway, driver distraction, and erratic lane changes. The KAB Annual PCR for the intersection is 0.076058, indicating a medium severity level, while the KABCO Annual PCR is 5.221809, which is considered high. Based on statewide rankings, this intersection is ranked 1,385th for KAB crashes and 97th for KABCO crashes out of 115,274 intersections statewide, emphasizing its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install stop sign on the driveway (Low)
- Provide red pennants on stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approach (Low)
- Provide left-turn lanes at the intersection (Moderate)

East 19th Street and Jackson Street

This site has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection, located in a mixed commercial and residential area with bus stops near the intersection ([Google Maps Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked crosswalks present.

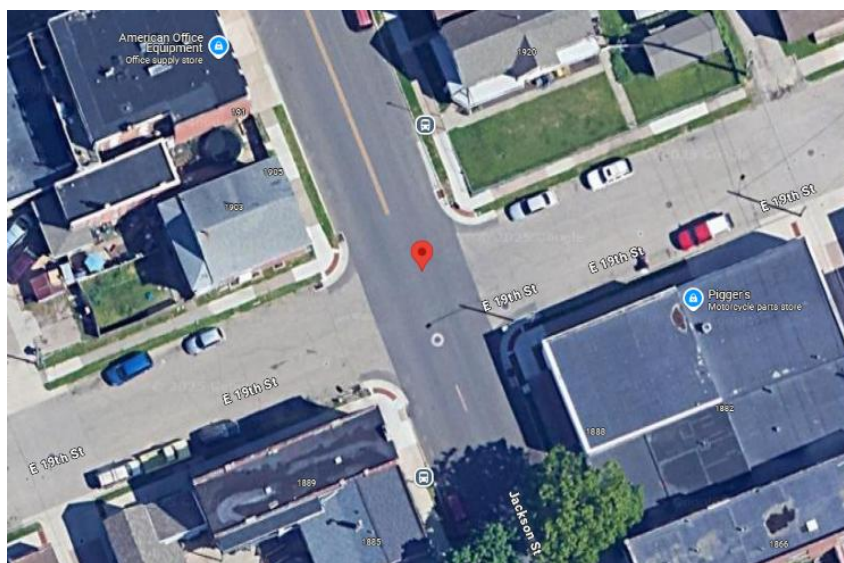


Figure 55: Intersection of East 19th Street and Jackson Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and three CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by broadside collisions. Additionally, head-on and other crash types were recorded. The primary contributing factors to the KAB crashes include failure to yield right-of-way from a stop sign and running a stop sign. Other contributing factors in KABCO crashes include crossing the median (divided), driving too fast for conditions, and loss of control. The KAB Annual PCR for this intersection is 0.073778, indicating a medium severity level, while the KABCO Annual PCR is 0.361591, also classified as medium. Based on statewide rankings, this intersection is ranked 1,424th for KAB crashes and 3,155th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants on stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)
- Restrict or eliminate parking (Low)
- Provide public information and education for restricting parking at the bus stop (Low)

Northwest Arterial and Kennedy Road

This site is a four-legged, divided, high speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but only on the north and east approaches. Marked crosswalks are also limited to these two legs. The intersection is well-lighted, and the pavement is in good condition.



Figure 56: Intersection of Northwest Arterial and Kennedy Road

Crash Summary

Crash reports indicate that 35 crashes have occurred at this intersection over a five-year period (2018–2022), including three KAB crashes and thirty-two CO crashes. The predominant manner of collision is rear end (front-to-rear). Broadside collisions, sideswipes, unknown crash types, and rear-to-side crashes also have occurred. Among the KAB crashes, two were broadside and one was a rear-end collision, indicating a mix of severity and impact types. The primary contributing factors to the KAB crashes include running traffic signal, and improper or erratic lane changes. For CO crashes, the leading causes were loss of control and running traffic signals, along with following too closely, driver distraction and various forms of improper maneuvering. The KAB Annual PCR for this intersection is 0.066982, indicating a medium severity level, while the KABCO Annual PCR is 1.180091, which is considered high. Based on statewide rankings, this intersection is ranked 1,495th for KAB crashes and 984th for KABCO crashes out of 115,274 intersections statewide, making it a site of notable concern for both crash frequency and severity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide turning path markings (Low)
- Install retroreflective traffic signal backplates (Low)
- Optimize yellow and all red clearance intervals (Low)

East 14th Street and Washington Street

This intersection in the city of Dubuque has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection in a predominantly residential area ([Google Maps Link](#)). The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection, and the pavement is in good condition. There are no marked crosswalks present.

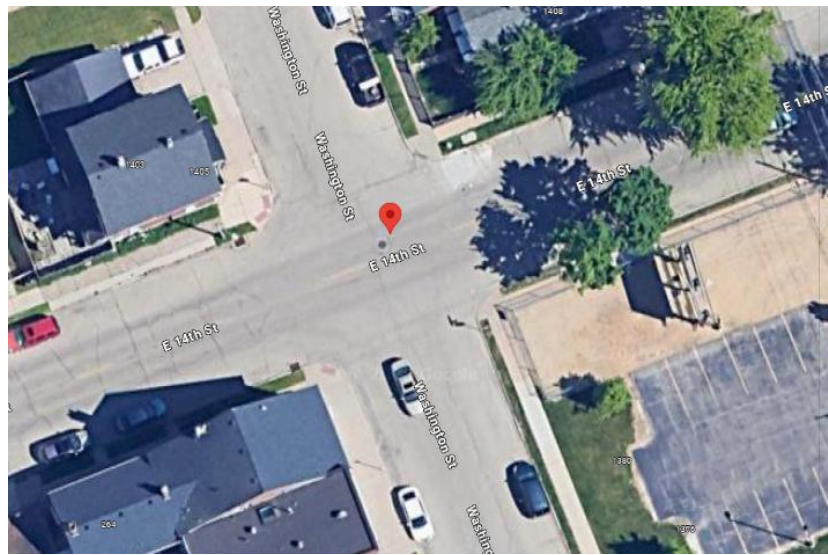


Figure 57: Intersection of East 14th Street and Washington Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and five CO crashes. The predominant manner of collision includes broadside and rear-end crashes, with non-collision incidents also present. The KAB crashes consisted of one rear-end collision and one non-collision. The primary contributing factors to the KAB crashes are running off the road (right) and failing to yield the right of way to pedestrians. Additional contributing factors for CO crashes include loss of control and running a stop sign. The KAB Annual PCR for the intersection is 0.065014, indicating a medium severity level, while the KABCO Annual PCR is 0.549557, which is also considered medium. Based on statewide rankings, this intersection is ranked 1517th for KAB crashes and 2153rd for KABCO crashes out of 115,274 intersections statewide, highlighting its relevance as a potential safety concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install pedestrian crossing signs (Low)
- Install rectangular rapid flashing beacon (RRFB) for pedestrian crossing (Moderate)

- Investigate conversion to all-way stop-control (Low)
- Restrict or eliminate parking on east and west approaches (Low)
- Provide red pennants on stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)

Fillmore Street and Grandview Avenue

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). The area is predominantly residential. The intersection has well-defined curbs, curb cuts, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked crosswalks present.

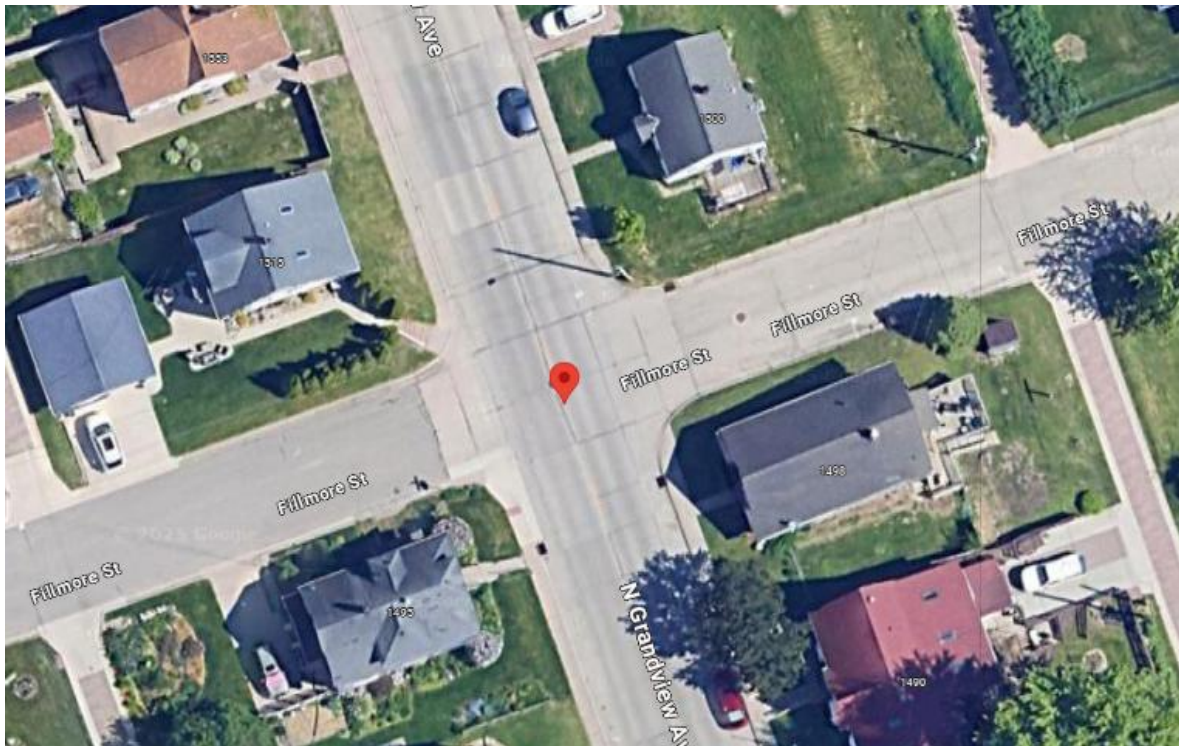


Figure 58: Intersection of Fillmore Street and Grandview Avenue

Crash Summary

Crash reports indicate that three crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and one CO crash. The predominant manner of collision is broadside (front-to-side) and rear-end crashes. The primary contributing factors to crashes are driver distraction, running off the road (right) and running a stop sign. The KAB Annual PCR for the intersection is 0.063877, indicating a medium severity level, while the KABCO Annual PCR is 0.10383, which is considered low. Based on statewide rankings, this intersection is ranked 1526th for KAB crashes and 7925th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on south intersection approach (Low)
- Provide red pennants on stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)

Johnson Street and Rhomberg Avenue

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). The area is predominantly a residential area. The intersection has well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection, and the pavement is in good condition. There are no marked crosswalks present.

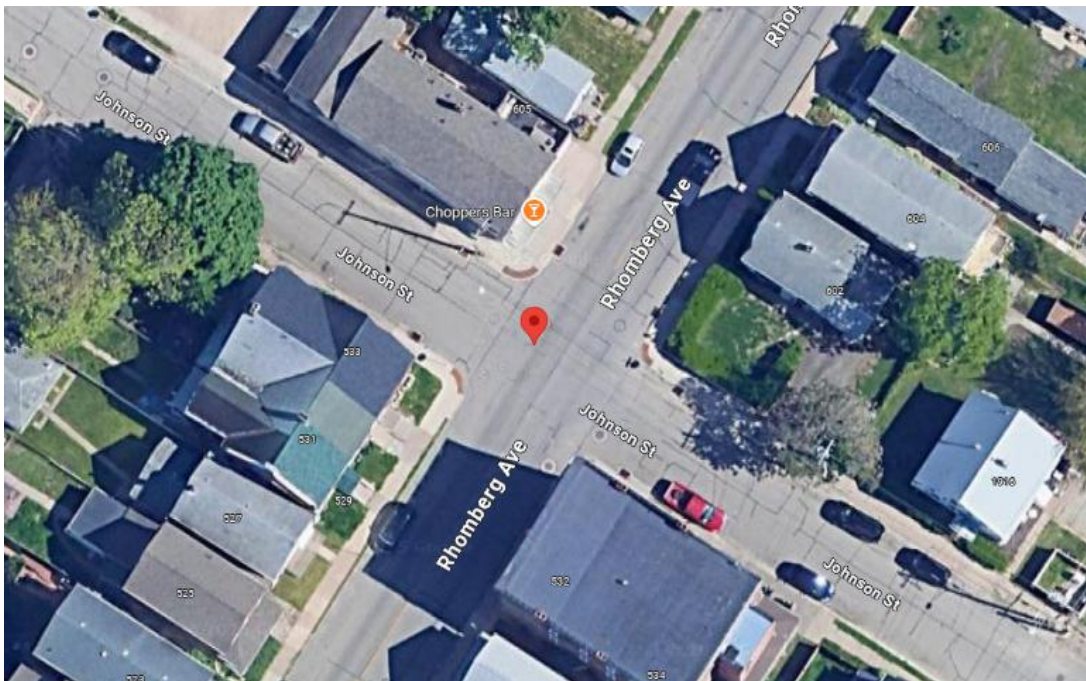


Figure 59: Intersection of Johnson Street and Rhomberg Avenue

Crash Summary

Crash reports indicate that nine crashes occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and seven CO crashes. The predominant manner of collision is broadside (front-to-side), along with rear-end collisions and non-collision crashes, suggesting potential issues with driver behavior, right-of-way compliance, and vehicle control. The primary contributing factors to the KAB crashes include aggressive driving/road rage for one crash, while the cause of the other was unknown. Other significant factors contributing to CO crashes include loss of control, driver distraction, improper backing, and failing to keep in

the proper lane. The KAB Annual PCR for this intersection is 0.061012, indicating a medium severity level, while the KABCO Annual PCR is 0.763743, which is also considered medium. Based on statewide rankings, this intersection is ranked 1549th for KAB crashes and 1581st for KABCO crashes out of 115,274 intersections statewide, highlighting its moderate risk level.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on intersection approaches (Low)
- Install pedestrian crossing signs (Low)
- Provide marked crosswalks (Low)
- Provide stop bars on minor road approaches (Low)
- Improve bicycle facilities (Moderate)
- Improve visibility of the intersection by providing lighting (Moderate)

East 24th Street and White Street

This site has a medium PCR level for KAB crashes, indicating the need for immediate attention and potential countermeasures. It is a Four-legged, undivided, low speed, partial stop controlled intersection located in a predominantly residential area ([Google Maps Link](#)). The intersection features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. However, there are no marked crosswalks present.

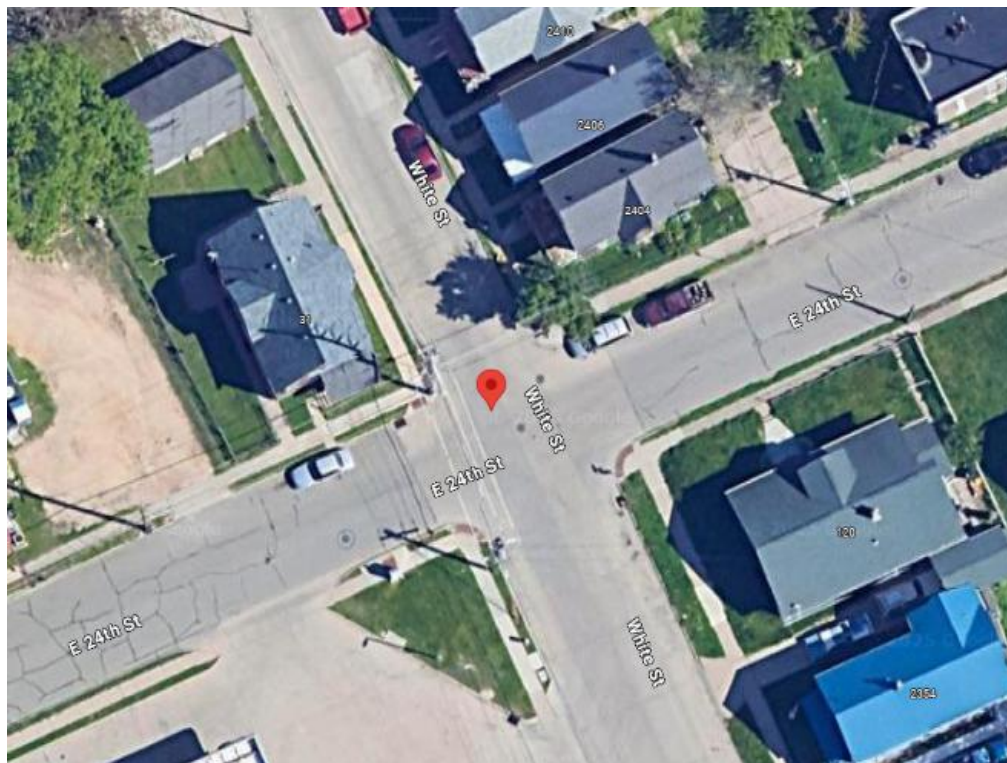


Figure 60: Intersection of East 24th Street and White Street

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018-2022), including two KAB crashes and eight CO crashes. The predominant manner of collision is broadside (front-to-side), followed by non-collision and sideswipe crashes. The primary contributing factors to KAB crashes were unknown. However, the most significant contributing factor for CO crashes is running a stop sign. Other factors influencing crashes at this location include failure to yield right-of-way from stop signs and loss of control. The KAB Annual PCR for the intersection is 0.050017, indicating a medium severity level, while the KABCO Annual PCR is 0.945319, which is also considered medium. Based on statewide rankings, this intersection is ranked 1,660th for KAB crashes and 1,253rd for KABCO crashes out of 115,274 intersections statewide, underscoring its need for safety interventions.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing beacon of LED border pedestrian crossing sign (Low)
- Investigate conversion to all-way stop-control (Low)
- Provide red pennants on stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)

KABCO High and Medium PCR Level Sites

US 20 and Bryant Street

This site is a three-legged, divided, moderate speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is surrounded by residential areas. However, it lacks well-defined curbs and curb ramps as it is more of an interchange configuration, and only a partial sidewalk is present. Overhead lighting is present at the intersection, and the pavement is in good condition.

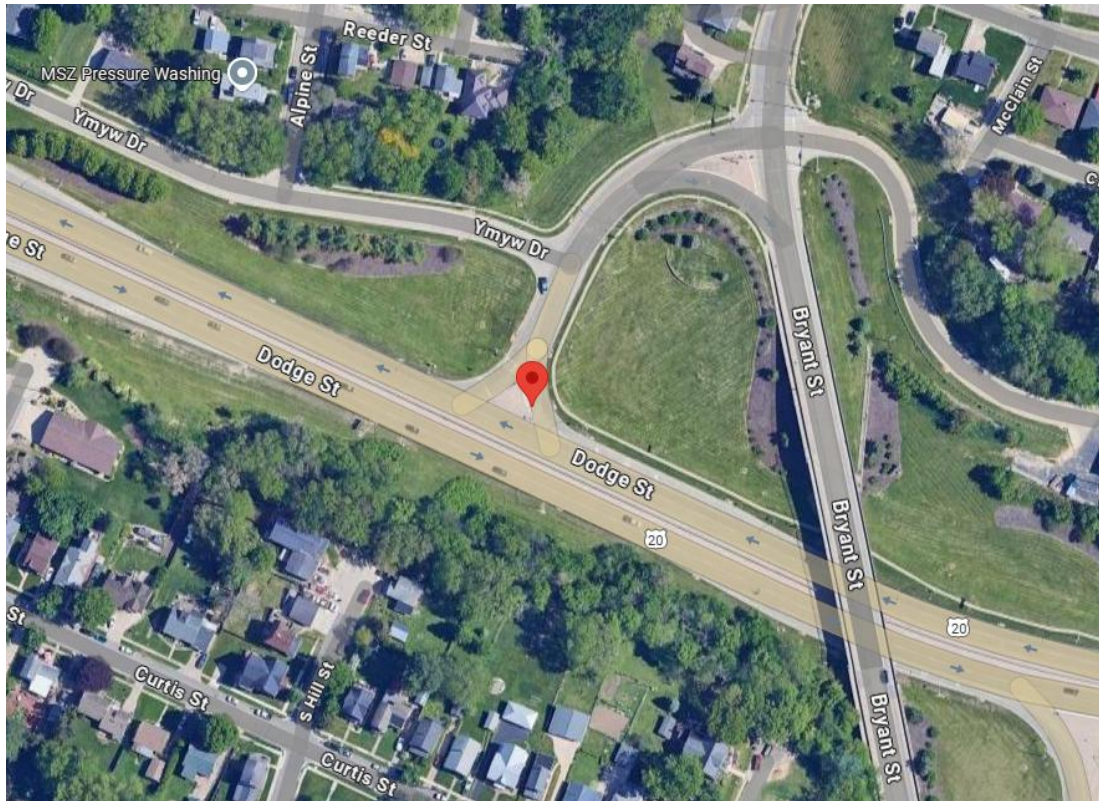


Figure 61: Intersection of US 20 and Bryant Street

Crash Summary

Crash reports indicate that 48 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and 47 CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by sideswipe, broadside, and head-on collisions. The primary contributing factor to KABCO crashes is loss of control, along with following too closely, running a stop sign, failure to yield right-of-way at stop signs, and various other driver behavior issues. The KAB Annual PCR for the intersection is -0.050261, indicating no severity level, while the KABCO Annual PCR is 5.997233, which is considered high. Based on statewide rankings, this intersection is ranked 113,345th for KAB crashes and 69th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a critical crash-prone location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as Stop Ahead (Low)
- Investigate alternative design configuration for roadways in this location (High)
- Install lane assignment pavement markings (Low)
- Install be prepared to warning stop signs (Low)

Kennedy Road and Hillcrest Road

This site is a three-legged, undivided, low speed, partial stop controlled intersection (Google Maps Link). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. No marked crosswalks are present. The intersection is illuminated, and the pavement is in good condition.

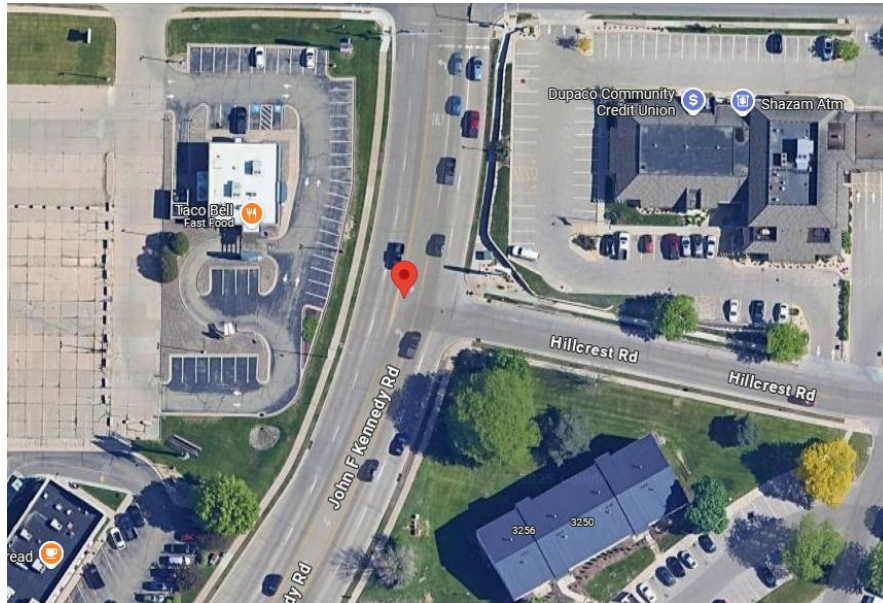


Figure 62: Intersection of Kennedy Road and Hillcrest Road

Crash Summary

Crash reports indicate that 40 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and thirty-nine CO crashes. The predominant manner of collision is broadside (front-to-side). Other crash types include angle crashes (oncoming left turn), rear-end collisions, sideswipes, and non-collision events, which suggest multiple types of conflict points and potential issues with driver awareness. The primary contributing factor to the KABCO crashes is failure to yield right-of-way at a stop sign, which is associated with nearly more than one-fourth of the total crashes. Other contributing factors for the KABCO crashes include running a stop sign, running a traffic signal, improper left turns, loss of control, and various driver decision errors. The KAB Annual PCR for the intersection is 0.003765, indicating a low severity level, while the KABCO Annual PCR is 5.271355, which is considered very high. Based on statewide rankings, this intersection is ranked 7472nd for KAB crashes and 93rd for KABCO crashes out of 115,274 intersections statewide, underscoring its significance as a high-risk location for non-severe but frequent crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as STOP AHEAD on minor road (Low)
- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Provide marked crosswalks (Low)
- Provide a stop bar on minor road approaches (Low)

Northwest Arterial and Pennsylvania Avenue

This site is a four-legged, divided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The area comprises a mix of different land uses. The intersection features well-defined curbs along the minor road, curb cuts, sidewalks, marked crosswalks, and pedestrian signals. It is illuminated, and the pavement condition is good.

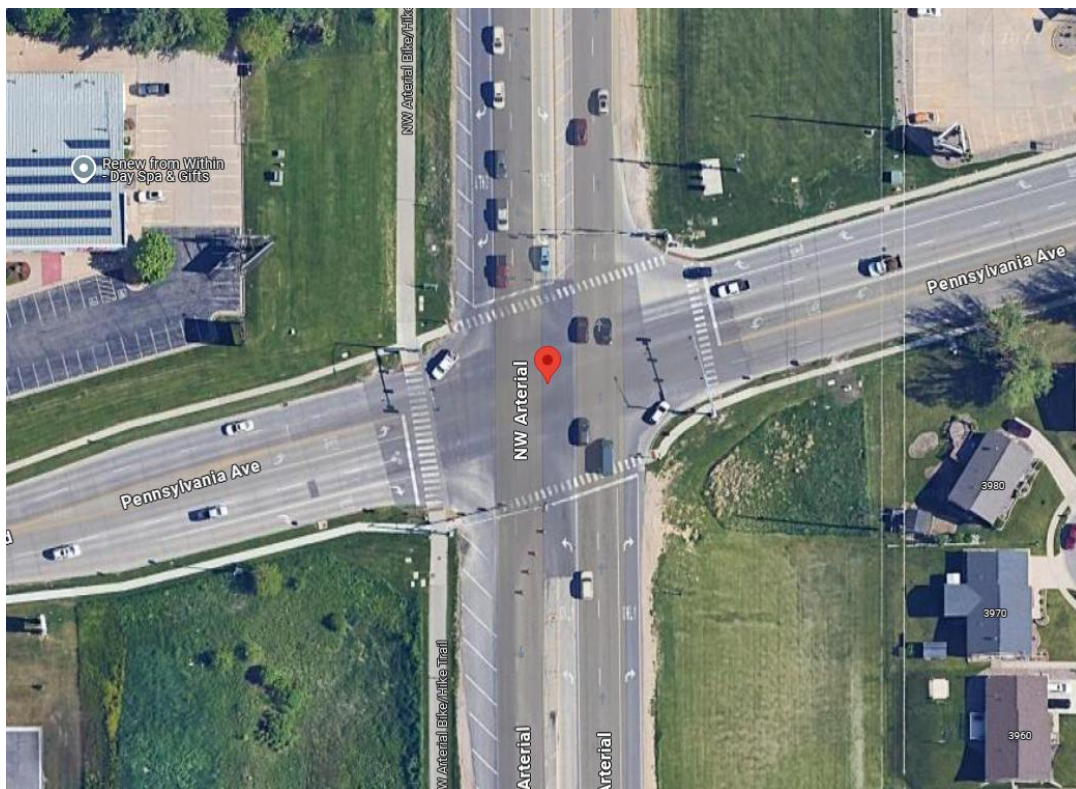


Figure 63: Intersection of Northwest Arterial and Pennsylvania Avenue

Crash Summary

Crash reports indicate that 58 crashes occurred at this intersection over a five-year period (2018–2022), including three KAB crashes and fifty-five CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for nearly half of all KABCO crashes. Other significant crash types include broadside (front-to-side), sideswipe (same direction), and angle (oncoming left-turn) collisions. The KAB crashes involved one angle crash, one broadside crash, and one non-collision type. The primary contributing factor to KABCO crashes is loss of control, followed by drivers running a traffic signal. Other notable contributing factors include

improper or erratic lane changes, following too closely, and failure to yield right-of-way while making a left turn. The KAB Annual PCR for the intersection is -0.044896, while the KABCO Annual PCR is 4.5882, indicating a very high level of total crash frequency. Based on statewide rankings, this intersection is ranked 113,146th for KAB crashes and 136th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Flashing yellow beacon with traffic signal warning signs (Low)
- Optimize yellow and all red clearance intervals (Low)
- Install protective barriers along the intersection perimeter to shield roadside hazards (Moderate)
- Provide turning movement markings (Low)

Asbury Road and Kennedy Road

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good condition.



Figure 64: Intersection of Asbury Road and Kennedy Road

Crash Summary

Crash reports indicate that 59 crashes have occurred at this intersection over a five-year period (2018–2022), including three KAB crashes and fifty-six CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for the largest share of KABCO crashes. Additionally, angle (oncoming left turn), broadside (front-to-side), sideswipe, and head-on crashes were also reported. Among the three KAB crashes, one each was categorized as rear-end, non-collision (single vehicle), and head-on, indicating a range of conflict types contributing to severe crash outcomes. The primary contributing factor to KABCO crashes is loss of control, improper or erratic lane changes, failure to yield right-of-way from driveway, failure to yield right-of-way while making a turn, running a traffic signal, and driver distraction. These behaviors point to intersection control violations and driver distraction. The KAB Annual PCR for the intersection is -0.071551, while the KABCO Annual PCR is 4.170753, which is considered high. Based on statewide rankings, this intersection is ranked 113,886th for KAB crashes and 164th for KABCO crashes out of 115,274 intersections statewide, emphasizing the high frequency of overall crash events at this location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing yellow beacon with Traffic Signal warning signs (Low)
- Optimize yellow and all red clearance intervals (Low)
- Install Stay in Lane and No Weaving signage (Low)

East 16th Street and White Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a low PCR level for KAB crashes but a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The area includes a mix of commercial and residential land uses. The intersection features well-defined curbs, curb ramps, sidewalks, and overhead lighting. The pavement is in good condition. While there are marked crosswalks on the minor road, the major road lacks them.

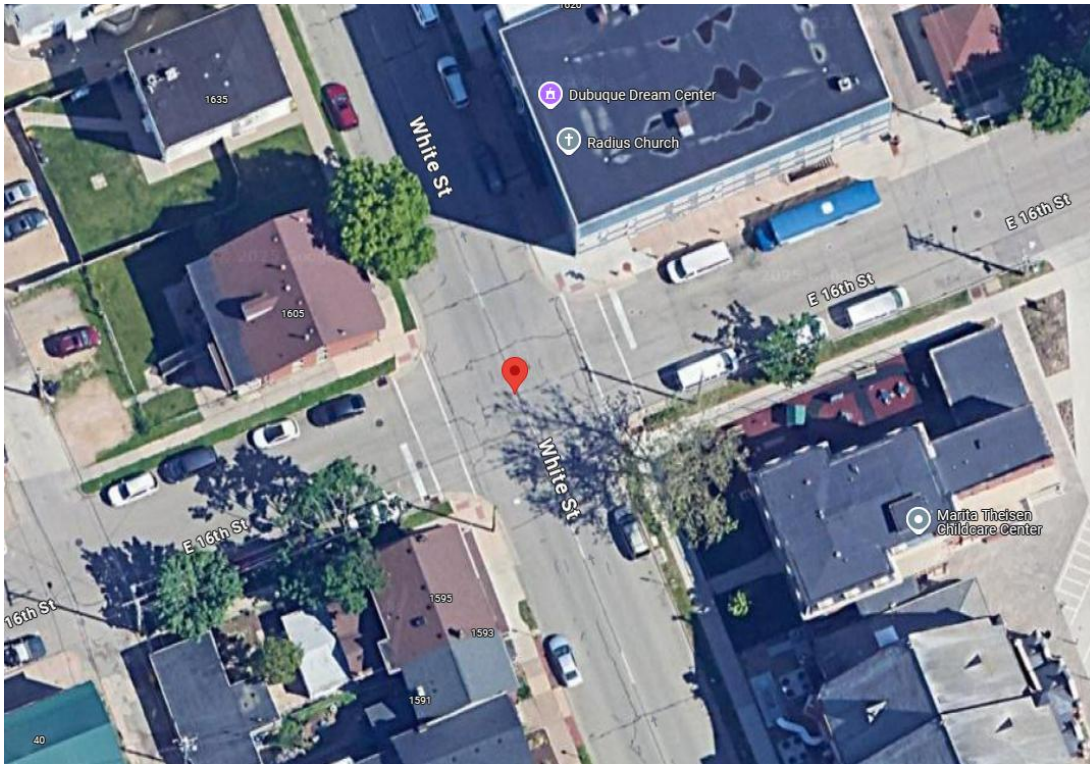


Figure 65: Intersection of East 16th Street and White Street

Crash Summary

Crash reports indicate that 28 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and twenty-seven CO crashes. The predominant manner of KABCO collision is broadside (front-to-side), which accounts for the majority of crashes. Additional crash types include sideswipe, angle (oncoming left turn), rear-end, and non-collision events, suggesting issues with driver awareness and intersection navigation. The primary contributing factor to the single KAB crash was a non-collision collision. For the CO crashes, major contributing factors include running a stop sign, failure to yield right-of-way from a stop condition, and loss of control. Other contributing factors include improper turning maneuvers and driver distraction. The KAB Annual PCR for the intersection is 0.033913, indicating a low severity level, while the KABCO Annual PCR is 3.433608, which is considered high. Based on statewide rankings, this intersection is ranked 2,153rd for KAB crashes and 225th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on approaches (Low)
- Provide marked crosswalks on the major road (Low)
- Install red pennants or flashing beacons on stop signs to increase conspicuity (Low)

- Provide left-turn lanes at intersection on south approach (Moderate)

Northwest Arterial and Asbury Road

This site is a four-legged, divided, moderate speed, signalized intersection ([Google Maps Link](#)). It has a low PCR level for KAB crashes but a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The area is predominantly a commercial zone, with the southeast side of the intersection remaining undeveloped. The intersection includes well-defined curbs along the minor road, curb cuts, sidewalks, and overhead lighting is present. There is also a bike trail near the location. Marked crosswalks and pedestrian signals are present, and the pavement is in good condition.

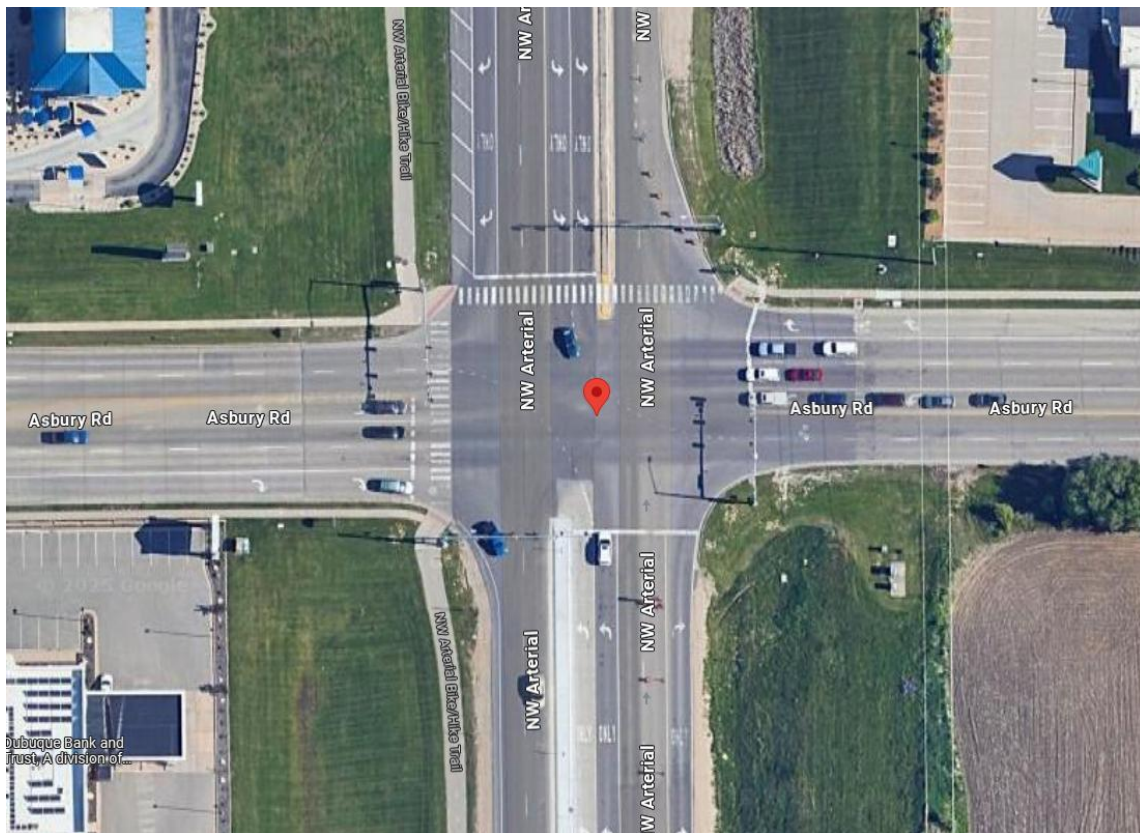


Figure 66: Intersection of Northwest Arterial and Asbury Road

Crash Summary

Crash reports indicate that 63 crashes have occurred at this intersection over a five-year period (2018–2022), including four KAB crashes and 59 CO crashes. The most common manner of collision is rear end (front-to-rear), accounting for nearly half of all crashes. Other frequent crash types include sideswipes, broadside and angle collisions. Among the four KAB crashes, two were angle types, while one each was a broadside and a non-collision crash. The primary contributing factors to KABCO crashes are running traffic signals and loss of control. Other contributing causes include improper or erratic lane changes, failure to yield right-of-way while making left turns, following too closely, and other driver errors. The KAB Annual PCR for this

intersection is 0.040873, reflecting a low severity level, while the KABCO Annual PCR stands at 3.405634, which is considered high. Based on statewide rankings, this intersection is ranked 1,758th for KAB crashes and 229th for KABCO crashes out of 115,274 intersections, highlighting its significance as a high-risk location for general crash occurrence.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Flashing yellow beacon with Traffic Signal warning signs (Low)
- Optimize yellow and all red clearance intervals (Low)
- Install Stay in Lane and No Weaving Signage (Low)

Kennedy Road and Wacker Drive

This site is a four-legged, divided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KAB crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and a marked crosswalk on one side of the intersection. The intersection is illuminated, and the pavement is in good condition.

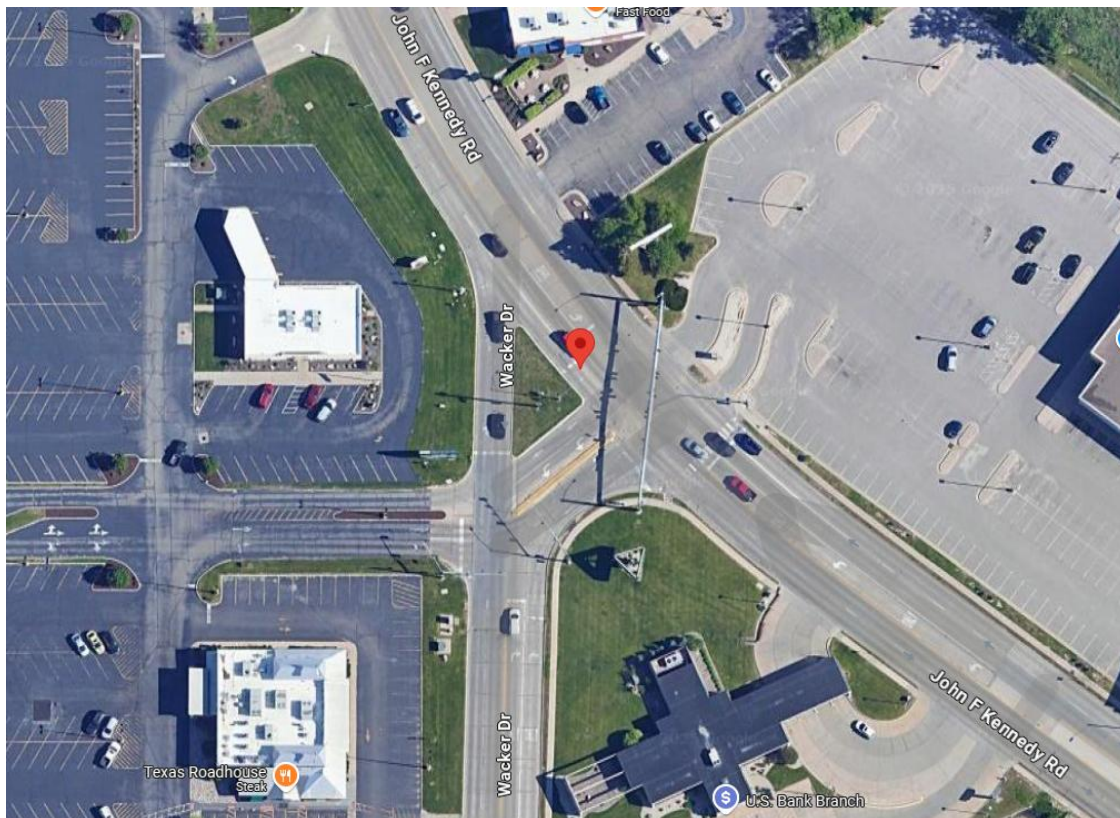


Figure 67: Intersection of Kennedy Road and Wacker Drive

Crash Summary

Crash reports indicate that 40 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and thirty-eight CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by sideswipe (same direction). Additional crash types include angle crashes (oncoming left turn), broadside, head-on, and non-collision, highlighting a mix of conflict patterns that may point to operational issues or driver behavior concerns. The primary contributing factors to KABCO crashes include loss of control and improper or erratic lane usage. Other major contributing factors across all crashes include failure to yield right-of-way while making a left turn, driver distraction, and following too closely. The KAB Annual PCR for the intersection is -0.040797, indicating no severity level, while the KABCO Annual PCR is 3.38897, which is considered high. Based on statewide rankings, this intersection is ranked 112,968th for KAB crashes and 232nd for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Install be prepared to stop warning signs (Low)
- Install Stay in Lane and No Weaving signage (Low)
- Optimize yellow and all red clearance intervals (Low)
- Investigate alternative intersection configurations and implement if practical (High)

East 20th Street and White Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with both commercial and residential properties. It features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on all approaches, enhancing pedestrian accessibility. Overhead lighting is present, and the pavement is in good condition.

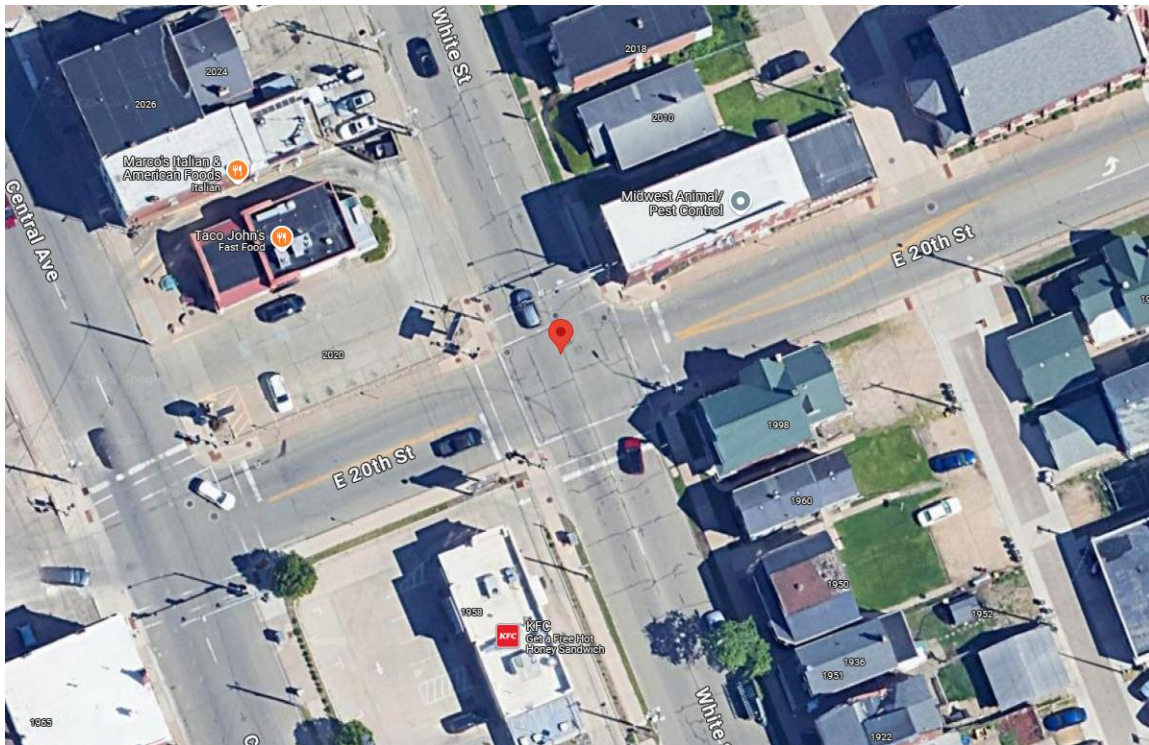


Figure 68: Intersection of East 20th Street and White Street

Crash Summary

Crash reports indicate that 30 crashes have occurred at this intersection over a five-year period (2018–2022), with no reported KAB crashes. The predominant manner of collision is broadside (front-to-side), accounting for the largest share of crashes, followed by sideswipe, rear-end, and non-collision (single vehicle) and angle collisions. This suggests issues related to potential conflicts at signal phases or intersection approaches. The primary contributing factors to KABCO crashes are running a traffic signal and driver behaviors such as loss of control, improper turns, erratic lane changes, and speeding. The KAB Annual PCR for the intersection is -0.125333, indicating no severity level, while the KABCO Annual PCR is 3.10763, which is considered high. Based on statewide rankings, this intersection is ranked 114,542nd for KAB crashes and 263rd for KABCO crashes out of 115,274 intersections statewide, emphasizing the intersection's high crash frequency despite the absence of severe injuries.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Moderate)
- Provide left-turn channelization on south approach (Moderate)
- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate)
- Install Stay in Lane and No Weaving Signage (Low)

- Implement safety recommendations made in Central and White Corridor Study (Varies)

Bellevue Road and Rockdale Road

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The area is predominantly a low-traffic area. The intersection lacks well-defined curbs, curb ramps, and sidewalks. However, it is illuminated, and the pavement is in good condition. There are no marked crosswalks present.

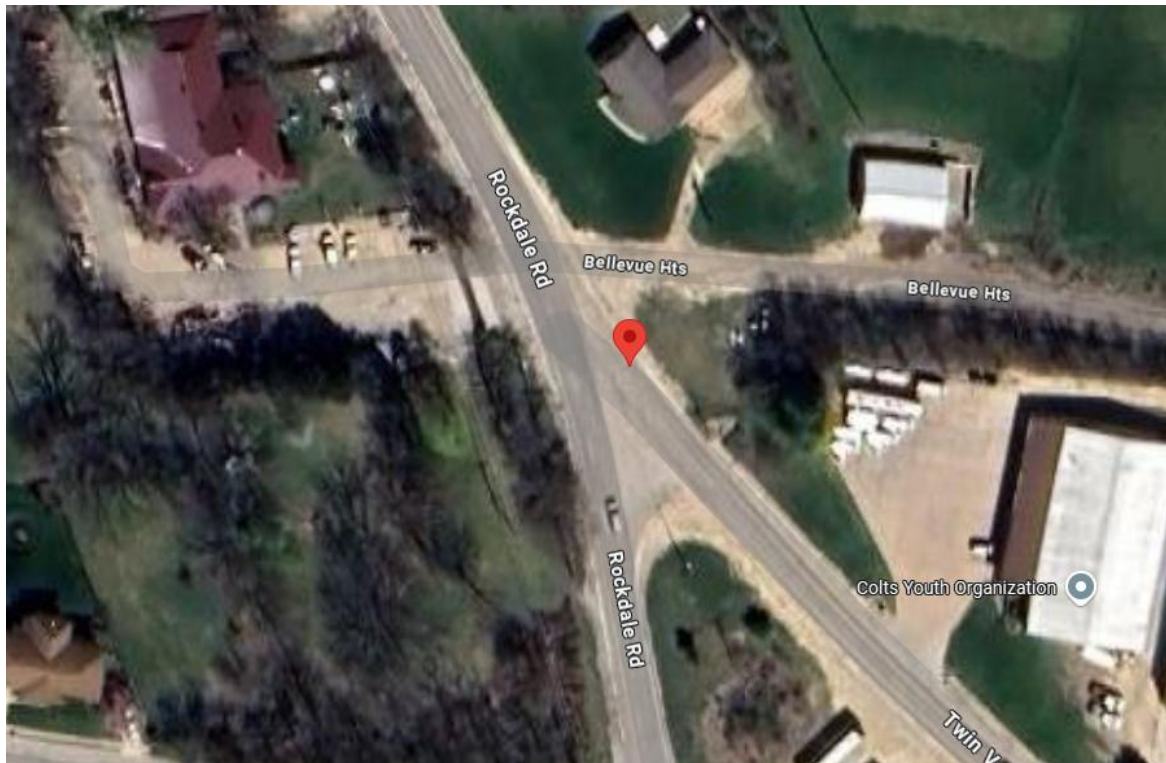


Figure 69: Intersection of Bellevue Road and Rockdale Road

Crash Summary

Crash reports indicate that a total of 21 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and eighteen CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by non-collision single-vehicle, angle, broadside, sideswipe and head-on crashes. The primary contributing factors to KABCO crashes include loss of control, running a stop sign, and following too closely. Other contributing factors also include driver distraction (external and other), failure to yield right-of-way from driveways, and unsafe lane behavior. The KAB Annual PCR for the intersection is 0.038284, indicating a low severity level, while the KABCO Annual PCR is 2.331858, which is considered high. Based on statewide rankings, this intersection is ranked 1,794th for KAB crashes and 398th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location for overall crash activity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approaches (Low)
- Revise the geometry of the intersection (High)

Locust Street and West 3rd Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks at this location.

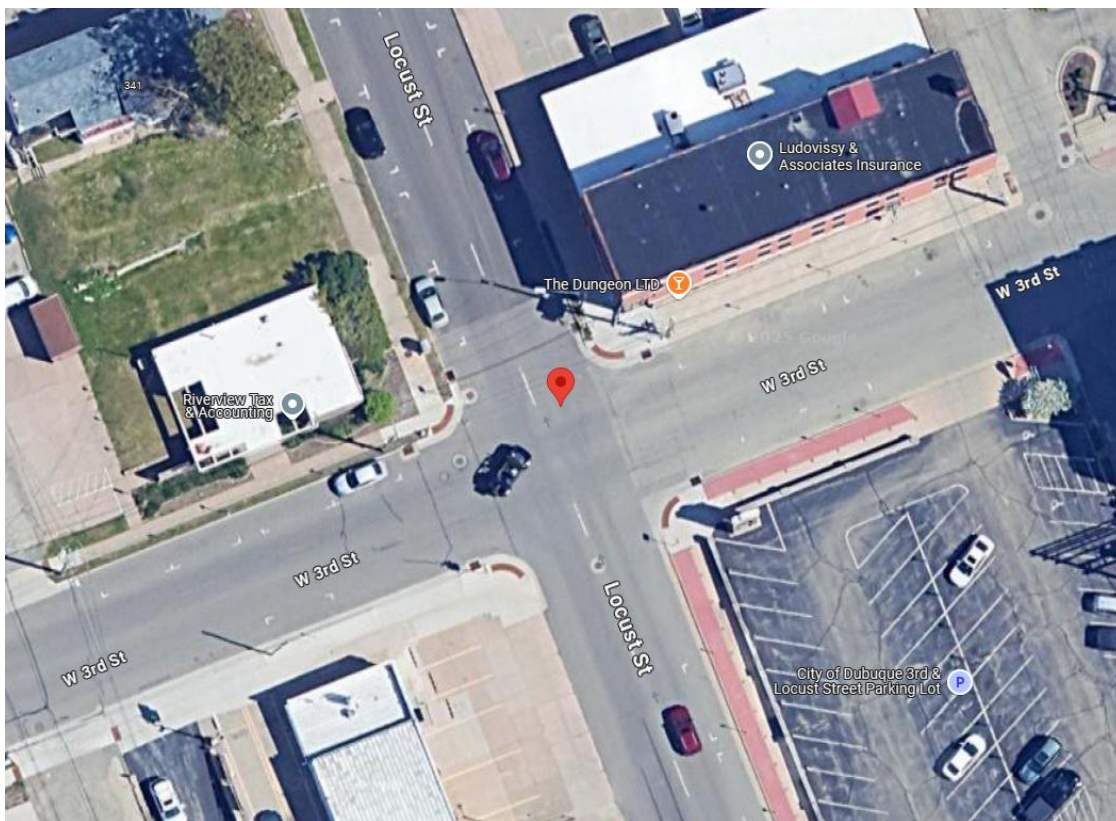


Figure 70: Intersection of Locust Street and West 3rd Street

Crash Summary

Crash reports indicate that 23 crashes have occurred at this intersection over a five-year period (2018–2022), with no severe (KAB) crashes reported. The predominant manner of collision is broadside (front-to-side), which accounts for nearly half of all crashes. Other crash types include sideswipe and angle collisions, suggesting potential issues with turning movements, visibility, or

compliance with traffic controls. The primary contributing factors to these crashes are running stop signs and improper or erratic lane departures. Additional causes include driver distraction, loss of control, failure to yield right-of-way from stop signs and making improper turn. The KAB Annual PCR for the intersection is -0.113731, indicating no recent history of severe crashes, while the KABCO Annual PCR is 2.291829, which is considered high. Based on statewide rankings, this intersection is ranked 114,440th for KAB crashes and 406th for KABCO crashes out of 115,274 intersections statewide, emphasizing its elevated risk in terms of overall crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide red pennants or flashing beacons on stop signs to increase conspicuity (Low)
- Provide marked crosswalks (Low)
- Provide left-turn lanes on NB approach (Moderate)
- Install Stay in Lane and No Weaving signage (Low)

US 20 and Bluff Street

This site is a three-legged, divided, low speed, yield controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features overhead lighting and sidewalks on one side, but lacks curbs, curb ramps, and marked crosswalks. The pavement is in good condition.

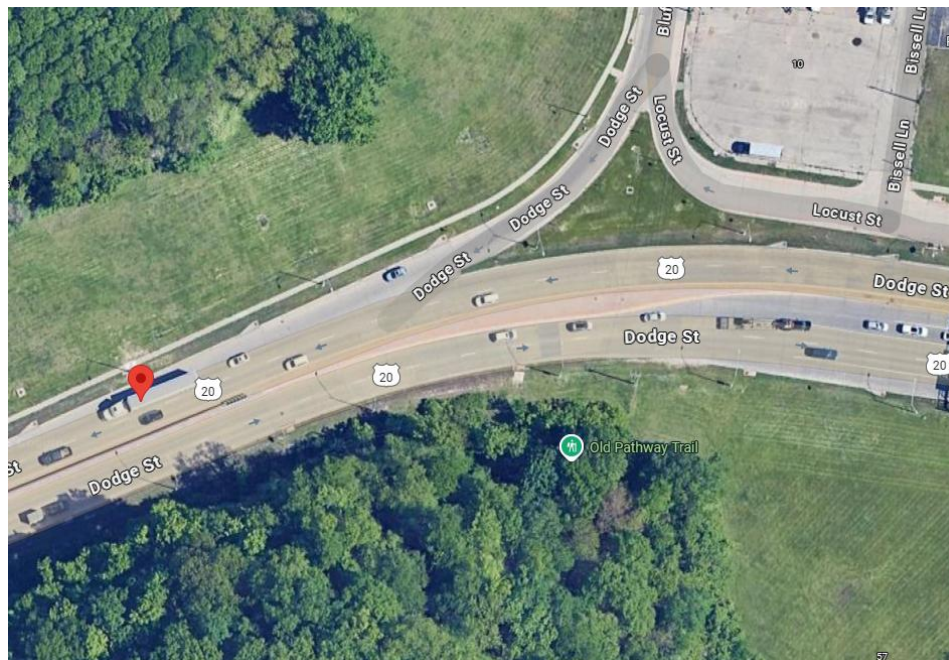


Figure 71: Intersection of US 20 and Bluff Street

Crash Summary

Crash reports indicate that 38 crashes have occurred at this intersection over a five-year period (2018-2022), including three KAB crashes and thirty-five CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by sideswipe (same direction) collisions. The primary contributing factors to KABCO crashes include loss of control and following too closely. Other major contributing causes across all crashes include failure to yield right-of-way from yielding, driver distraction and improper or erratic lane changes. The KAB Annual PCR for the intersection is 0.040713, indicating a low severity level, while the KABCO Annual PCR is 2.279263, which is considered high. Based on statewide rankings, this intersection is ranked 1,761st for KAB crashes and 411th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate alternative intersection designs and implement if feasible (High)
- Install flashing beacons on the stop signs (Low)

East 14th Street and Jackson Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures focused on overall crash reduction. The intersection is located in a mixed-use area with both commercial and residential. It features well-defined curbs, curb ramps, sidewalks, marked crosswalks, and pedestrian signals. The intersection is illuminated, and the pavement is in good condition.

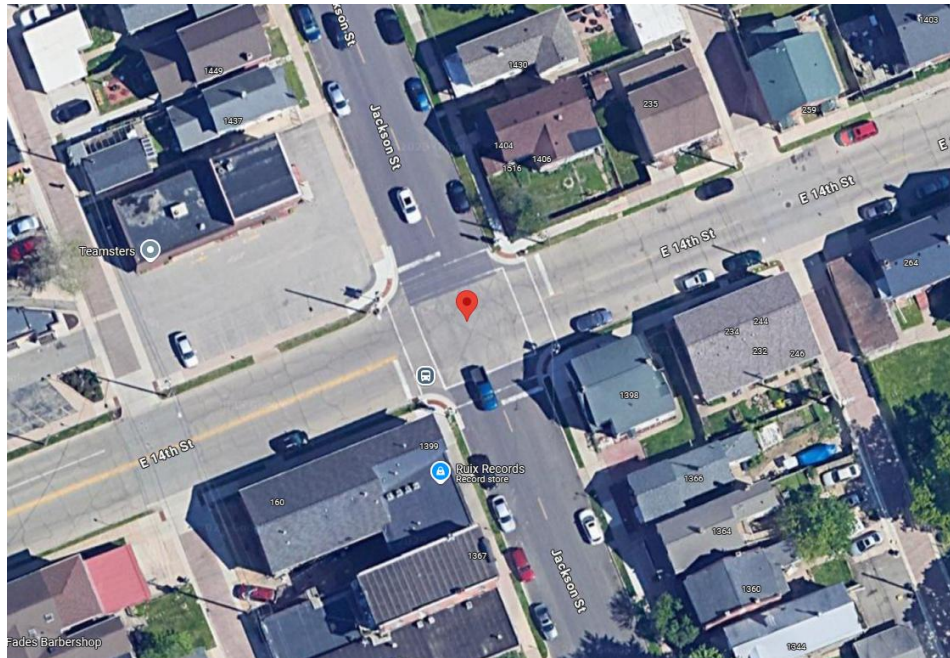


Figure 72: Intersection of East 14th Street and Jackson Street

Crash Summary

Crash reports indicate that 19 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eighteen CO crashes. The predominant manner of collision is broadside (front-to-side), followed by rear-end collisions and sideswipes in the opposite direction. The primary contributing factor to KABCO crashes at this location is running a traffic signal, followed by loss of control, driver distraction, following too closely, and speeding. The KAB Annual PCR for the intersection is 0.032362, indicating a low severity level, while the KABCO Annual PCR is 2.238555, which is considered high. Based on statewide rankings, this intersection is ranked 2,541st for KAB crashes and 424th for KABCO crashes out of 115,274 intersections, highlighting its significance for non-severe crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red clearance intervals (Low)
- Restrict or eliminate parking (Low)

Locust Street and West 9th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good.



Figure 73: Intersection of Locust Street and West 9th Street

Crash Summary

Crash reports indicate that 23 crashes have occurred at this intersection over a five-year period (2018–2022), including no KAB crashes and 23 CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for more than half of the total crashes. Rear-end collisions, sideswipe and non-collision crashes were also reported, highlighting issues such as lane discipline and insufficient gap acceptance. There are no KAB crashes reported during this period. The primary contributing factor to KABCO crashes is running a traffic signal, which led to a significant number of broadside collisions at the intersection. Other contributing factors include improper or erratic lane changes, driver distraction, failure to yield right-of-way from driveways or to pedestrians, improper backing, etc. The KAB Annual PCR for the intersection is -0.103307, indicating no severe crash involvement, while the KABCO Annual PCR is 2.219743, which is considered high. Based on statewide rankings, this intersection is ranked 114,340th for KAB crashes and 430th for KABCO crashes out of 115,274 intersections statewide, underscoring its importance as a high-risk location for non-severe crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red clearance intervals (Low)
- Restrict or eliminate parking (Low)
- Implement access management (Moderate)
- Install Stay in Lane and No Weaving signage (Low)

Charter Street and South Locust Street

This site is a three-legged, divided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

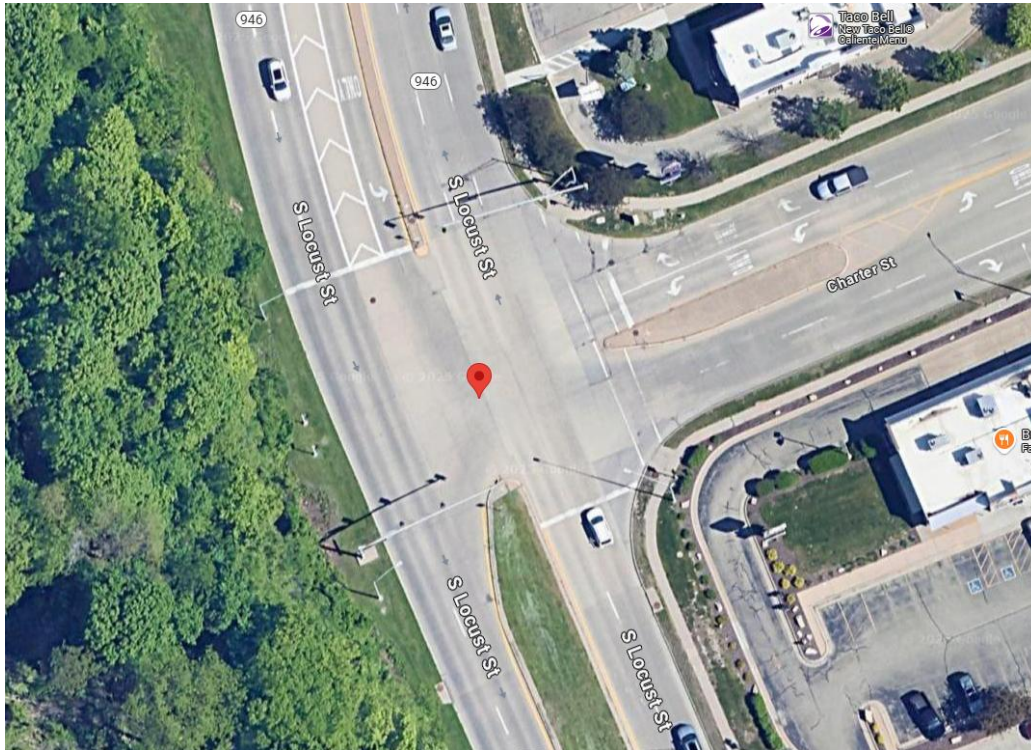


Figure 74: Intersection of Charter Street and South Locust Street

Crash Summary

Crash reports indicate that 27 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and twenty-six CO crashes. The predominant manners of collision are rear end, angle, and broadside, which together account for the majority of all crashes. The KAB crash was a rear-end collision. The primary contributing factor to KABCO crashes is failure to yield right-of-way while making left turns, which contributed to more than a third of all reported crashes. Other significant contributing factors include loss of control, making improper turns, running traffic signals, and driver distraction. The KAB Annual PCR for the intersection is -0.09683, indicating no severity level, while the KABCO Annual PCR is 2.181302, which is considered high. Based on statewide rankings, this intersection is ranked 114,263rd for KAB crashes and 446th for KABCO crashes out of 115,274 intersections statewide, highlighting its importance as a location needing safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red clearance intervals (Low)
- Investigate feasibility of alternative intersection designs, such as a roundabout (High)

US 20 and Westside Drive

This site is a four-legged, divided, high speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs but lacks sidewalks. Overhead lighting is present, and the pavement is in good condition.

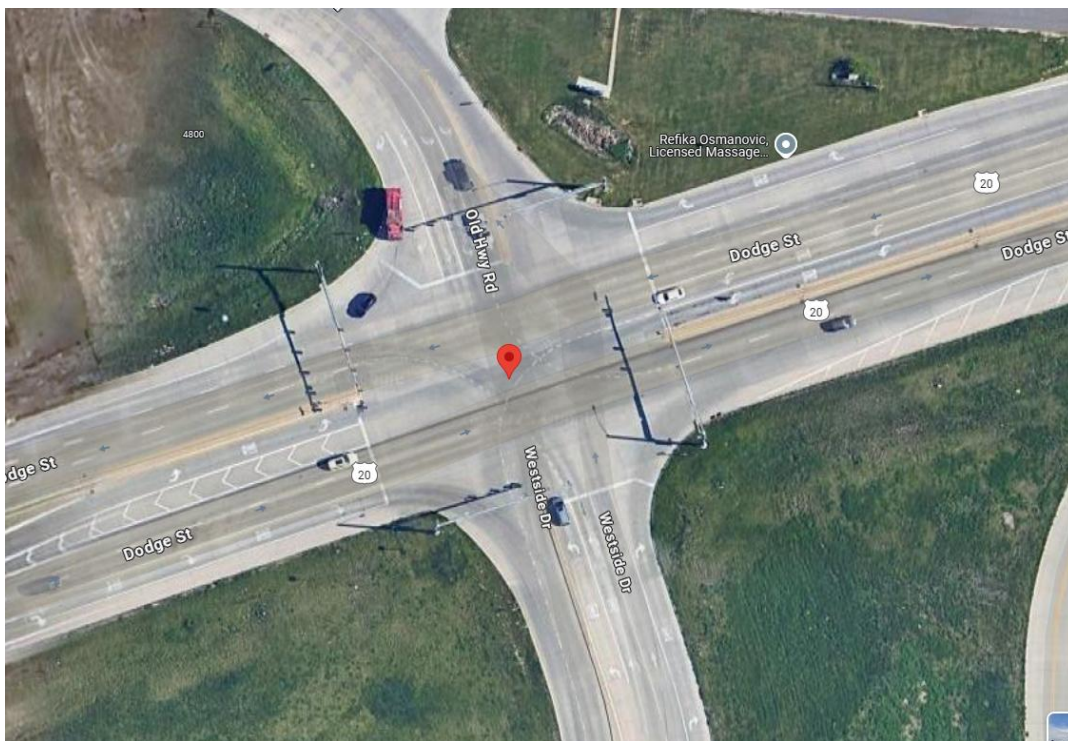


Figure 75: Intersection of US 20 and Westside Drive

Crash Summary

Crash reports indicate that 45 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and forty-four CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for more than half of the total crashes. Additionally, sideswipes in the same direction were also reported, suggesting issues with following distance and potential lane-change conflicts. The primary contributing factor to KABCO crashes is loss of control, which led to the only severe crash at this location. Other contributing factors include improper or erratic lane movements, following too closely, making improper turns, and running traffic signals. The KAB Annual PCR for the intersection is -

0.50753, indicating a low severity level, while the KABCO Annual PCR is 2.119137, which is considered high. Based on statewide rankings, this intersection is ranked 115,248th for KAB crashes and 464th for KABCO crashes out of 115,274 intersections statewide, underscoring its relevance as a high-risk site in terms of crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Optimize yellow and all red clearance intervals (Low)
- Install flashing yellow beacons with Traffic Signal warning signs (Low)
- Install Stay in Lane and No Weaving signage (Low)

Main Street and West 4th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, which warrants attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, marked crosswalks, and pedestrian signals. It is illuminated, and the pavement is in good condition.

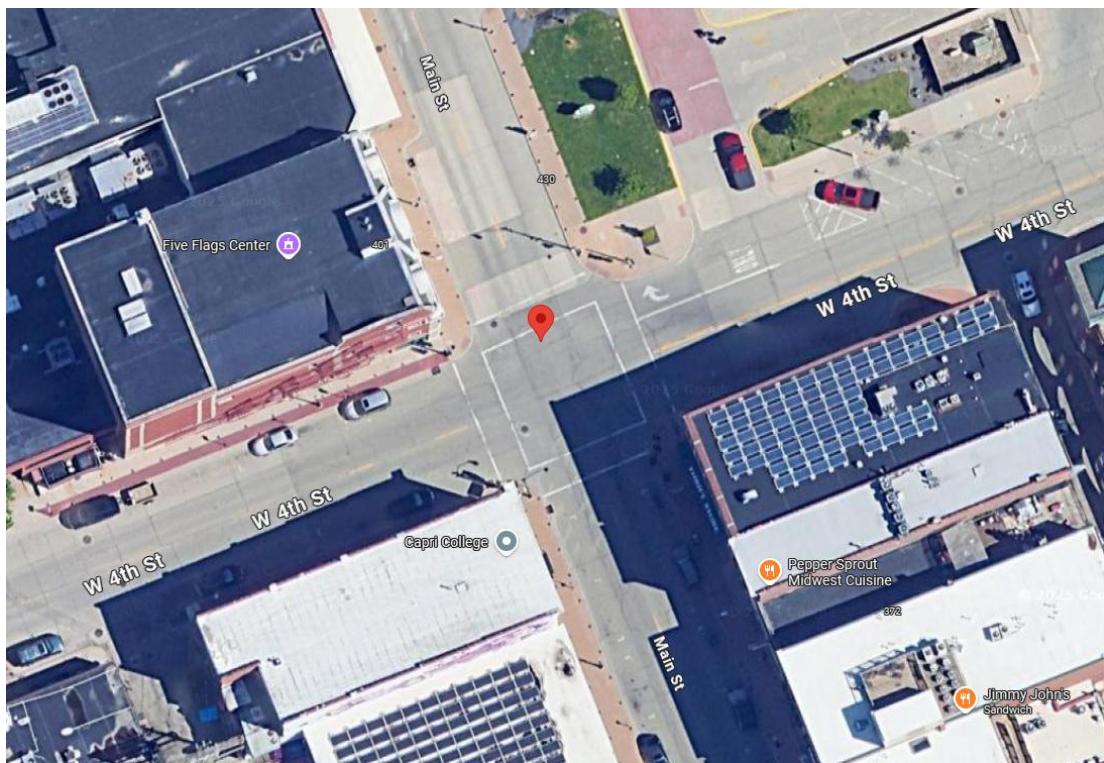


Figure 76: Intersection of Main Street and West 4th Street

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and fifteen CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for nearly half of all crashes. Sideswipe collisions (same direction) also make up a significant portion of the collisions. The single KAB crash recorded at the site was a rear-end collision. The primary contributing factor to the KABCO crashes is running a traffic signal, which resulted in several broadside and rear-end collisions. Other contributing factors include loss of control, driver distraction, and failure to yield right-of-way - either from driveways, parked positions, or other circumstances. The KAB Annual PCR for this intersection is 0.034277, while the KABCO Annual PCR is 1.904365, which is considered high. Based on statewide rankings, the intersection is ranked 1,940th for KAB crashes and 538th for KABCO crashes out of 115,274 intersections, indicating it as a notable location for overall crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking on north approach (Low)
- Install pedestrian crossing signs (Low)
- Install retroreflective traffic signal backplates (Low)

Bluff Street and West 3rd Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with both commercial and residential and features well-defined curbs, curb ramps, sidewalks, and overhead lighting. The pavement is in good condition. Marked crosswalks are available on the minor road, while the major road lacks pedestrian them.

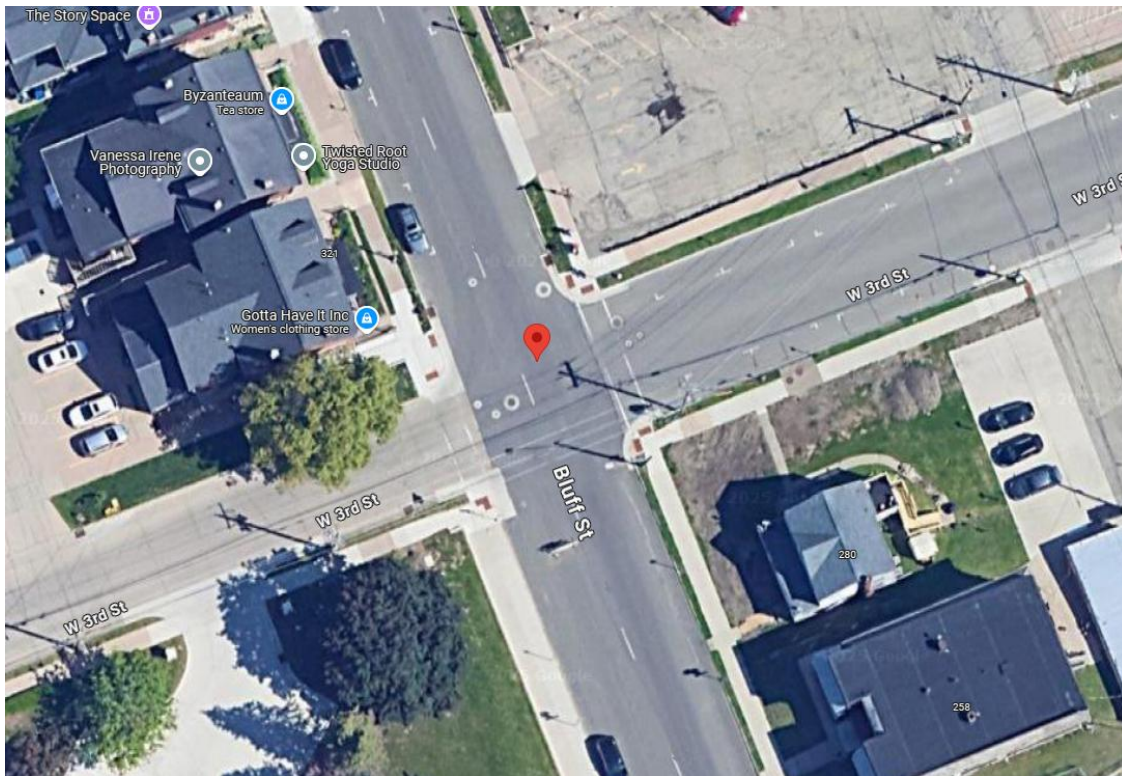


Figure 77: Intersection of Bluff Street and West 3rd Street

Crash Summary

Crash reports indicate that a total of 18 crashes occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seventeen CO crashes. The most frequent manner of collision is sideswipe in the same direction, accounting for 38.89% of crashes, followed by broadside (27.78%), angle crashes (22.22%), and rear-end collisions (5.56%). The single severe (KAB) crash was a sideswipe (same direction) collision.

The primary contributing factor to KABCO crashes is failure to yield right-of-way (FTYROW) from a stop sign, responsible for 22.22% of the crashes. Additional major causes include running a stop sign (16.67%), improper or erratic lane changes (11.11%), loss of control (11.11%), and other factors such as driver distraction and following too closely. The KAB Annual PCR is 0.025918 (low), while the KABCO Annual PCR is 1.888976 (high). This intersection ranks 3,476th for KAB crashes and 544th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Retro Reflective Tape on the big tree on EB approach (Low)
- Restrict or eliminate parking on intersection WB approach (Low)
- Provide red pennant flags on stop signs (Low)

- Provide a stop bar on minor road approaches (Low)
- Install flashing beacons on the stop signs (Low)
- Provide left-turn lanes at intersection (Moderate)
- Install Stay in Lane and No Weaving Signage (Low)

Main Street and West 1st Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. Adequate lighting is present, and the pavement is in good condition. There are no marked crosswalks present.

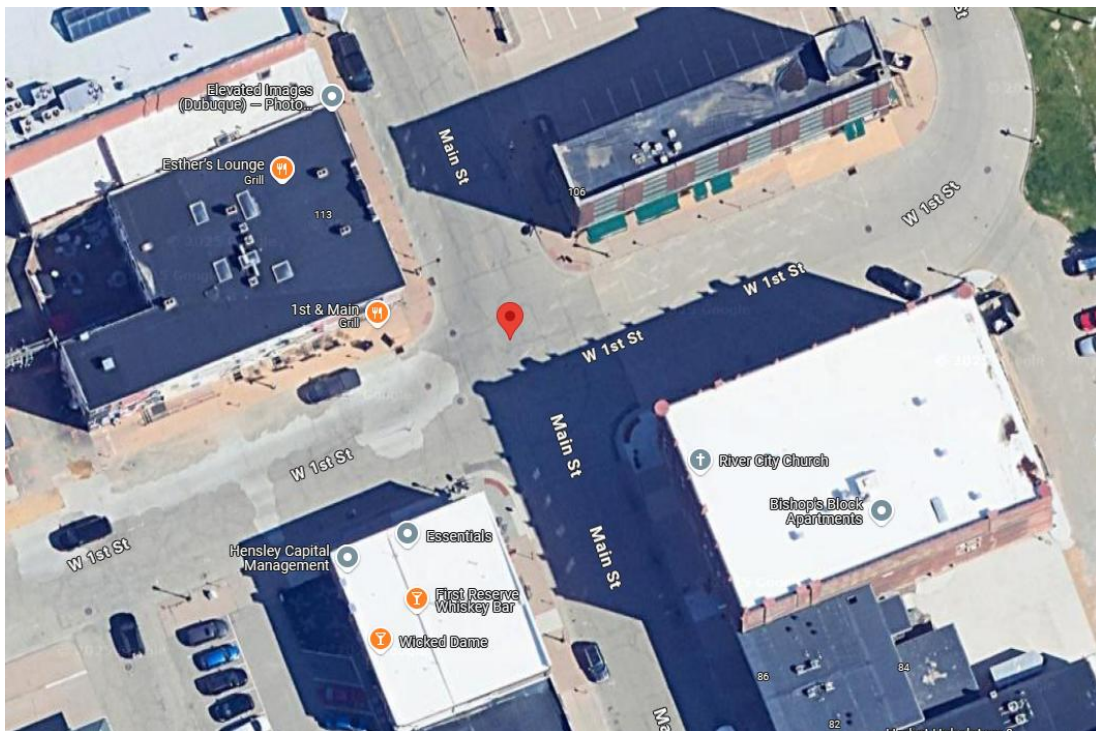


Figure 78: Intersection of Main Street and West 1st Street

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were CO level crashes, with no recorded KAB crashes. The predominant manner of collision includes rear-to-rear crashes and sideswipe collisions (same direction), followed by rear-end, broadside, rear-to-side and sideswipes (opposite direction). The primary contributing factors to these KABCO crashes are loss of control and improper backing. Other significant contributors include driver distraction, failure to yield right-of-way from driveways, and improper turning movements. The KAB Annual PCR for the intersection is - 0.04681 (indicating no serious injuries), while the KABCO Annual PCR stands at 1.585087, which is considered high. Based on statewide rankings, the intersection is positioned at

113,226th for KAB crashes and 685th for KABCO crashes out of 115,274 intersections in Iowa, highlighting its importance in terms of crash frequency and potential for safety improvement.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve visibility of the intersection by providing lighting (Moderate)

University Avenue and Alta Vista Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a low PCR level for KAB crashes but a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and overhead lighting. Although the pavement is in good condition, there is a lack of marked crosswalks.

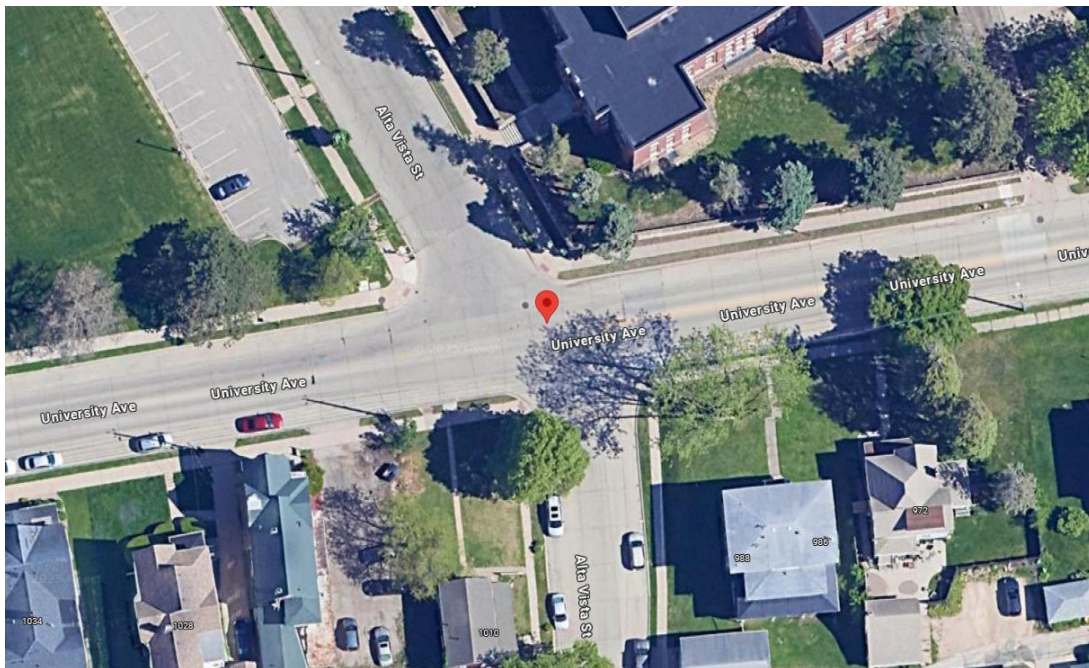


Figure 79: Intersection of University Avenue and Alta Vista Street

Crash Summary

Crash reports indicate that 15 crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and fourteen CO crashes. The predominant manner of collision is broadside (front-to-side), followed by rear-end collisions and head-on crashes, suggesting possible concerns related to visibility, lane discipline, or yielding behavior. The primary contributing factor to the KABCO crash is loss of control and failure to yield right-of-

way from stop signs. Other contributing factors include running stop signs, following too closely, failure to yield right-of-way from driveways and while making left-turn. The KAB Annual PCR for the intersection is 0.033507, indicating a low severity level, while the KABCO Annual PCR is 1.559643, which is considered high. Based on statewide rankings, this intersection is ranked 2,291st for KAB crashes and 702nd for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a site requiring potential safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide stop bars on minor road approaches (Low)
- Install flashing beacons at stop signs to increase conspicuity (Low)
- Perform a sight distance for all approaches (Low)
- Cut down trees at the intersection that may impact sight distance (Moderate)
- Consider conversion to all-way stop-control (Low)

East 16th Street and Jackson Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and has a childcare facility nearby. It features well-defined curbs, curb ramps, and sidewalks. Although overhead lighting is present and the pavement is in good condition, there are no marked crosswalks.

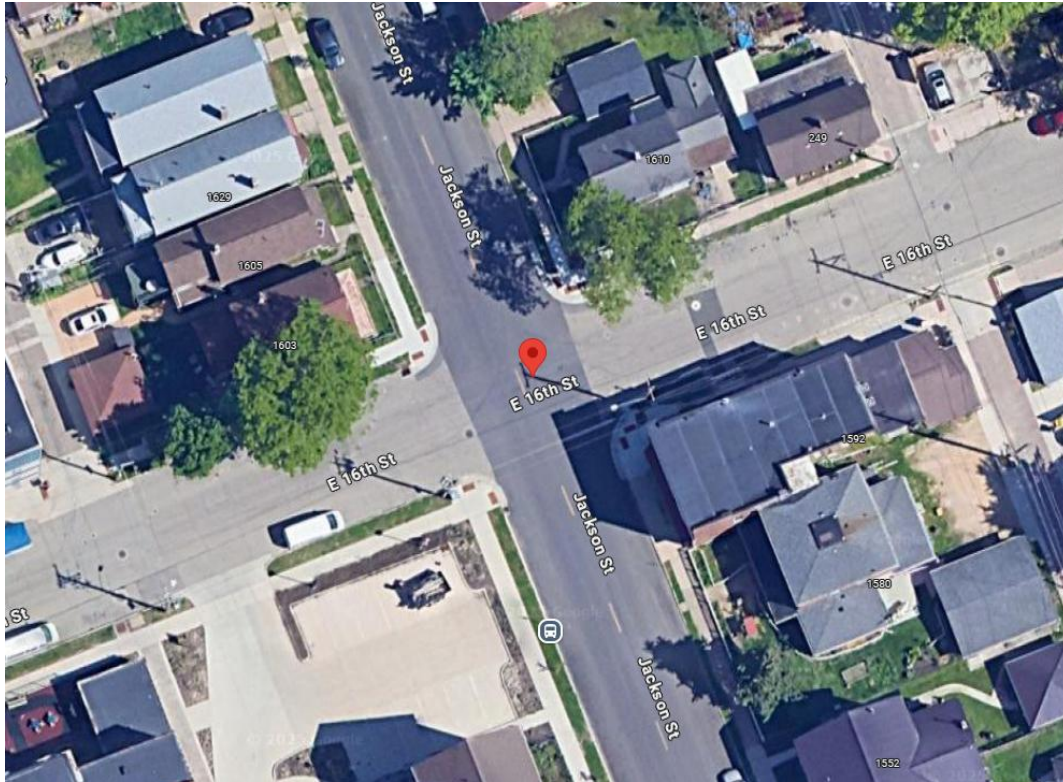


Figure 80: Intersection of East 16th Street and Jackson Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes, with no KAB crashes reported. The predominant manner of collision is broadside (front-to-side), as well as one rear-to-side collision. These patterns highlight the potential risks associated with traffic flow interruptions and uncontrolled turns. The primary contributing factors to the KABCO crashes are running stop sign, failure to yield right-of-way from stop signs, and improper backing. The KAB Annual PCR for the intersection is -0.01252, indicating no severe crash pattern, while the KABCO Annual PCR stands at 1.45121, considered high. Based on statewide rankings, this intersection is ranked 109,779th for KAB crashes and 768th for KABCO crashes out of 115,274 intersections statewide, signifying a need for crash mitigation.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Consider conversion to all-way stop-control (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)

Locust Street, Bluff Street and West 16th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks present.

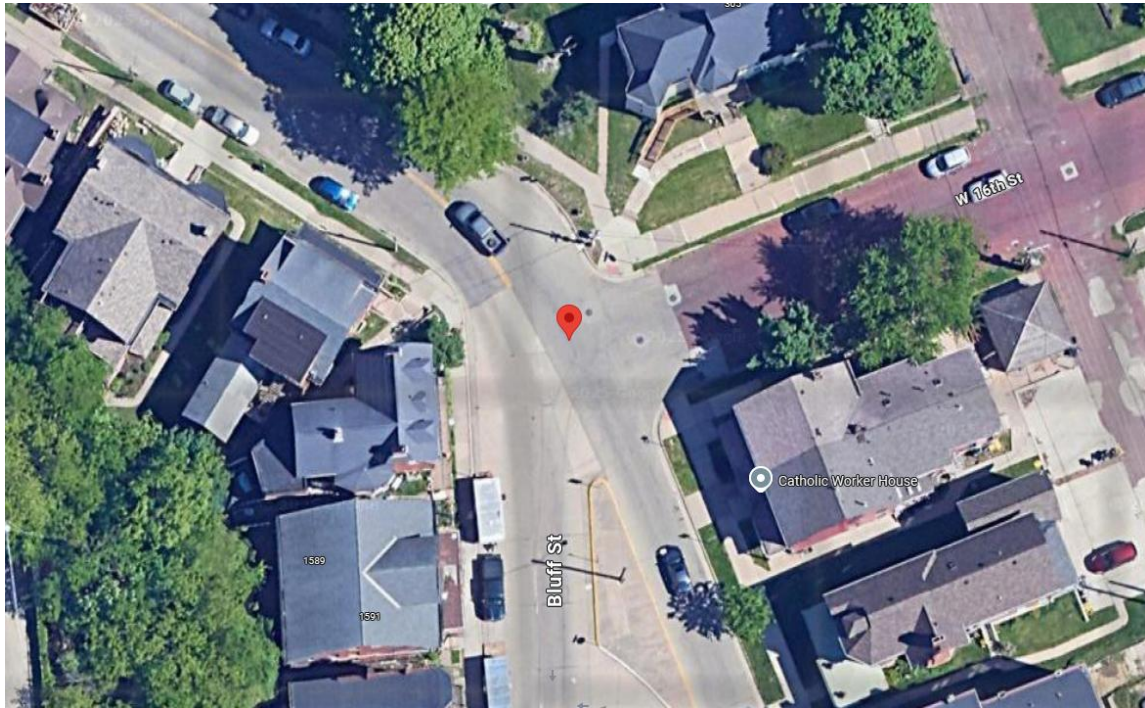


Figure 81: Intersection of Locust Street, Bluff Street and West 16th Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes with no reported severe crashes (KAB). The predominant manner of collision is sideswipe (same direction), followed by rear-end, head-on collisions and non-collisions. The primary contributing factor to these crashes is loss of control, potentially influenced by driver behavior or environmental conditions. Other contributing factors include running stop signs, driver distraction, driving too fast for conditions, and following too closely. The KAB Annual PCR for the intersection is -0.008522, indicating no severe crash incidents, while the KABCO Annual PCR is 1.431712, which is considered high. Based on statewide rankings, this intersection is ranked 108,130th for KAB crashes and 781st for KABCO crashes out of 115,274 intersections statewide, indicating a significant concern for frequent, though not severe, collisions.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve visibility of the intersection by providing lighting (Moderate)

Central Avenue and 10th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, highlighting the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

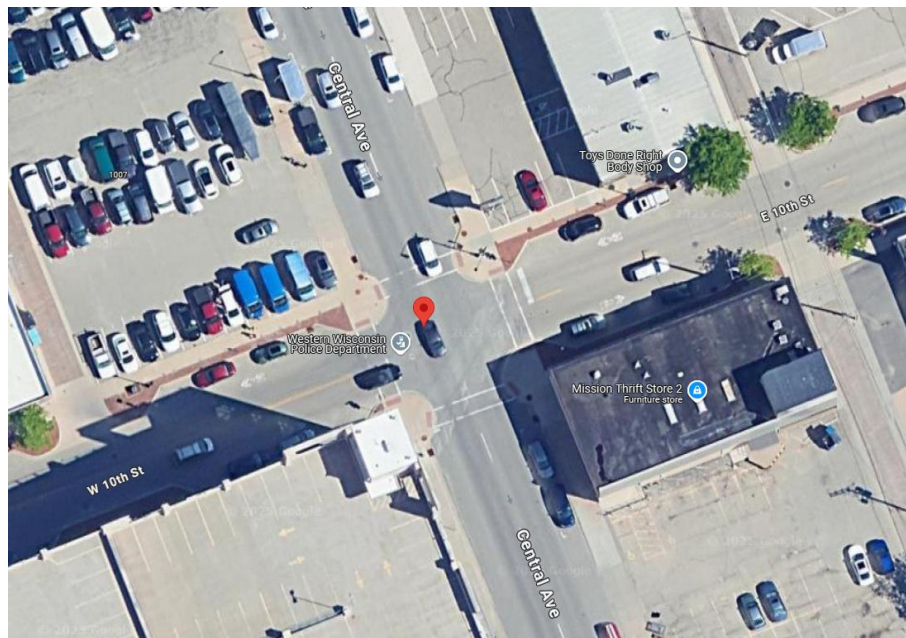


Figure 82: Intersection of Central Avenue and 10th Street

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and fifteen CO crashes. The predominant manners of collision are sideswipe (same direction), broadside (front-to-side), non-collision (single vehicle), and rear-end crashes. These patterns suggest challenges with lane discipline, intersection turning, and possibly merging conflicts. The single KAB crash at this location was a head-on collision, which occurred due to a driver operating in the wrong direction. This type of crashes can be particularly severe and may reflect issues with driver error or visibility. The primary contributing factors to KABCO crashes at this location are improper or erratic lane changing and loss of control. Other noted contributing causes include failure to yield right-of-way from a stop sign, making improper turns, and following too closely. The KAB Annual PCR for the intersection is 0.016766 (low), while the KABCO Annual PCR is 1.429644 (high), indicating frequent crashes with lower severity. Based on statewide rankings, this intersection is ranked 4675th for KAB crashes and 784th for KABCO crashes out of 115,274 intersections, marking it as a location of concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install additional One Way signing as needed (Low)
- Install retroreflective tape on poles for conspicuity (Low)
- Provide left-turn lanes at intersection and install lane assignment pavement markings on north approach (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

East 24th Street and White Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition, although there are no marked crosswalks present.

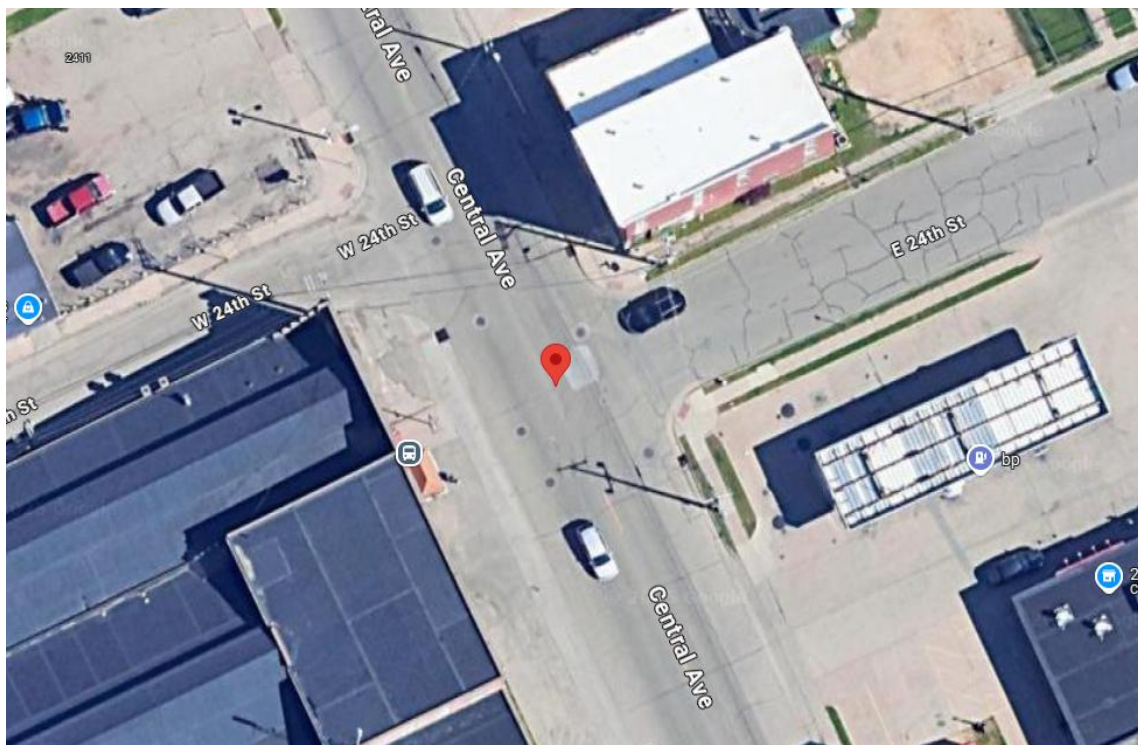


Figure 83: Intersection of East 24th Street and White Street

Crash Summary

Crash reports indicate that 14 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and twelve CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for the majority of crashes. Additionally, broadside (front-to-side), angle crashes (oncoming left turn), non-collision and sideswipe crashes

were also reported, suggesting potential challenges related to driver attentiveness, lane discipline, and right-of-way compliance. The primary contributing factor to the KABCO crashes is loss of control, as well as driver distraction, running stop signs, failure to yield right-of-way while making left turns or from stop-controlled approaches and traveling in prohibited lanes. The KAB Annual PCR for the intersection is 0.036023, indicating a low severity level, while the KABCO Annual PCR is 1.387537, which is considered high. Based on statewide rankings, this intersection is ranked 1,825th for KAB crashes and 817th for KABCO crashes out of 115,274 intersections statewide, emphasizing the need for targeted interventions.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve pedestrian and bicycle facilities (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approach (Low)
- Provide left-turn lanes at intersection (Moderate)
- Add crosswalks if needed (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Central Avenue and West 23rd Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a mixed-use area containing both commercial and residential and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked crosswalks.

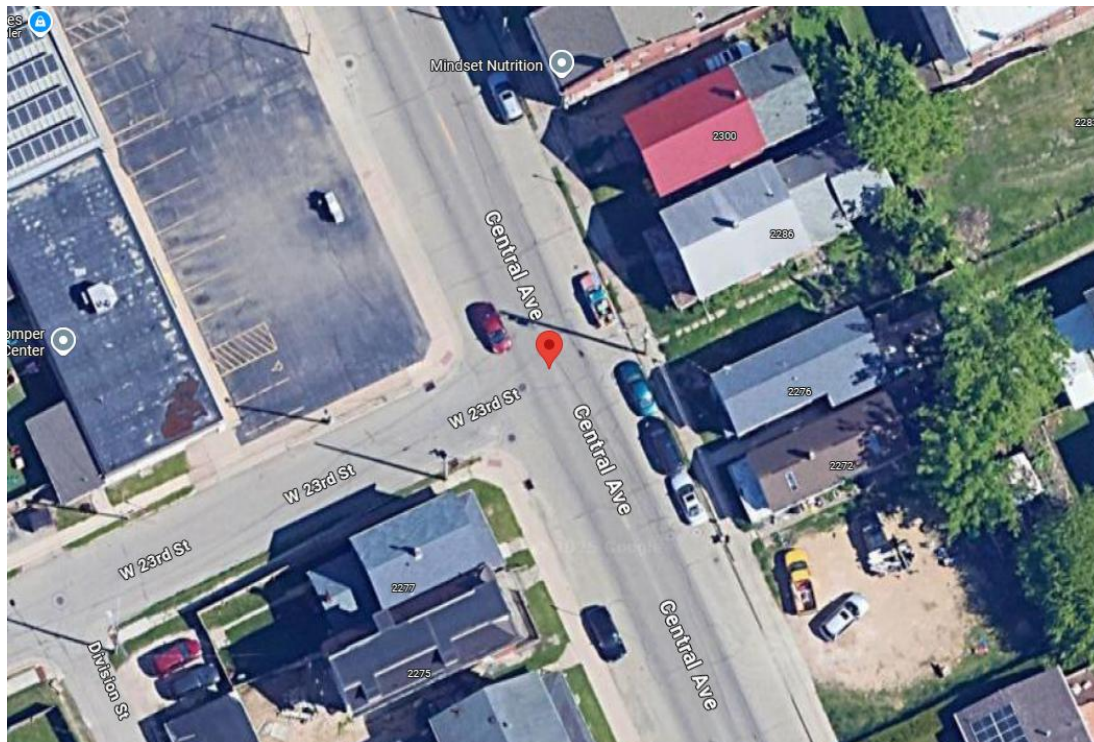


Figure 84: Intersection of Central Avenue and West 23rd Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for over half of the crashes. Additionally, broadside (front-to-side) sideswipe (same direction) and non-collision were also recorded. The primary contributing factor to these crashes is loss of control, while other contributing factors include failure to yield right-of-way from both parked positions and stop signs, running stop signs, and vehicles running off the road. The KAB Annual PCR for the intersection is -0.004235, indicating no severity level, while the KABCO Annual PCR is 1.335628, which is considered high. Based on statewide rankings, this intersection is ranked 104,508th for KAB crashes and 849th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a location needing proactive safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install advance warning signs and pennants for conspicuity (Low)
- Install be prepared to stop signs (Low)
- Provide stop bars on minor road approaches (Low)
- Add crosswalks if needed (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Loras Boulevard and Henion Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks to support pedestrian safety. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks present.

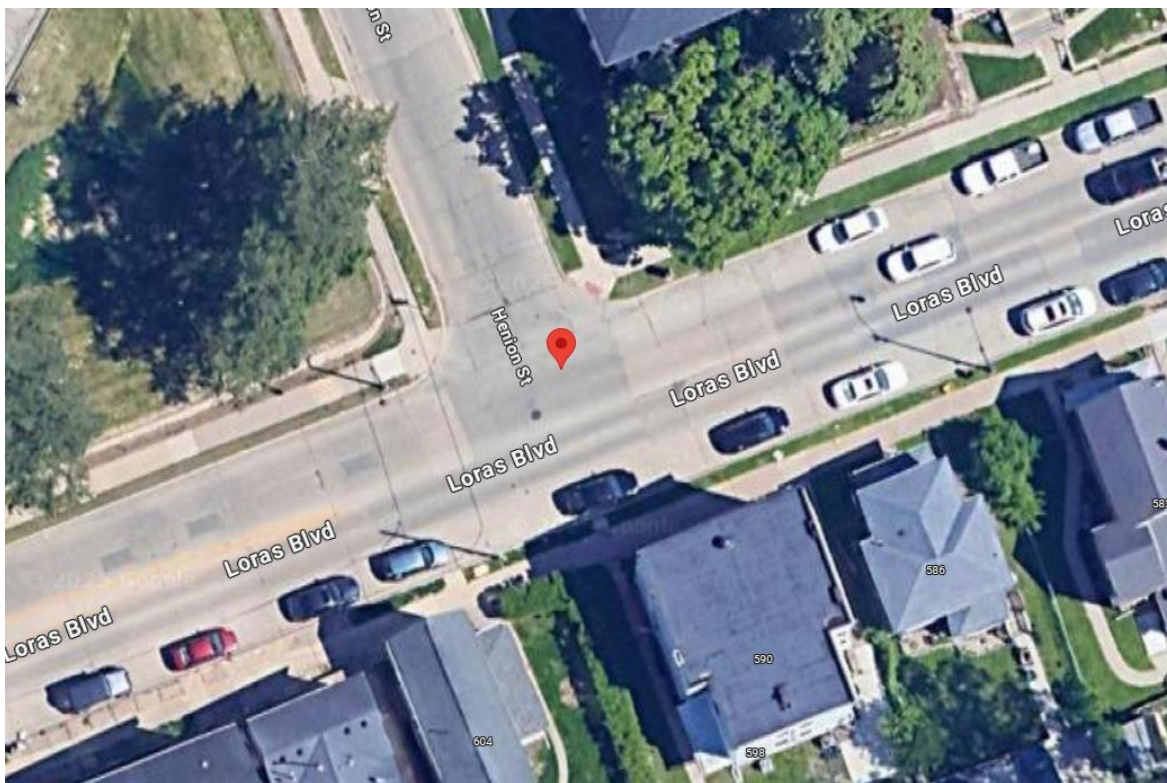


Figure 85: Intersection of Loras Boulevard and Henion Street

Crash Summary

Crash reports indicate that 16 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and sixteen CO crashes. The predominant manner of collision is broadside (front-to-side), along with rear-end, head-on, sideswipe (same direction), non-collision (single vehicle), and other. The primary contributing factor to KABCO crashes is loss of control, which accounts for the majority of reported crashes. Additional contributing factors include running a stop sign, following too closely, failure to yield right-of-way from a stop sign, and improper starting movements. The KAB Annual PCR for the intersection is - 0.000805, indicating a very low severity level, while the KABCO Annual PCR is 1.322436, which is considered high. Based on statewide rankings, this intersection is ranked 89,727th for KAB crashes and 858th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a moderate-risk location for non-severe crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve visibility of the intersection by providing lighting (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Add crosswalks if needed (Low)

Locust Street and West 17th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks to support pedestrian access. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

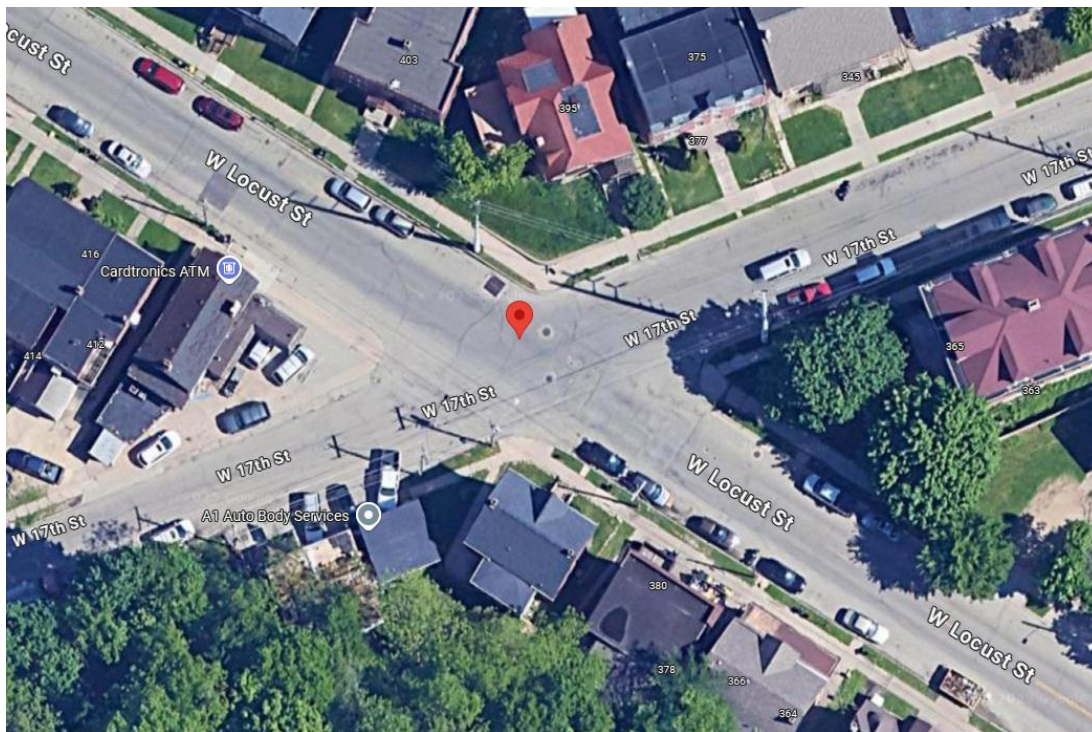


Figure 86: Intersection of Locust Street and West 17th Street

Crash Summary

Crash reports indicate that a total of 14 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and thirteen CO crashes. The predominant

manner of collision includes both broadside (front-to-side) and rear-end (front-to-rear) collisions, as well as non-collision, sideswipe, and miscellaneous, indicating diverse traffic conflict patterns. The primary contributing factors to KABCO crashes are loss of control of the vehicle and failure to yield right-of-way from stop signs, as well as running stop signs. The single KAB crash occurred due to loss of control. Other contributing factors include improper turning and FTYROW to pedestrians and from parking maneuvers. The KAB Annual PCR for the intersection is 0.026379, indicating a low severity level, while the KABCO Annual PCR is 1.305985, which is considered high. Based on statewide rankings, this intersection is ranked 3,404th for KAB crashes and 877th for KABCO crashes out of 115,274 intersections statewide, highlighting its significance as a high-risk location for non-severe crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing pedestrian crossing warning signs (Low)
- Provide marked crosswalks (Low)
- Restrict or eliminate parking (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Asbury Road and Avalon Road

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. While pedestrian signals are present, there are no marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

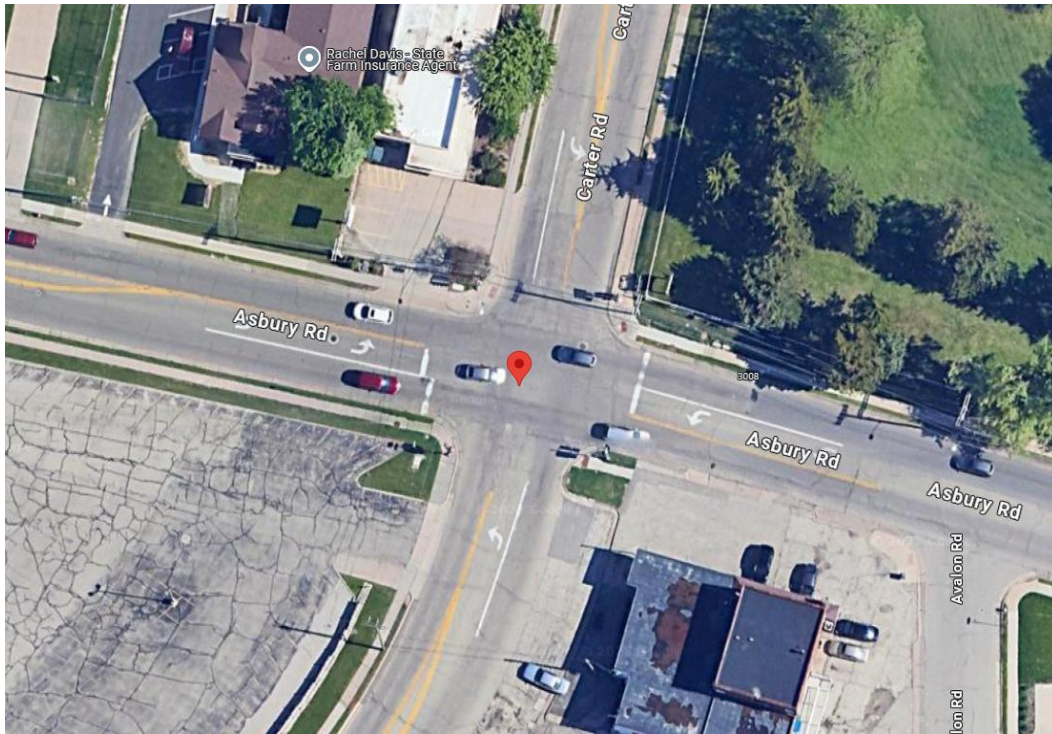


Figure 87: Intersection of Asbury Road and Avalon Road

Crash Summary

Crash reports indicate that a total of 28 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and 26 CO crashes. The predominant manner of collision is broadside (front-to-side, followed by rear-end and angle crashes, suggesting potential issues with driver attentiveness, right-of-way violations, and intersection navigation. The primary contributing factor to KAB crashes is running a traffic signal, which led to one of the two severe crashes. The other KAB crash was attributed to a left-turn failure to yield, which is also one of the leading causes of all crashes at this intersection. Other contributing factors include loss of control, driver distraction, and following too closely. The KAB Annual PCR for the intersection is -0.015001, indicating no severity level, while the KABCO Annual PCR is 1.298078, which is considered high. Based on statewide rankings, this intersection is ranked 110,446th for KAB crashes and 880th for KABCO crashes out of 115,274 intersections statewide, highlighting its importance as a high-risk location for overall crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Moderate)
- Determine if changes to the yellow and all-red interval are needed (Low)
- Install overhead traffic signal (Moderate/High)

US 20 and Locust Street

This site is a four-legged, semi-divided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area of commercial and undeveloped land and features well-defined curbs but lacks curb ramps and sidewalks. There are no marked crosswalks present. The intersection is illuminated, and the pavement is in good condition.

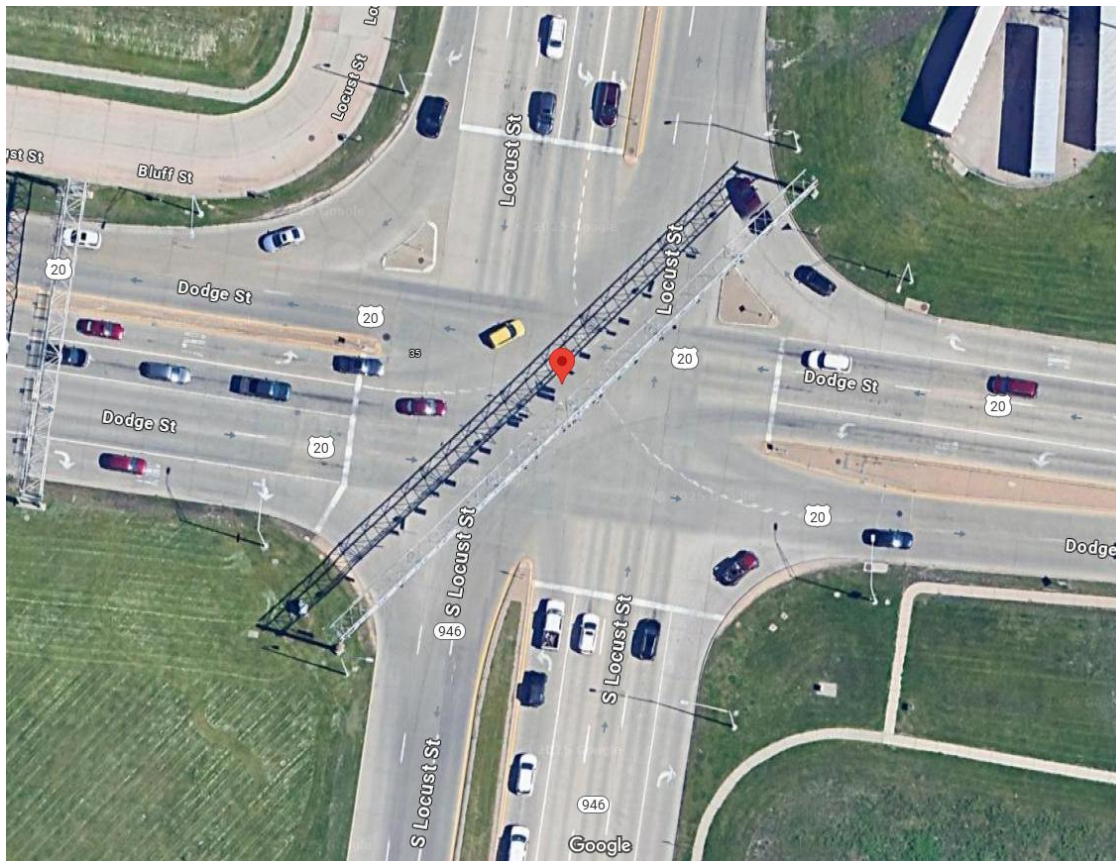


Figure 88: Intersection of US 20 and Locust Street

Crash Summary

Crash reports indicate that a total of 85 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and eighty-three CO crashes. The predominant manner of collision is rear end (front-to-rear), sideswipe collisions (same direction), broadside (front-to-side), non-collision, angle and sideswipe (opposite direction) crashes were also documented. The contributing causes for KABCO crashes are predominantly loss of control, accounting for nearly half of the total crashes. Other causes include following too closely, improper or erratic lane changes, running a traffic signal, and failure to yield right-of-way while making right turns. The KAB Annual PCR for the intersection is -0.466131, indicating a low severity level, while the KABCO Annual PCR is 1.282933, which is considered high. Based on statewide rankings, this intersection is ranked 115,237th for KAB crashes and 893rd for KABCO

crashes out of 115,274 intersections statewide, emphasizing its critical status for frequent but less severe crash types.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate alternative intersection designs (High)
- Determine if changes to the yellow and all-red interval are needed (Low)
- Add flashing yellow beacons to warning signs (Low)
- Install lane assignment signage and pavement markings (Low)

University Avenue and Alpine Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a mixture of commercial and residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and road pavement is in good condition. There are no marked crosswalks present.

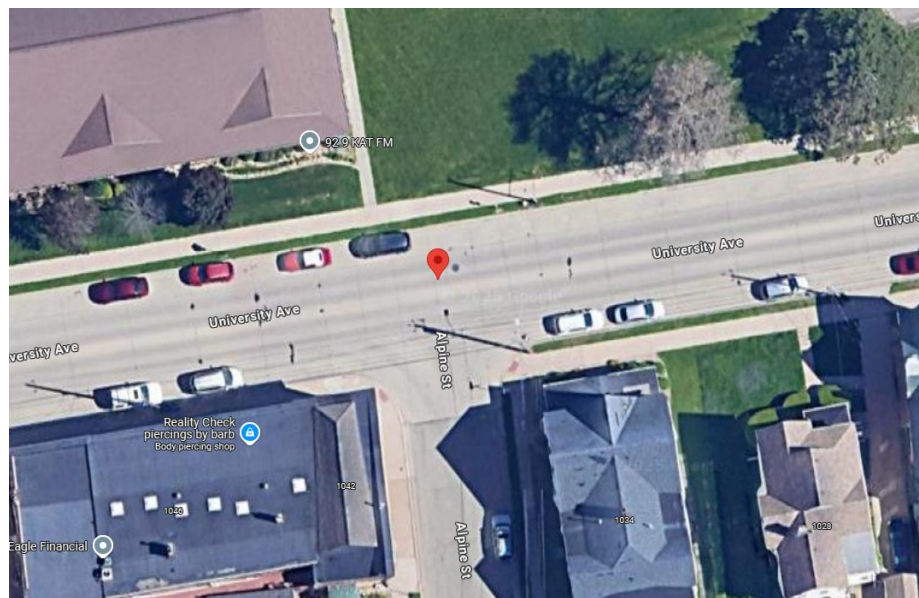


Figure 89: Intersection of University Avenue and Alpine Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes, with no KAB crashes recorded. The predominant manner of collision is broadside (front-to-side), as well as sideswipe (same direction) and rear-to-rear, suggesting potential challenges with lane discipline and intersection control. The primary contributing factor to CO crashes is failure to yield right-of-way at uncontrolled intersections. Other contributing factors include failure to yield from stop signs,

running stop signs, driver distraction, and failure to yield while making left turns and from parking. The KAB Annual PCR for the intersection is -0.001966, indicating no severity level, while the KABCO Annual PCR is 1.224073, which is considered high. Based on statewide rankings, this intersection is ranked 99,456th for KAB crashes and 939th for KABCO crashes out of 115,274 intersections statewide, identifying it as a location of concern for frequent but non-severe crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approach (Low)

Kennedy Road and Stoneman Road

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and is illuminated by overhead lighting. The pavement is in good condition; however, there are no marked crosswalks present. Additionally, a driveway is located at the intersection approach, which could influence traffic flow and conflict points.

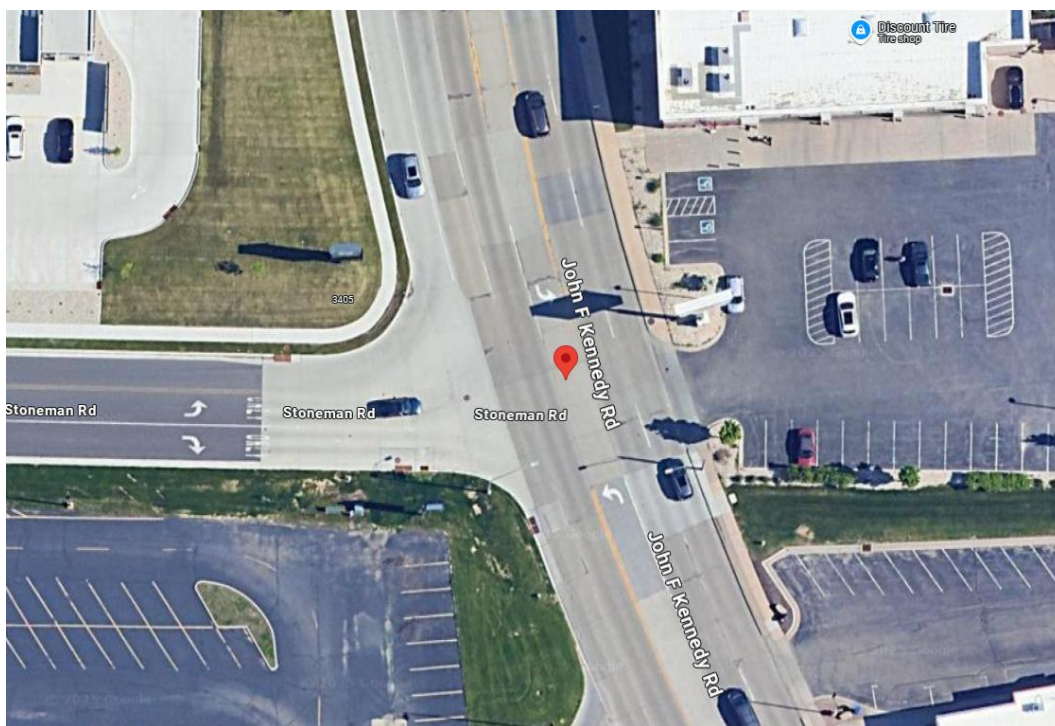


Figure 90: Intersection of Kennedy Road and Stoneman Road

Crash Summary

Crash reports indicate that 14 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and thirteen CO crashes. The predominant manner of collision is broadside (front-to-side), as well as angle crashes (oncoming left turn), rear-end, rear-to-rear, sideswipe, head-on, and various other non-collision types, reflecting a diverse range of conflict scenarios. The primary contributing factors to the KABCO crashes are failure to yield right-of-way from a stop sign, and running stop sign. Other contributing factors for KABCO crashes include FTYROW from driveway, improper or erratic lane usage, FTYROW while making left turns, and loss of control. The KAB Annual PCR for the intersection is 0.010559, indicating a low severity level, while the KABCO Annual PCR is 1.196721, which is considered high. Based on statewide rankings, this intersection is ranked 5748th for KAB crashes and 966th for KABCO crashes out of 115,274 intersections statewide, reinforcing its status as a location with elevated crash potential.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approach (Low)
- Investigate access management options

Carter Road and Hillcrest Road

This site is a four-legged, undivided, low speed, all way stop controlled intersection ([Google Maps link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and overhead lighting. The road pavement is in good condition, but there are no marked crosswalks present.

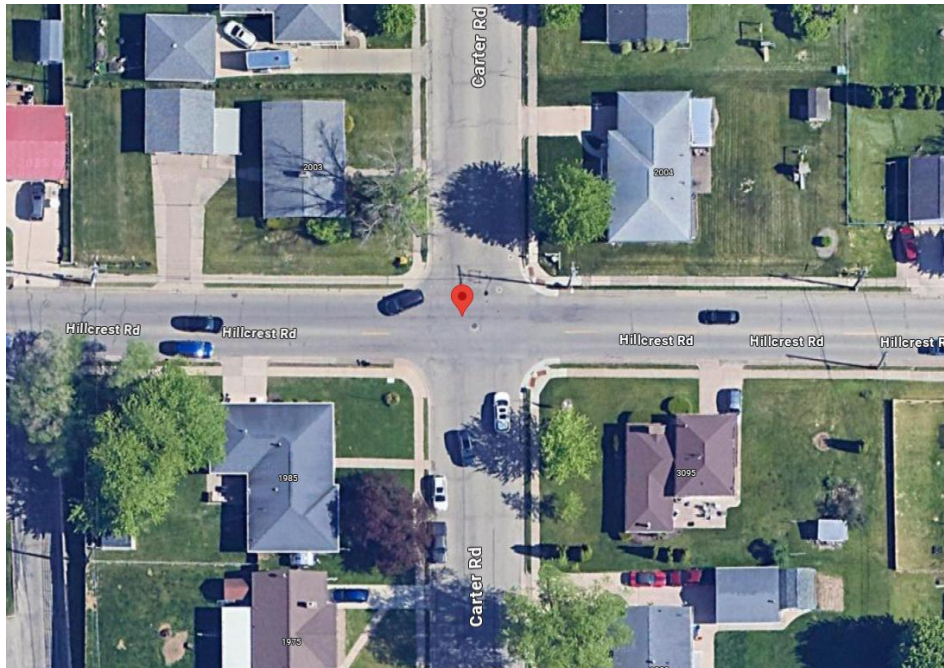


Figure 91: Intersection of Carter Road and Hillcrest Road

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and twelve CO crashes. The predominant manner of collision is broadside (front-to-side), as well as head-on collisions and unknown. The primary contributing factors to KABCO crashes are running a stop sign and failure to yield right-of-way at stop signs. Other contributing factors include improper turning movements, and failing to yield from parking and driveways. The KAB Annual PCR for the intersection is 0.034265, indicating a low severity level, while the KABCO Annual PCR is 1.177539, which is considered high. Based on statewide rankings, this intersection is ranked 1,951st for KAB crashes and 987th for KABCO crashes out of 115,274 intersections statewide, highlighting its relative significance in terms of crash frequency and risk.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approach (Low)
- Provide left-turn lanes at intersection (Moderate)
- Add crosswalks if needed (Low)

Central Avenue and 4th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate

attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present at the intersection, and the pavement is in good condition. There are no marked crosswalks present.

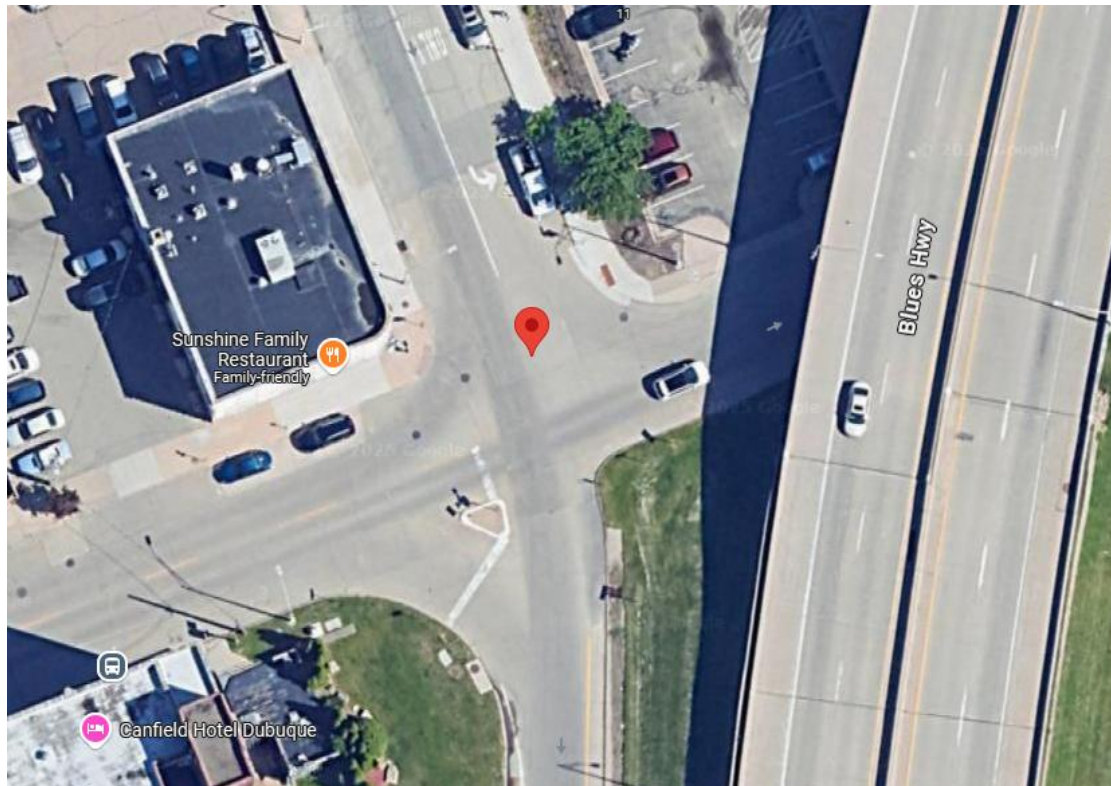


Figure 92: Intersection of Central Avenue and 4th Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes, with no severe (KAB) crashes reported. The predominant manner of collision is broadside (front-to-side), as well as rear-end (front-to-rear), suggesting challenges related to intersection stop control. The primary contributing factor to crashes at this intersection is drivers running stop signs, followed by failure to yield right-of-way from stop signs. Other notable factors include loss of control, following too closely, failure to yield from driveways, improper turning maneuvers, and unsafe passing behavior. The KAB Annual PCR for the intersection is -0.02657, indicating no severity level, while the KABCO Annual PCR is 1.137245, which is considered high. Based on statewide rankings, this intersection is ranked 112,097th for KAB crashes and 1,035th for KABCO crashes out of 115,274 intersections statewide, emphasizing its significance in terms of crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install flashing beacons (Low)
- Install Be Prepared to Stop warning signs (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies).
- Add crosswalks if needed (Low)

Pennsylvania Avenue and Alicia Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The area is predominantly residential and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked crosswalks present.

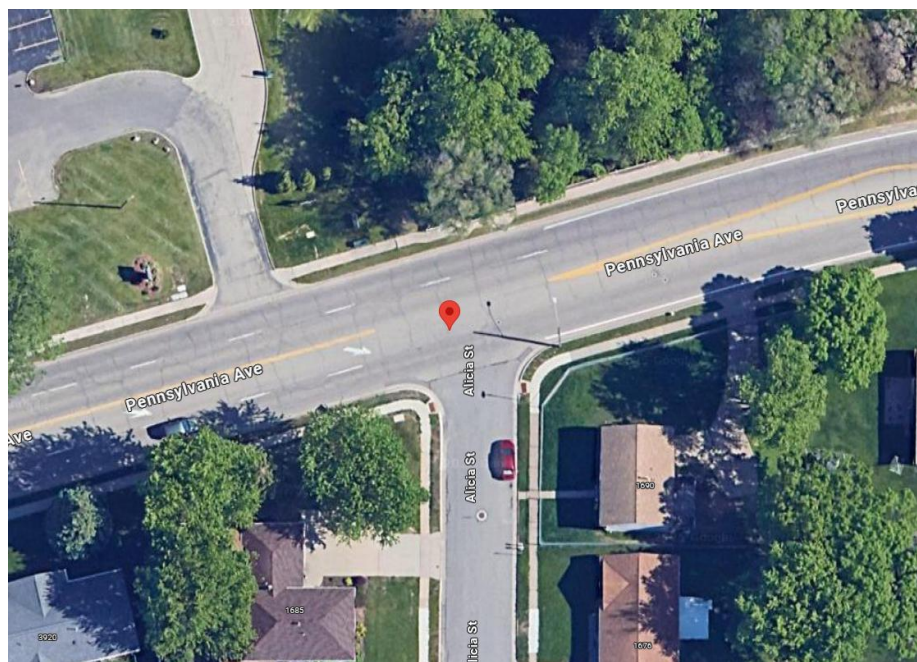


Figure 93: Intersection of Pennsylvania Avenue and Alicia Street

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is rear end (front-to-rear), which accounts for the majority of crashes. Broadside (front-to-side), angle (oncoming left turn), and sideswipe (same direction) collisions were also reported, highlighting a range of potential operational issues. The primary contributing factor to CO crashes is loss of control. Other contributing factors include failure to yield the right-of-way from driveways, FTYROW from stop signs, and loss of control. The KAB Annual PCR for the intersection is -0.005686, indicating no significant KAB severity, while the KABCO Annual PCR is 1.062541, which is considered high. Based on statewide rankings, this intersection is ranked 106,206th for KAB crashes and 1,103rd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate conversion to all-way stop-control (Low)
- Improve recognition of intersection by providing enhanced signing (Low)
- Add crosswalks if needed (Low)

Cornell Street and Pickett Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high KABCO PCR level that suggests the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The pavement is in good condition, and overhead lighting is present, but there are no marked crosswalks.

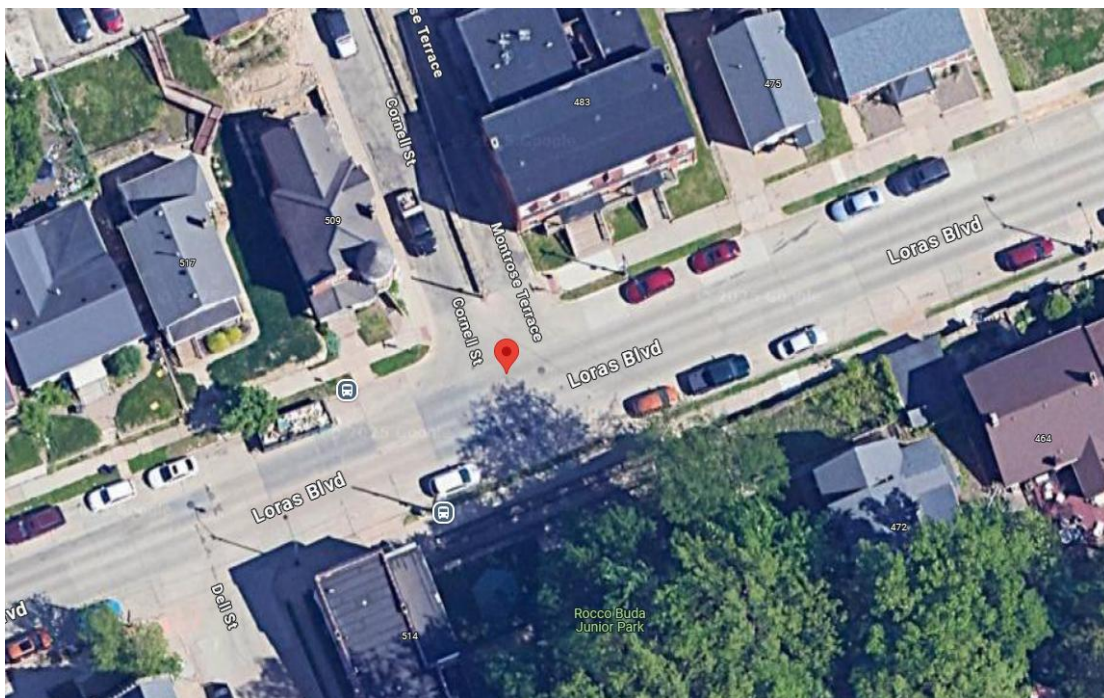


Figure 94: Intersection of Cornell Street and Pickett Street

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and nine CO crashes. The predominant manner of collision is non-collision (single vehicle), followed by broadside (front-to-side) crashes. Rear-end collisions were also reported, indicating potential issues with vehicle control and intersection navigation. The primary contributing factor to KABCO crashes is loss of control. Other contributing factors include failure to yield right-of-way at stop signs, improper backing, running off road on left, and running a stop sign. The KAB Annual PCR for the intersection is 0.019087,

indicating a low severity level, while the KABCO Annual PCR is 1.034904, which is considered high. Based on statewide rankings, this intersection is ranked 4,344th for KAB crashes and 1,133rd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install retroreflective tape on the poles along the approaches to increase conspicuity (Low)
- Install flashing pedestrian crossing sign (Low)
- Add marked crosswalks (Low)
- Add red pennants to stop signs to increase conspicuity (Low)

Central Avenue and 15th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a low PCR level for KAB crashes but a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

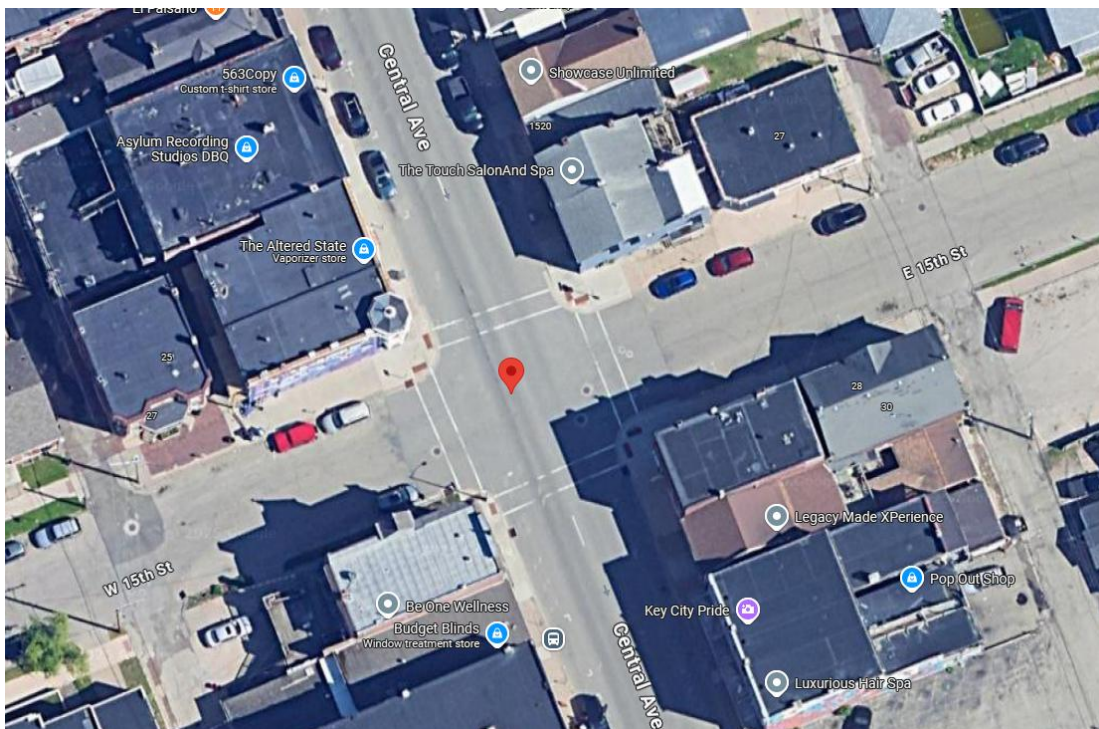


Figure 95: Intersection of Central Avenue and 15th Street

Crash Summary

Crash reports indicate that 18 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and eighteen CO crashes. The manner of collision include rear end (front-to-rear), sideswipe collisions (same direction), broadside (front-to-side), angle (oncoming left turn), and rear-to-side crashes comprising the rest. The primary contributing factor to CO crashes is loss of control, leading to various collision types. Other significant factors include improper turning movements, passing through or around vehicles unsafely, driver distraction, and excessive speed. The KAB Annual PCR for the intersection is - 0.10309, indicating no severity level, while the KABCO Annual PCR is 1.029176, which is considered high. Based on statewide rankings, this intersection is ranked 114,336th for KAB crashes and 1,142nd for KABCO crashes out of 115,274 intersections statewide, underscoring its importance for potential safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide left-turn lanes at intersection (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

US 20 and Menard Court

This site is a four-legged, divided, high speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and does not feature curbs, curb ramps, or sidewalks. While the pavement is in good condition and overhead lighting is present, there are no marked crosswalks.

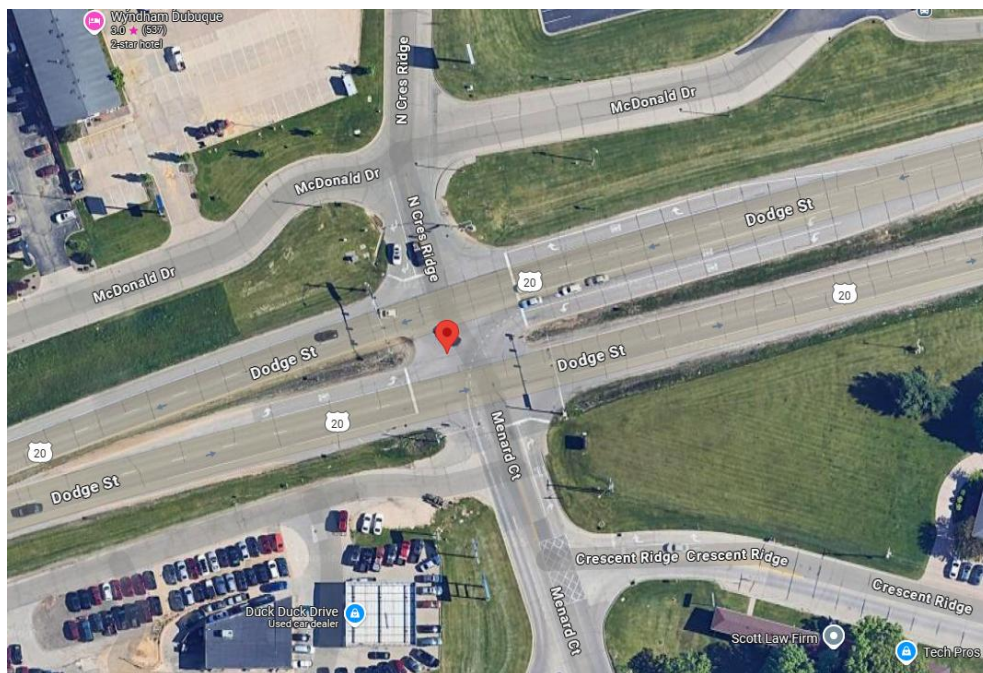


Figure 96: Intersection of US 20 and Menard Court

Crash Summary

Crash reports indicate that a total of 60 crashes have occurred at this intersection over a five-year period (2018–2022), including five KAB crashes and fifty-five CO crashes. The predominant manner of collision is rear end (front-to-rear), as well as sideswipe (same direction) and broadside (front-to-side), reflecting a mix of congestion-related and right-of-way issues. The primary contributing factor to KABCO crashes is loss of control, running a traffic signal and following too closely. The KAB Annual PCR for the intersection is -0.102433, indicating no severity level, while the KABCO Annual PCR is 1.018033, which is considered high. Based on statewide rankings, this intersection is ranked 114,328th for KAB crashes and 1,163rd for KABCO crashes out of 115,274 intersections statewide, highlighting its significance in terms of overall crash frequency despite fewer severe outcomes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Add signal ahead warning signs and flashing yellow beacons to enhance conspicuity (Low/Moderate)

Central Avenue and West 7th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good condition.

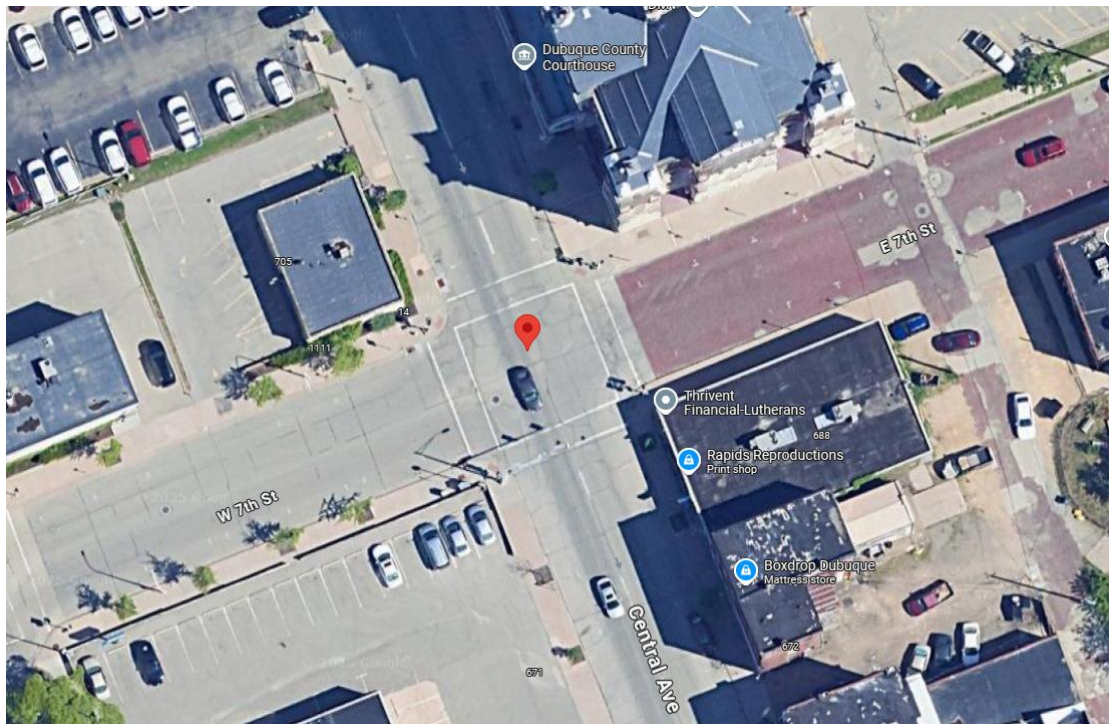


Figure 97: Intersection of Central Avenue and West 7th Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is sideswipe (same direction), followed by rear-end (front-to-rear), broadside and angle collisions. The primary contributing factors to the KABCO crashes include making improper turns and loss of control, indicating a mix of judgment errors during turning movements and vehicle handling difficulties. Other contributing factors include distraction and driver error. The KAB Annual PCR for the intersection is -0.040585, indicating no severity level, while the KABCO Annual PCR is 1.017201, which is considered high. Based on statewide rankings, this intersection is ranked 112,958th for KAB crashes and 1,165th for KABCO crashes out of 115,274 intersections statewide, making it a location with frequent, though mostly non-severe, crash occurrences.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Employ multiphase signal timing (Low)
- Provide left-turn channelization (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Pennsylvania Avenue and Lucy Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a high PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

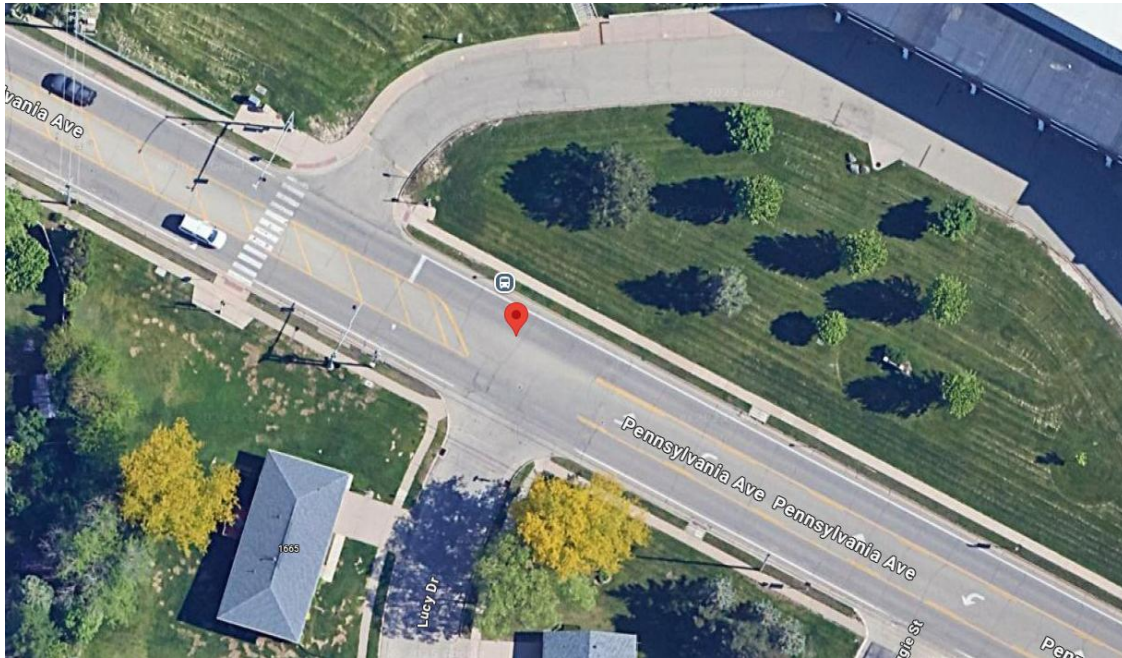


Figure 98: Intersection of Pennsylvania Avenue and Lucy Drive

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and eleven CO crashes. The predominant manner of collision is rear end (front-to-rear). The primary contributing factors to KABCO crashes include loss of control of the vehicle, following too closely, aggressive driving, and improper backing. The KAB Annual PCR for the intersection is -0.008186, indicating no severity level, while the KABCO Annual PCR is 1.013657, which is considered high. Based on statewide rankings, this intersection is ranked 107,927th for KAB crashes and 1,176th for KABCO crashes out of 115,274 intersections statewide, highlighting it as a location needing intervention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)
- Improve recognition of intersection by providing enhanced signing (Low)

Cedar Cross Road and Center Grove Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The area surrounding the intersection is predominantly commercial. Although sidewalks exist on one side, the intersection lacks well-defined curbs, curb ramps or marked crosswalks. Overhead lighting is present, and the pavement is in good condition.

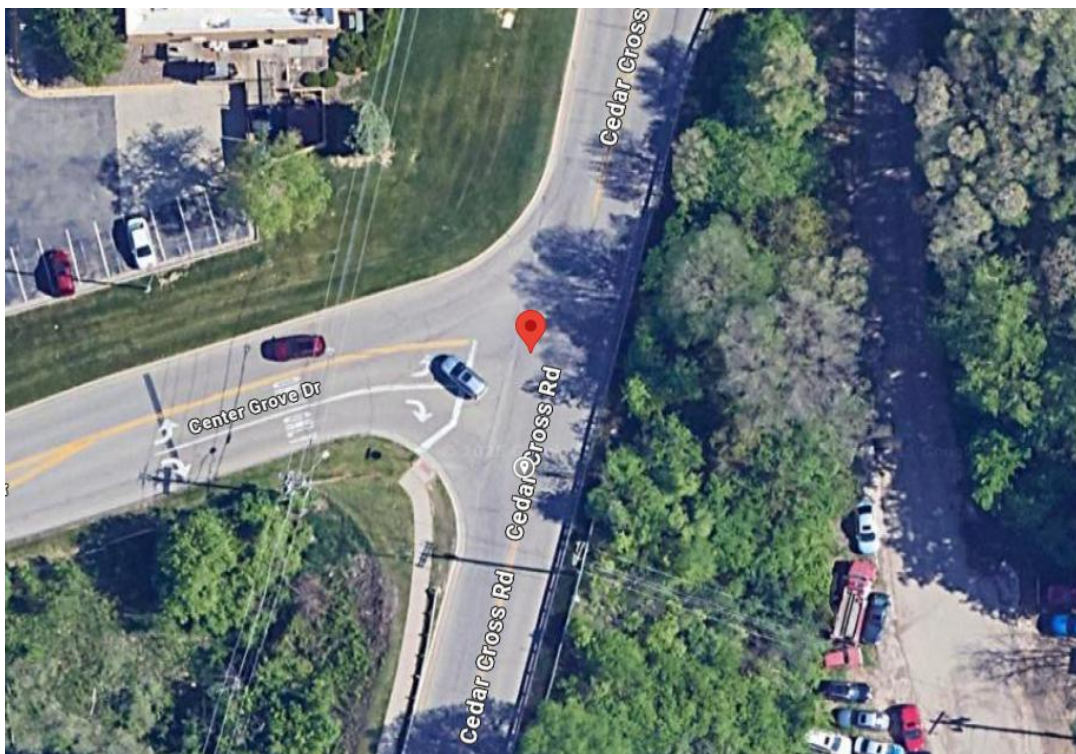


Figure 99: Intersection of Cedar Cross Road and Center Grove Drive

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and twelve CO crashes. The predominant manner of collision is rear end, followed by broadside, angle crashes, sideswipes, and unknown types. The primary contributing factors to these crashes include loss of control, failure to yield right-of-way while making left turns, and violations such as running stop signs, running off road and passing where prohibited. These findings point toward driver behavior and turn movement conflicts as key safety concerns at this location. The KAB Annual PCR is -0.017486, indicating no severity level, while the KABCO Annual PCR is 0.982609, which is considered medium. Based on statewide rankings, this intersection is ranked 110,929th for KAB crashes and 1,218th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Cross Traffic does not Stop warning signage (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Perform a sight distance study (Low)

White Street and East 17th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good condition.

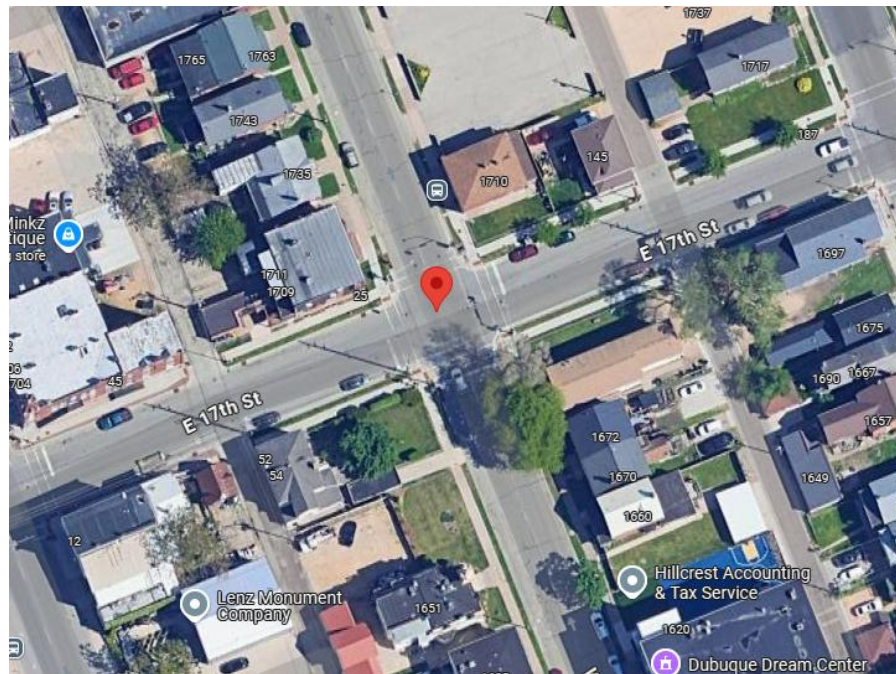


Figure 100: Intersection of White Street and East 17th Street

Crash Summary

Crash reports indicate that 14 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and fourteen CO crashes. The predominant manner of collision is broadside (front-to-side), as well as sideswipe (same direction), rear-end, and angle (oncoming left turn), which may suggest issues with signal compliance, improper turns, and lane-change behavior. The primary contributing factors for KABCO crashes include improper turns, running traffic signals, and improper backing. These behaviors are consistent with the types of crashes reported and may reflect driver inattentiveness and risky maneuvering at the intersection. The KAB Annual PCR for the intersection is -0.055115, indicating no severe crash trends, while the KABCO Annual PCR is 0.978857, which is considered medium. Based on

statewide rankings, this intersection is ranked 113,493rd for KAB crashes and 1,222nd for KABCO crashes out of 115,274 intersections statewide, indicating moderate crash frequency but low severity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Install retroreflective traffic signal backplates (Low)
- Provide left-turn channelization (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

East 24th Street and Windsor Avenue

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. Although a bus stop is located near the approach, there are no marked crosswalks present. The intersection is illuminated, and the pavement is in good condition.

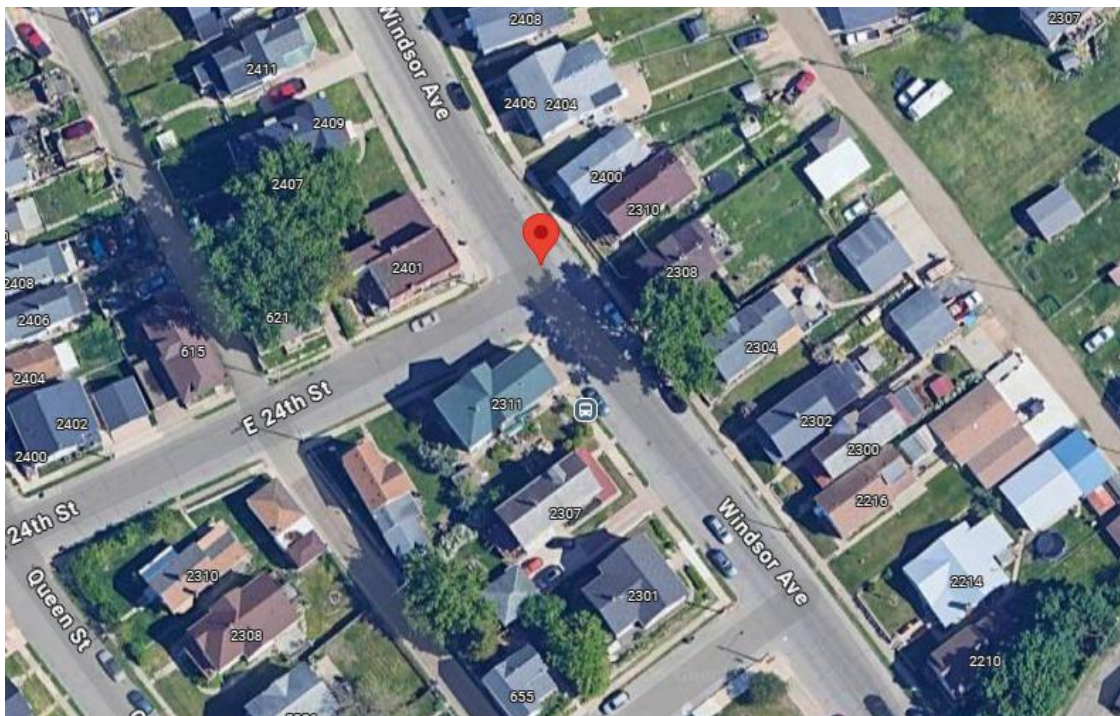


Figure 101: Intersection of East 24th Street and Windsor Avenue

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and nine CO crashes. The predominant manner of collision is sideswipe (same direction), as well as rear-end collisions, broadside (front-to-side), and non-collision (single vehicle), suggesting concerns regarding lane discipline, turning maneuvers, and potentially driver inattentiveness. The primary contributing factor to the KAB crash is driver distraction which led to a non-collision event. The primary contributing factor to the CO crash is loss of control, driver distraction, improper turning, failure to yield right of way from parking, failure to keep in proper lane, and running off the road. The KAB Annual PCR for the intersection is 0.009373, indicating a low severity level, while the KABCO Annual PCR is 0.934122, which is considered medium. Based on statewide rankings, this intersection is ranked 6,070th for KAB crashes and 1,267th for KABCO crashes out of 115,274 intersections statewide, highlighting its relative risk for general crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install rectangular rapid flashing beacon (RRFB) for pedestrian crossing (Moderate)
- Provide marked crosswalks (Low)
- Restrict or eliminate parking (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide a stop bar on minor road approaches (Low)

Locust Street and Clarke Drive

This site is a three-legged, undivided, low speed, yield controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area with a high school located nearby. It features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.



Figure 102: Intersection of Locust Street and Clarke Drive

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and eight CO crashes. The predominant manners of collision are rear end (front-to-rear) and sideswipe (same direction), each accounting for one-third of all crashes. Non-collision events and head-on crashes also occurred, though less frequently, suggesting a mix of crash types. The primary contributing factor to the KAB crash is failure to yield right-of-way to pedestrians, highlighting a concern for pedestrian safety near the high school. For CO crashes, the primary contributing factor to the crashes is lost control. Other contributing factors to crashes include following too closely, failure to yield the right of way from parking and from yielding, and improper or erratic lane changes. The KAB Annual PCR for the intersection is 0.031876, indicating a low severity level, while the KABCO Annual PCR is 0.925414, which is considered medium. Based on statewide rankings, this intersection is ranked 2,640th for KAB crashes and 1,284th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install rectangular rapid flashing beacon (RRFB) for pedestrian crossing (Moderate)
- Install flashing beacon on school zone crossing signs (Low)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)
- Investigate conversion of intersection to an alternative design (roundabout)(High)

Central Avenue and East 21st Street

This site is a three-legged, undivided, low speed, uncontrolled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks, although no crosswalks are present. The intersection is illuminated, and the pavement is in good condition.

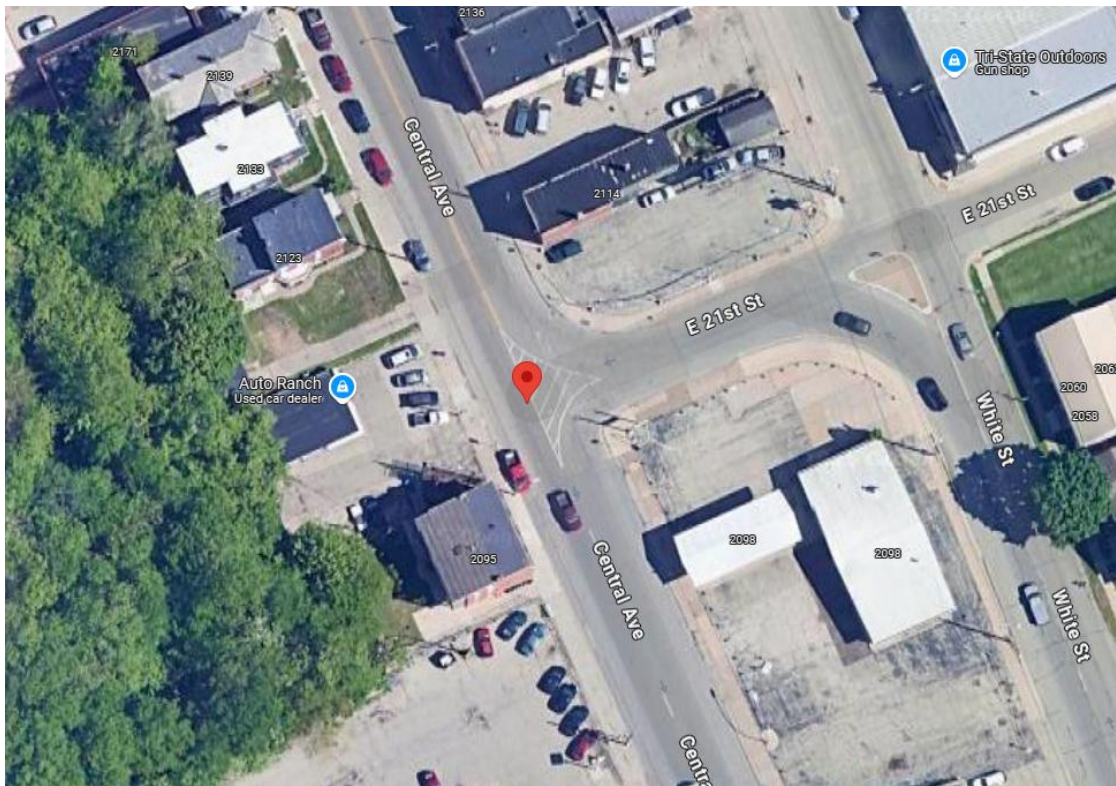


Figure 103: Intersection of Central Avenue and East 21st Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018-2022), all of which were classified as CO crashes with no severe (KAB) crashes reported. The predominant manner of collision is sideswipe (same direction), accounting for the highest share of crashes. Other collision types include broadside (front-to-side), rear-end, and angle crashes involving oncoming left-turning vehicles. These patterns suggest a mix of lane-changing conflicts, right-of-way violations, and inattentiveness during turning maneuvers. There were no KAB crashes at this site; however, multiple contributing factors were associated with the CO crashes. The primary contributing factors to KABCO crashes were improper or erratic lane changes and improper turning movements. Additional causes included loss of control and traveling the wrong way on the road. The KAB Annual PCR for the intersection is -0.005162, indicating no recorded severity, while the KABCO Annual PCR is 0.910942, placing it in the medium range. Based on statewide rankings, this intersection is ranked 105,677th for KAB crashes and 1,306th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate alternative intersection designs for this area and implement (High)
- Implement yield or stop control if needed (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

White Street and East 15th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on two sides of the road. The intersection is illuminated, and the pavement is in good condition.

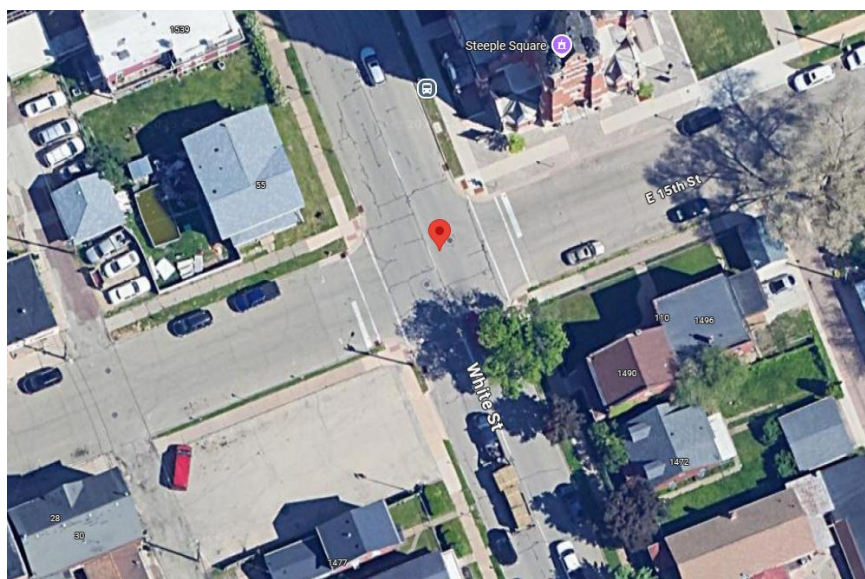


Figure 104: Intersection of White Street and East 15th Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eleven CO crashes. The predominant manner of collision is sideswipe (same direction), accounting for half of the total crashes. Additionally, broadside (front-to-side), angle crashes (oncoming left turn) and non-collision (single vehicle) were also reported, which may reflect issues with lane discipline and turning behavior. The primary contributing factor to the KABCO crash is improper or erratic lane changing. Other contributing factors include failure to yield right-of-way from stop sign, making improper turns, driver distraction, and loss of vehicle control. The KAB Annual PCR for the intersection is 0.024120, indicating a low severity level, while the KABCO Annual PCR is 0.903271, which is considered medium. Based on statewide rankings, this intersection is ranked 3,719th for KAB

crashes and 1,318th for KABCO crashes out of 115,274 intersections statewide, indicating a moderate safety concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide left-turn lanes (Moderate)
- Install pedestrian crossing warning signs (Low)
- Restrict or eliminate parking (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

University Avenue and Nevada Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed commercial and residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good condition.

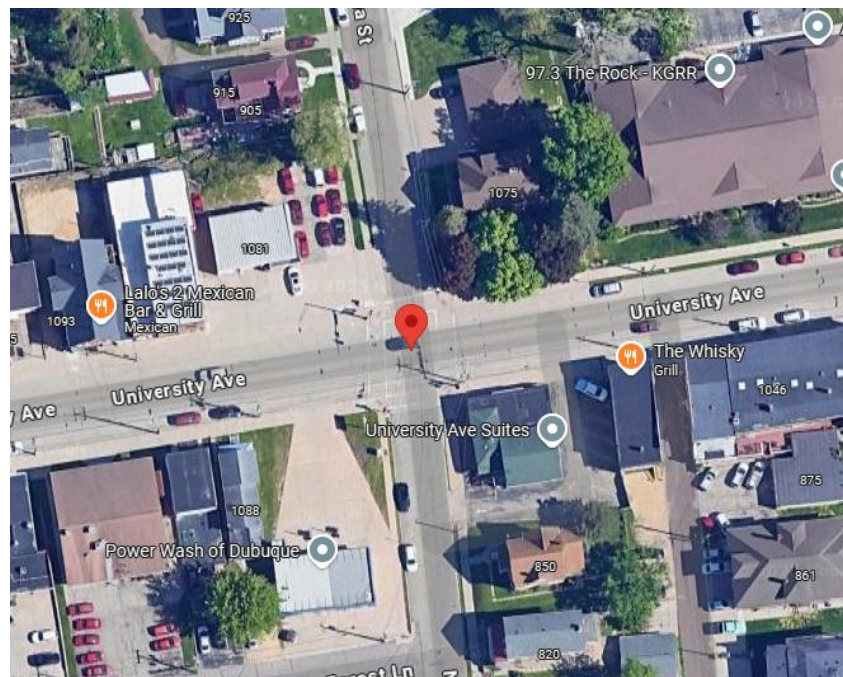


Figure 105: Intersection of University Avenue and Nevada Street

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and nine CO crashes. The predominant manners of collision are broadside (front-to-side) and sideswipe (same direction), as well as rear-end crashes, sideswipes in the opposite direction, and rear to side crashes. The primary contributing

factor to the KABCO crash is loss of control, followed by driver distraction, improper backing, and multiple instances of failure to yield right-of-way, both at driveways and uncontrolled locations. The KAB Annual PCR for the intersection is 0.0323, indicating a low severity level, while the KABCO Annual PCR is 0.898463, which is considered medium. Based on statewide rankings, this intersection is ranked 2,553rd for KAB crashes and 1,331st for KABCO crashes out of 115,274 intersections statewide, highlighting it as a moderately high-risk location.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Install retroreflective traffic signal backplates (Low)
- Implement access management (Low)

Chaney Road and Hillcrest Road

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, although there are no crosswalks. The intersection is illuminated, and the pavement is in good condition.



Figure 106: Intersection of Chaney Road and Hillcrest Road

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes, with no KAB crashes reported. The predominant manner of collision is broadside (front-to-side), rear-end collisions (front-to-rear), angle crashes (oncoming left turn), and sideswipes in the opposite direction. While there were no severe (KAB) crashes, the most frequent contributing factor to the CO crashes was running a stop sign, which led to multiple broadside collisions. Other contributing factors included loss of control, failure to yield right-of-way from a stop sign, improper backing, and making improper turns. The KAB Annual PCR is -0.021749 (low), while the KABCO Annual PCR is 0.889651, placing it in the medium range of severity level. Based on statewide rankings, this intersection is ranked 111,574th for KAB crashes and 1,355th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Cross Traffic does not Stop warning signage (Low)

- Add red pennants to stop signs to increase conspicuity (Low)
- Investigate conversion to all-way stop-control (Low)

White Street and East 10th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

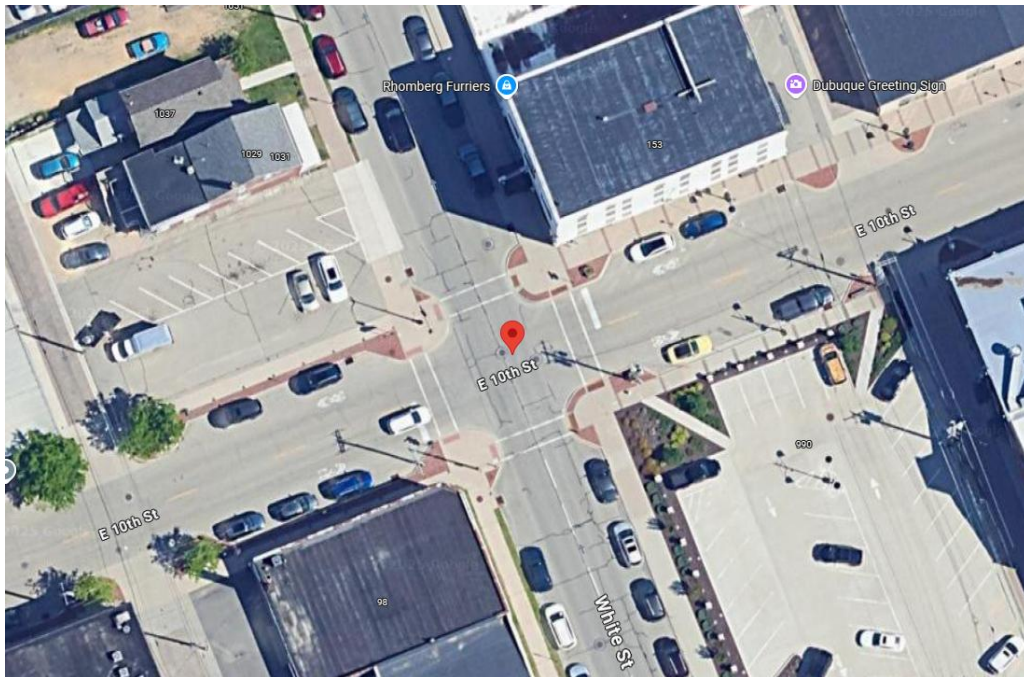


Figure 107: Intersection of White Street and East 10th Street

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018-2022), including zero KAB crashes and ten CO crashes. The predominant manner of collision is broadside (front-to-side), angle crashes (oncoming left turn), sideswipes, and non-collision crashes. The major contributing factors to these crashes include running a stop sign, improper turning movements, driving too fast for conditions, lost control, and failure to yield right-of-way from stop control. The KAB Annual PCR for the intersection is -0.020226, indicating no severity level, while the KABCO Annual PCR is 0.888885, which is considered medium. Based on statewide rankings, this intersection is ranked 111,372nd for KAB crashes and 1,359th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Restrict or eliminate parking (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Asbury Road and Green Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but crosswalks are not present. The intersection is illuminated, and the pavement is in good condition.

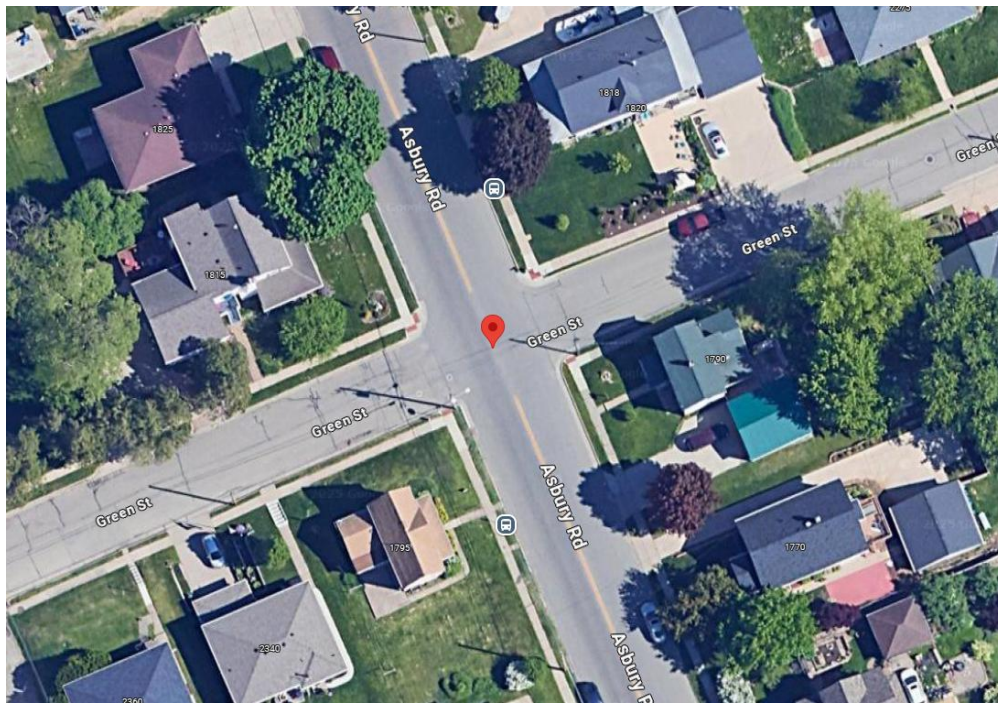


Figure 108: Intersection of Asbury Road and Green Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO (property damage only), with zero severe (KAB) crashes reported. The predominant manner of collision is rear end (front-to-rear), followed by broadside collisions, and sideswipe in the same direction. The primary contributing factors to the KABCO crashes at this location are varied. These include driver distraction (external and adjacent), loss of control, making improper turns, following too closely, and failure to yield right-of-way from parking maneuvers. The KAB Annual PCR for this intersection is - 0.059742, indicating no severity level, while the KABCO Annual PCR is 0.824203, which is considered medium. Based on statewide rankings, this intersection is ranked 113,624th for KAB crashes and 1,447th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide supplementary stop signs mounted on the left side of the roadway on east leg (Low)
- Provide a stop bar on minor road approaches (Low)
- Relocate the utility poles; if relocation is not feasible, install retroreflective tape to poles (Moderate)
- Add crosswalks if needed (Low)

Central Avenue and East 26th Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on one side of the road. The intersection is illuminated, and the pavement is in good condition.

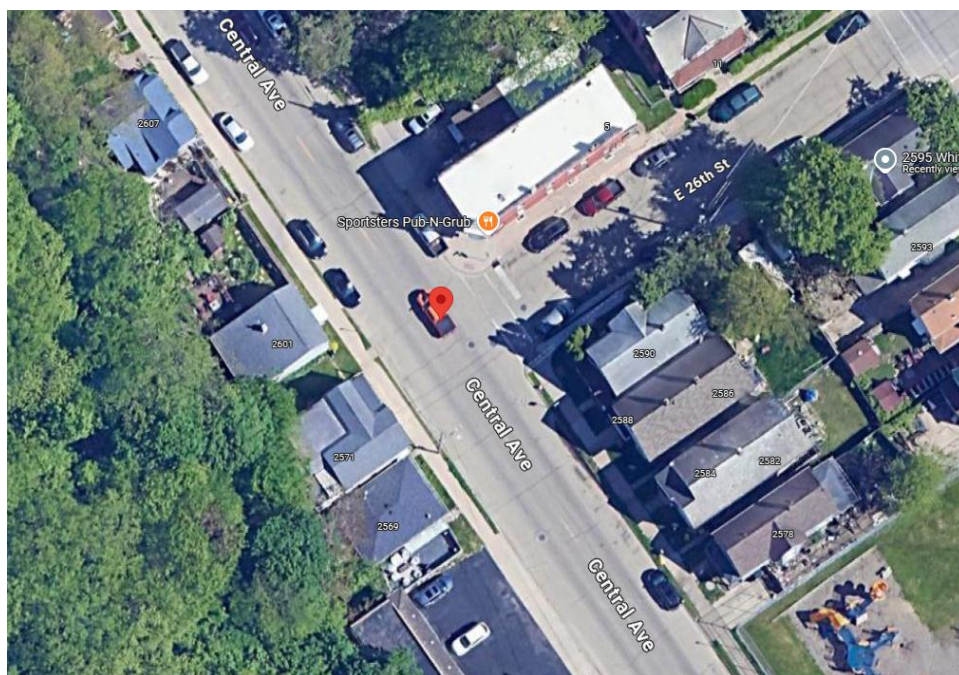


Figure 109: Intersection of Central Avenue and East 26th Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eight CO crashes. The predominant manner of collision include broadside (front-to-side), rear-end, angle, non-collision, and sideswipe crashes. This variety in crash types suggests potential concerns with turning movements, signal timing, and vehicle control. The primary contributing factors to KABCO crashes is loss of control, failure to yield right-of-way from a stop sign, running a stop sign, and failing to maintain proper

lane positioning. The KAB Annual PCR for the intersection is 0.009292, indicating a low severity level, while the KABCO Annual PCR is 0.815799, which is considered medium. Based on statewide rankings, this intersection is ranked 6,092nd for KAB crashes and 1,459th for KABCO crashes out of 115,274 intersections statewide, indicating it is a location with moderate crash frequency and severity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Install intersection ahead warning signs (Low)
- Clear sight triangles on stop-controlled approaches to intersection (Moderate)

Asbury Road and Clarke Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and is located near a medical center. It features well-defined curbs, curb ramps, and sidewalks, but no marked crosswalks. Overhead lighting is present at the intersection, and the pavement is in good condition.

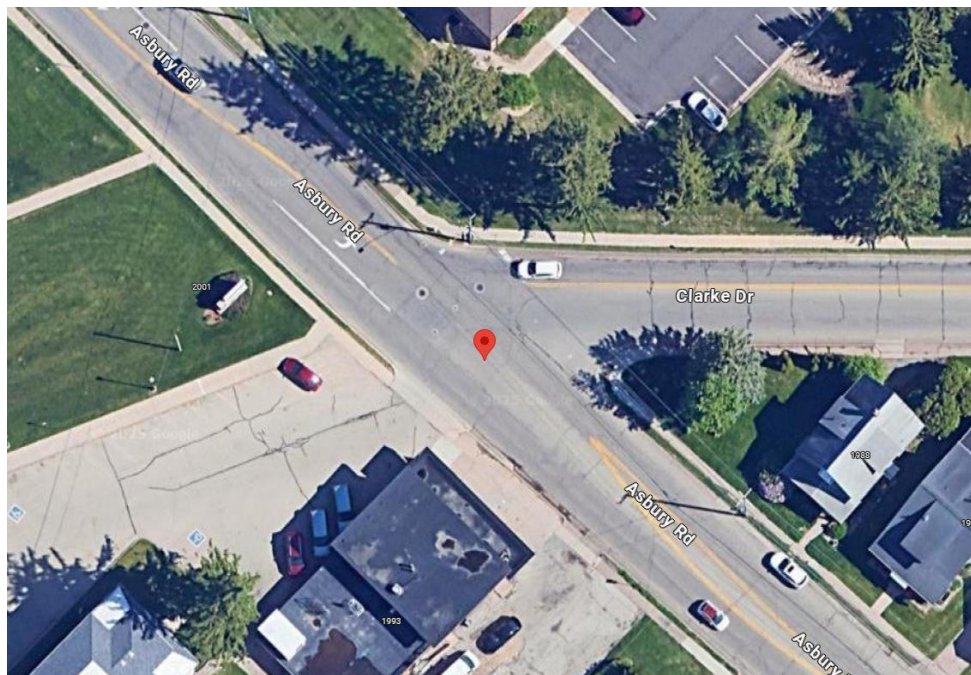


Figure 110: Intersection of Asbury Road and Clarke Drive

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eight CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by broadside (front-to-side), angle (oncoming left turn), non-collision (single vehicle), and sideswipe crashes. The primary contributing factor to KABCO crashes is loss of control. Other contributing factors for all KABCO crashes include failure to yield right-of-way from a driveway, FTYROW from a stop sign and while making an improper left turn, and running stop sign. The KAB Annual PCR for the intersection is 0.011394, indicating a low severity level, while the KABCO Annual PCR is 0.780894, which is considered medium. Based on statewide rankings, this intersection is ranked 5,500th for KAB crashes and 1,537th for KABCO crashes out of 115,274 intersections statewide, suggesting that it is a location with moderate crash risk but notable concerns due to its crash frequency and variety of contributing factors.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install pedestrian crossing warning signs (Low)
- Adjust the stop bar placement slightly further back to accommodate the crossing on east approach (Low)
- Install Be Prepared to Stop warning sign on east approach (Low)
- Add crosswalks if needed (Low)

Asbury Road and Evergreen Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. Although overhead lighting is present and the pavement is in good condition, there are no marked crosswalks present.

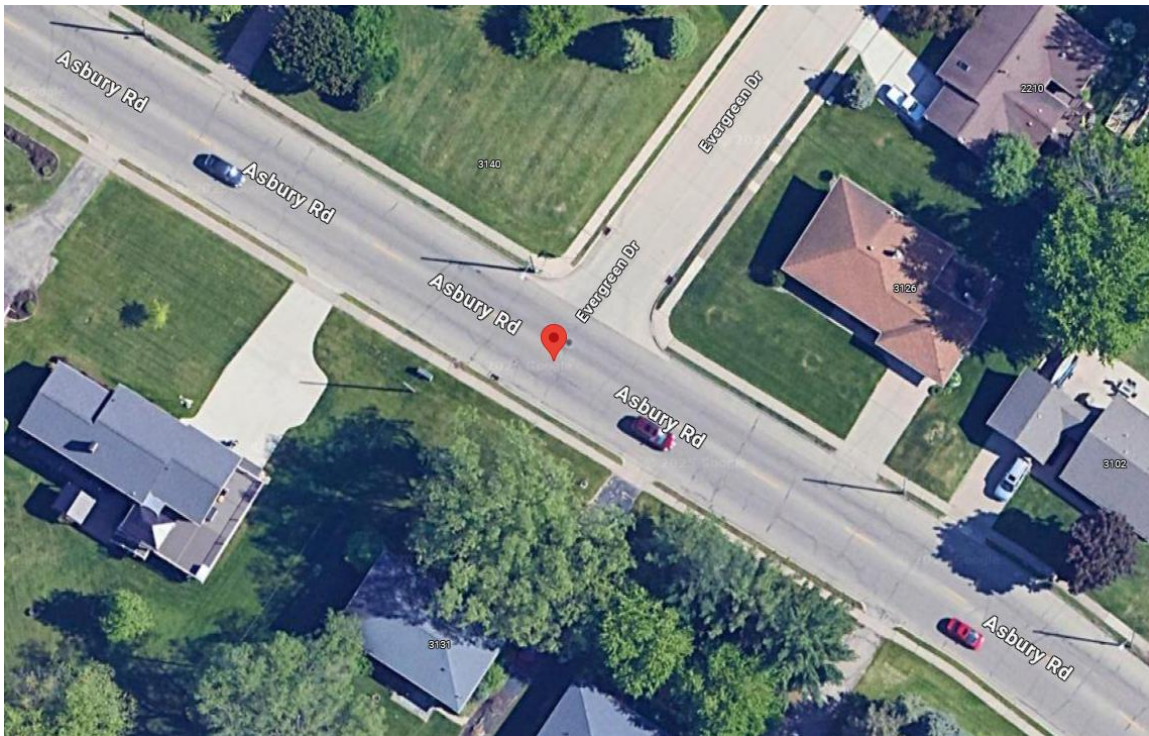


Figure 111: Intersection of Asbury Road and Evergreen Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and nine CO crashes. The predominant manner of collision is rear end (front-to-rear), although broadside collisions were also reported. The primary contributing factor to CO crashes is following too closely, which resulted in a significant number of rear-end crashes. Other contributing factors include loss of control, running a stop sign, and various forms of driver distraction. The KAB Annual PCR for the intersection is -0.005726, indicating no severity level, while the KABCO Annual PCR is 0.778823, which is considered medium. Based on statewide rankings, this intersection is ranked 106,240th for KAB crashes and 1,543rd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Improve recognition of intersections by providing enhanced signing and delineation (Low)
- Provide left-turn lanes at intersection (Moderate)
- Provide stop bar on minor road approach (Low)
- Add crosswalks if needed (Low)

Loras Boulevard and Algona Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. No marked crosswalks are present.

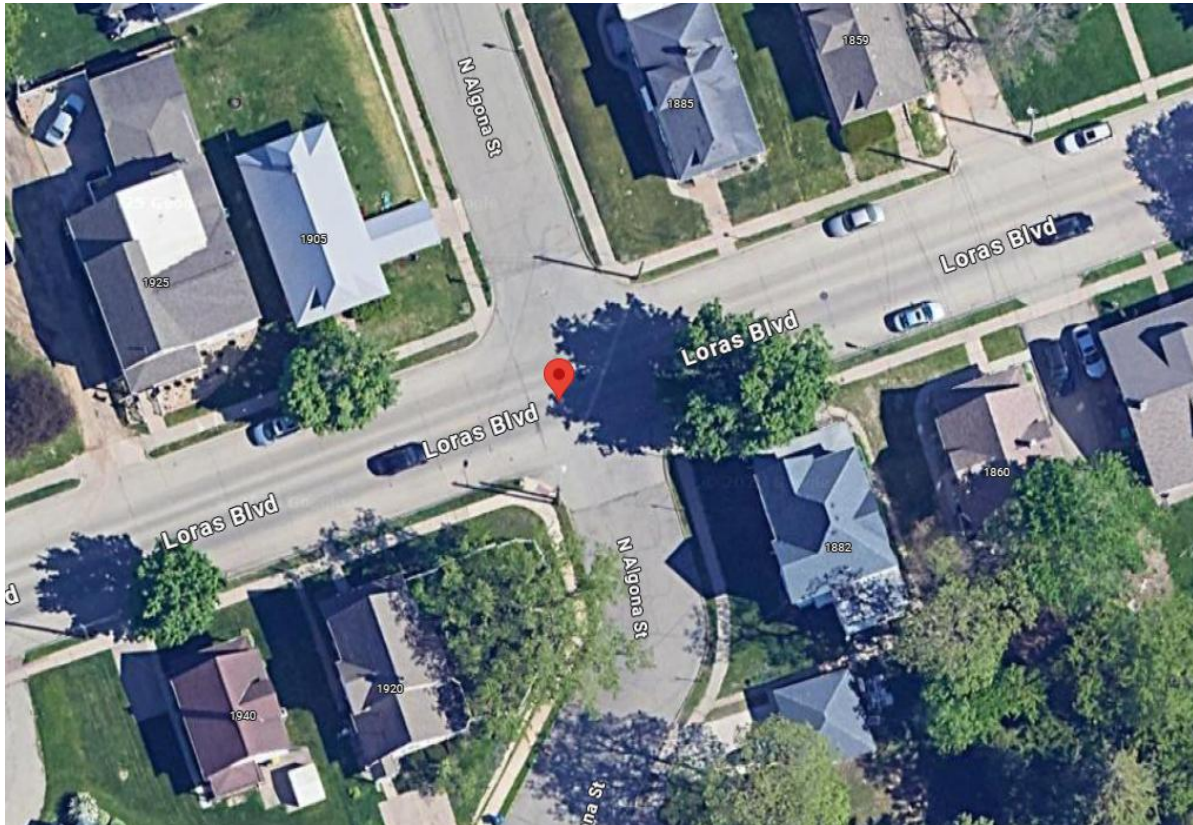


Figure 112: Intersection of Loras Boulevard and Algona Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and nine CO crashes. The predominant manner of collision is angle (oncoming left turn), as well as broadside (front-to-side), sideswipe (same direction), rear-end (front to rear) and sideswipe (opposite direction). The primary contributing factors to CO crashes include loss of control, failure to yield right-of-way from stop sign and while making left turns, inattentive driving, and running stop signs. These behaviors indicate potential concerns regarding driver attentiveness and stop compliance at this intersection. The KAB Annual PCR for the intersection is -0.015206, indicating no severity level, while the KABCO Annual PCR is 0.776076, categorized as medium. Based on statewide rankings, this intersection is ranked 110,489th for KAB crashes and 1,547th for KABCO crashes out of 115,274 intersections, highlighting its relative risk level in terms of overall crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Provide all-way stop-control (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)
- Add crosswalks if needed (Low)

East 11th Street and Washington Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

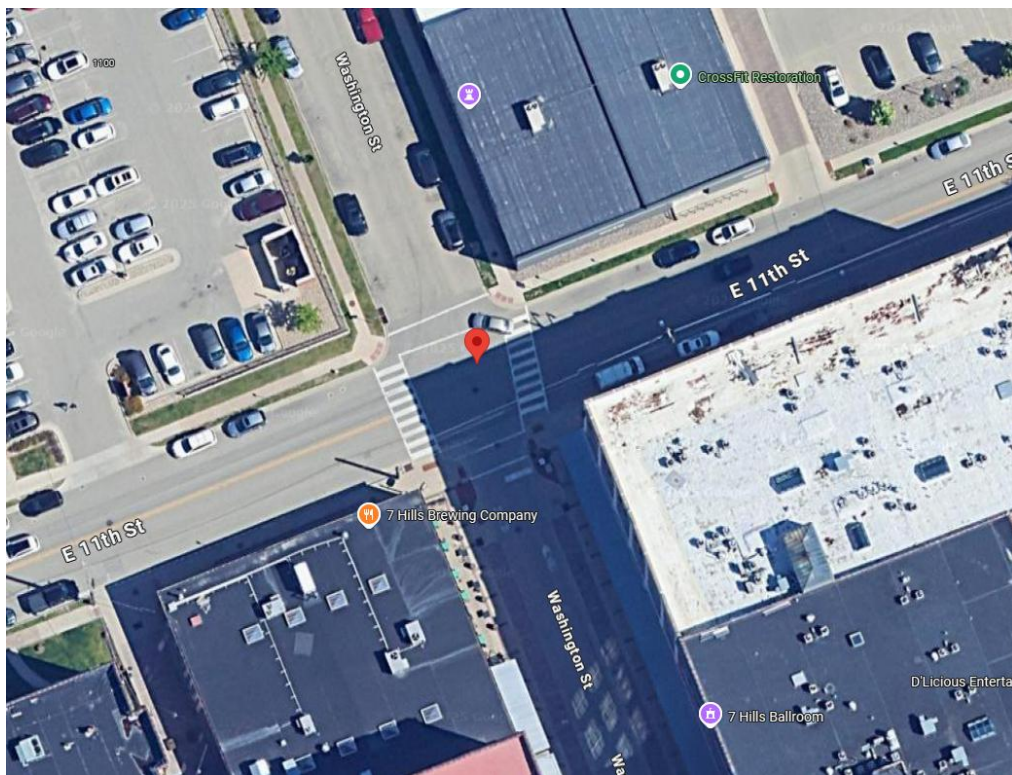


Figure 113: Intersection of East 11th Street and Washington Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and seven CO crashes. The predominant manner of collision is broadside (front-to-side), as well as sideswipe (same direction) and non-collision

(single vehicle) crashes. The primary contributing factors to KABCO crashes include lost control and failure to yield right-of-way from stop sign. Other crashes were associated with a vehicle running stop sign, and failing to yield right-of-way while making left turn. The KAB Annual PCR for the intersection is 0.005298, indicating a low severity level, while the KABCO Annual PCR is 0.771192, which is considered medium. Based on statewide rankings, this intersection is ranked 7,071st for KAB crashes and 1,556th for KABCO crashes out of 115,274 intersections statewide, indicating a moderate risk profile.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Install bicycle-related warning signs (Low)
- Investigate conversion to all-way stop-control (Low)
- Improve bicycle facilities to reduce conflicts between motorists and non-motorists (Moderate)

Rosedale Avenue and Saint Ambrose Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area. It features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

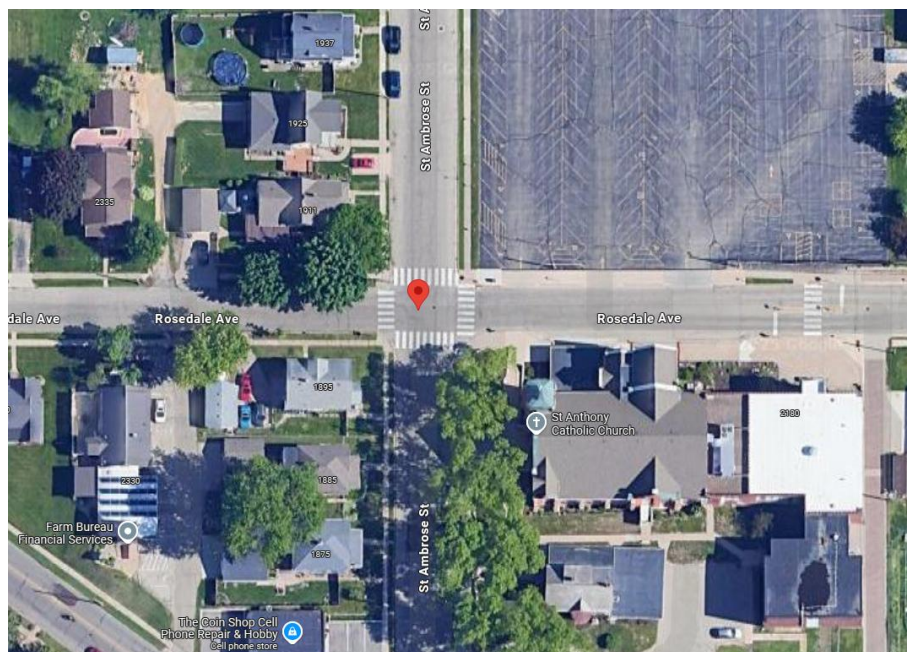


Figure 114: Intersection of Rosedale Avenue and Saint Ambrose Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and eight CO crashes. The predominant manner of collision is broadside (front-to-side), followed by angle crashes (oncoming left turn) and rear-end collisions, suggesting potential issues with right-of-way compliance and driver attentiveness. The primary contributing factors to the CO crashes include running stop sign, failing to yield right-of-way from a stop sign or while making a left turn, and lost vehicle control. The KAB Annual PCR for the intersection is -0.01096, indicating a low severity level, while the KABCO Annual PCR is 0.760304, which is considered medium. Based on statewide rankings, this intersection is ranked 109,249th for KAB crashes and 1,593rd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Consider conversion to all-way stop-control (Low)

Kennedy Road and Crestwood Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with both commercial and residential. It features well-defined curbs, curb ramps, sidewalks, and is illuminated. The pavement is in good condition, however, there are no marked crosswalks present.

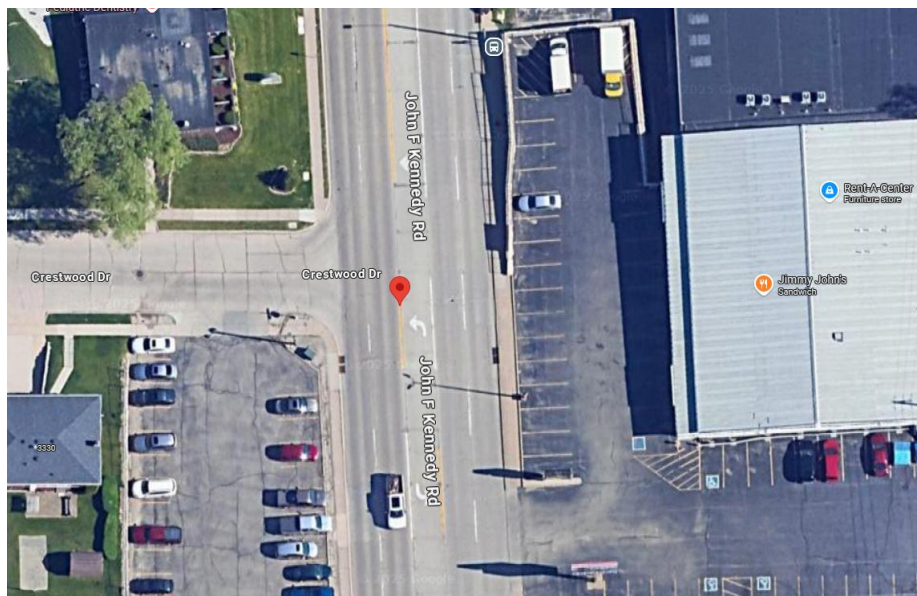


Figure 115: Intersection of Kennedy Road and Crestwood Drive

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eight CO crashes. The manner of collision include rear end (front-to-rear), and broadside (front-to-side), reflecting potential visibility or yielding issues during turning maneuvers. The primary contributing factor to the KABCO crash is loss of control. Other contributing factors to the KABCO crashes include following too closely, failure to yield right-of-way from driveway and while making left-turn, and driver distraction. The KAB Annual PCR for the intersection is 0.011154, indicating a low severity level, while the KABCO Annual PCR is 0.754132, which is considered medium. Based on statewide rankings, this intersection is ranked 5,574th for KAB crashes and 1,612th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install intersection ahead warning signs (Low)
- Install flashing beacons to alert drivers to intersection ahead (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD on minor roads (Low)
- Provide stop bar on minor road approach (Low)

White Street and East 18th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area, combining commercial and residential land uses. It features well-defined curbs, curb ramps, and sidewalks, but there are no marked crosswalks present. Overhead lighting is present, and the pavement is in good condition.

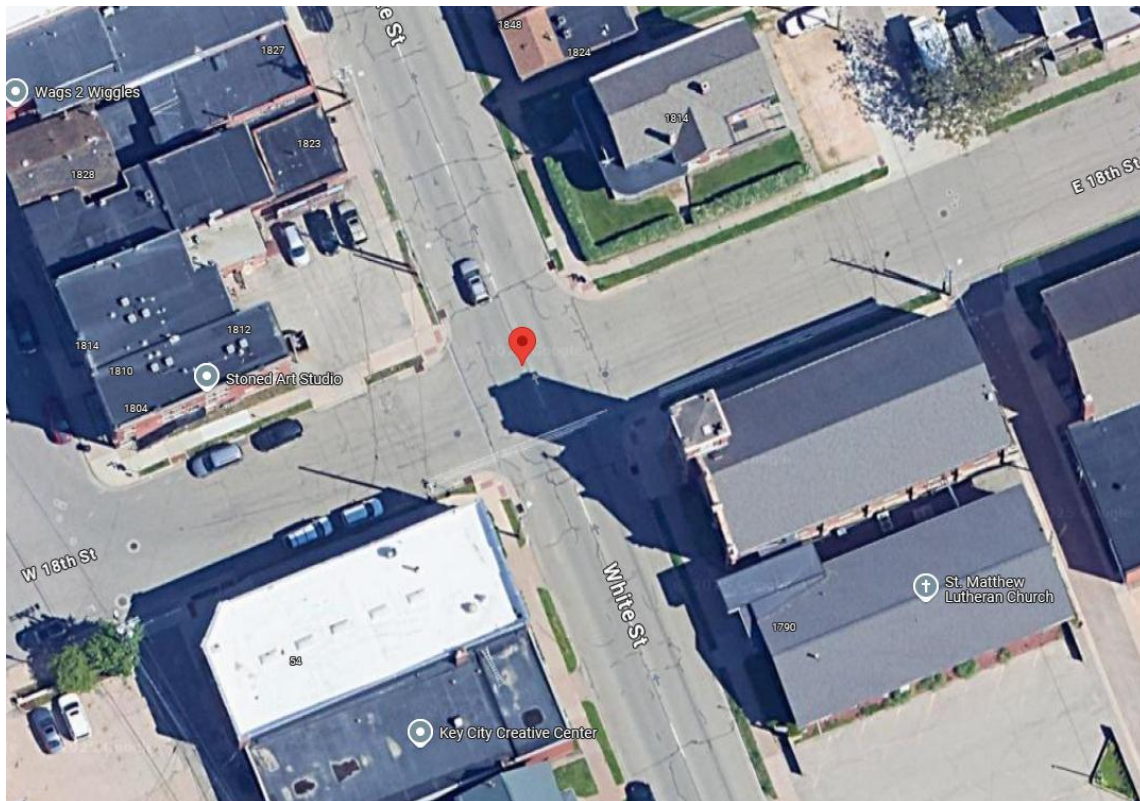


Figure 116: Intersection of White Street and East 18th Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eight CO crashes. The predominant manner of collision is rear end (front-to-rear), as well as broadside (front-to-side) and sideswipe (same direction) collisions. The primary contributing factors to KABCO crashes are loss of control, driver distraction (passenger-related), failure to yield right-of-way at uncontrolled approaches, and improper turning movements. The KAB Annual PCR for the intersection is 0.034309, indicating a low severity level, while the KABCO Annual PCR is 0.724685, which is considered medium. Based on statewide rankings, the intersection is ranked 1,889th for KAB crashes and 1,664th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Attach the stop sign on the utility pole to make it more visible on west approach (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide left-turn lanes at intersection (Moderate)
- Provide stop bars on minor road approaches (Low)

- Add crosswalks if needed (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Main Street and West 9th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks with pedestrian signals. The intersection is illuminated, and the pavement is in good condition.

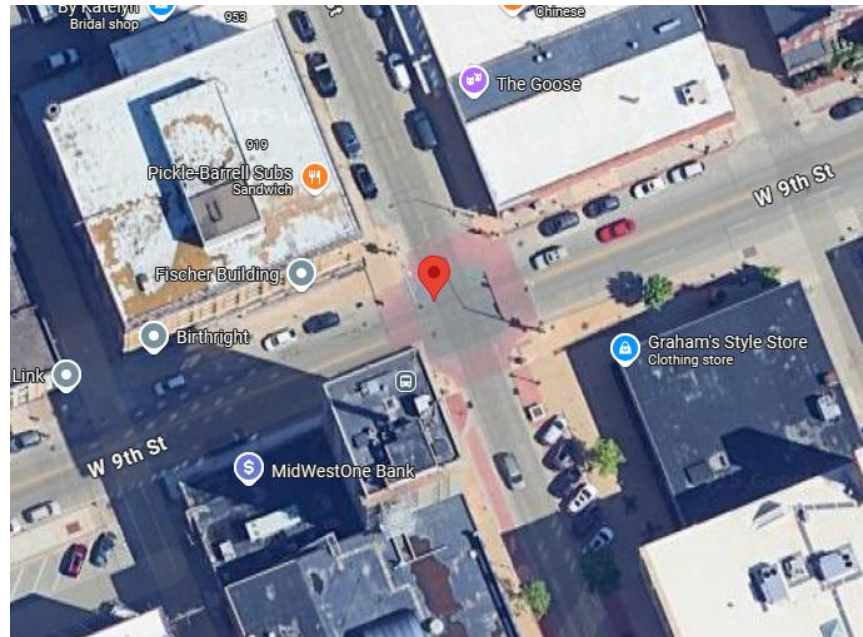


Figure 117: Intersection of Main Street and West 9th Street

Crash Summary

Crash reports indicate that 15 crashes have occurred at this intersection over a five-year period (2018–2022), with no reported KAB crashes and fifteen CO crashes. The predominant manner of collision is broadside (front-to-side), followed closely by rear-end (front-to-rear) and sideswipe (same direction) crashes, suggesting issues with driver attentiveness, signal compliance, and lane discipline. Although there were no KAB crashes, the contributing factors to all CO crashes reveal that a significant number were due to running a traffic signal, lost control, failure to yield right-of-way while making a left turn, following too closely, failure to yield right-of-way from parking, and improper backing. These behaviors indicate poor compliance with traffic control devices and operational errors at the intersection. The KAB Annual PCR for the intersection is - 0.107938, indicating no level, while the KABCO Annual PCR is 0.709189, which is considered medium. Based on statewide rankings, this intersection is ranked 114,388th for KAB crashes and 1,697th for KABCO crashes out of 115,274 intersections statewide, highlighting its moderate crash risk status.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Restrict or eliminate parking (Low)
- Provide left-turn channelization (Moderate)

Main Street and West 5th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

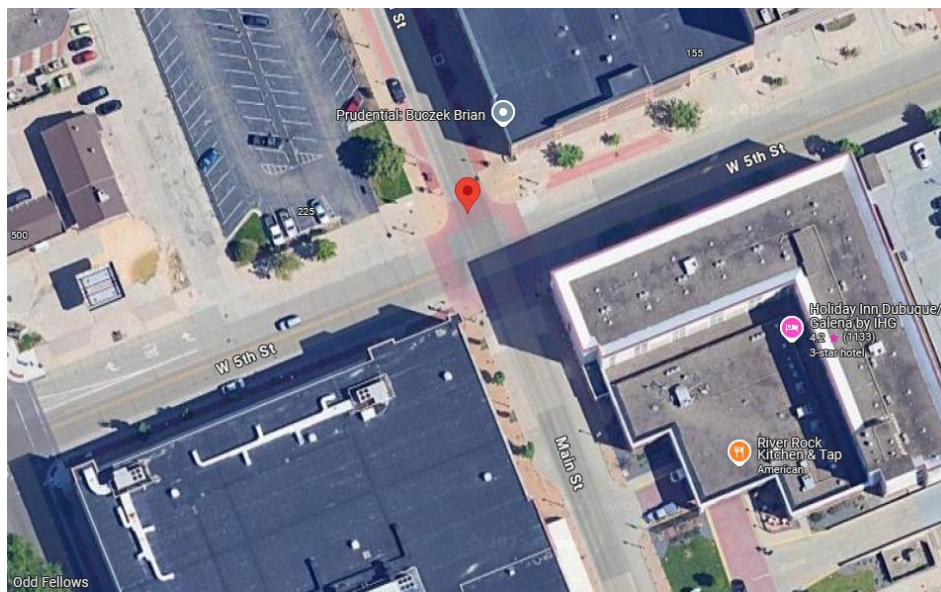


Figure 118: Intersection of Main Street and West 5th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and seven CO crashes. The predominant manner of collision is broadside (front-to-side), followed by non-collision (single-vehicle) and rear-end collisions, indicating potential issues with intersection control and driver behavior. The primary contributing factor to KABCO crashes is running stop sign. Other contributing factors include driver loss of control and failure to yield right-of-way to pedestrians. The KAB Annual PCR for the intersection is 0.033827, indicating a low severity level, while the KABCO Annual PCR is 0.697395, which is considered high. Based on statewide rankings, this intersection is ranked 2,188th for KAB crashes and 1,717th for KABCO crashes out of 115,274 intersections statewide, highlighting its importance as a location needing safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Install a Rectangular Rapid-Flashing Beacon for pedestrians (Moderate)

Grandview Avenue and Kane Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but no marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

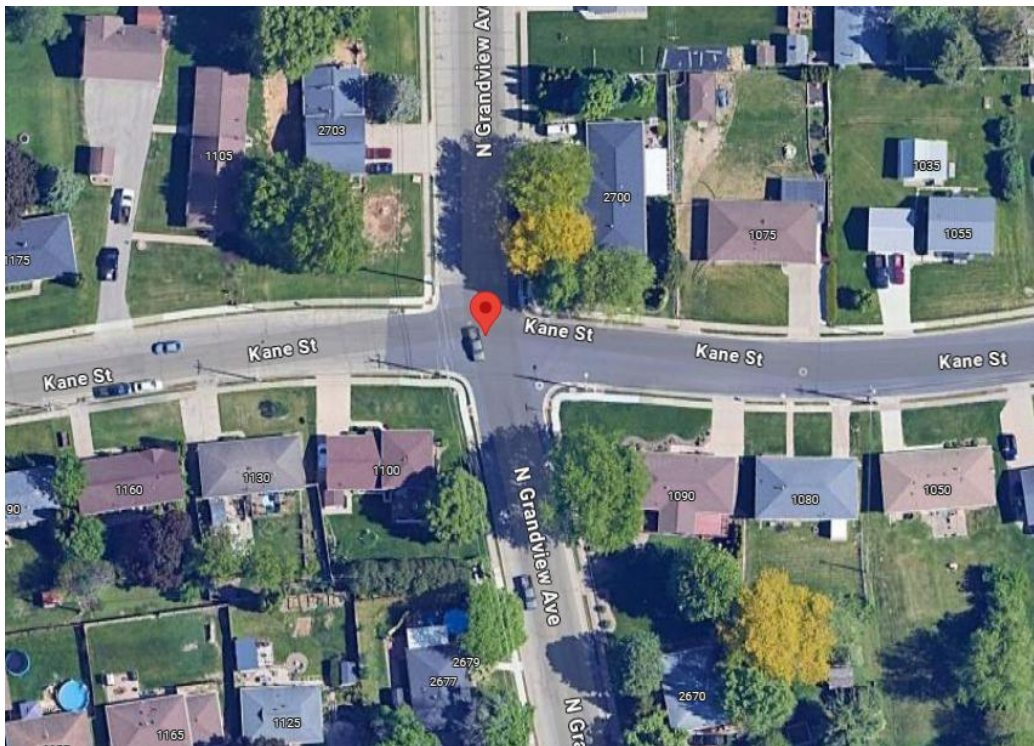


Figure 119: Intersection of Grandview Avenue and Kane Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), all of which were classified as CO, with no reported KAB (severe injury or fatal) crashes. The predominant manner of collision is broadside (front-to-side), as well as rear-end collisions, suggesting potential issues with intersection control compliance and following distances. The primary contributing factor to CO crashes is drivers running stop signs, with other contributing factors including failure to yield right-of-way from stop position and driver distraction. The KAB Annual PCR for the intersection is -0.017985, indicating no severity level,

while the KABCO Annual PCR is 0.687107, which is considered medium. Based on statewide rankings, this intersection is ranked 111,021st for KAB crashes and 1,747th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD on minor roads (Low)
- Consider conversion to all-way stop-control (Low)
- Provide stop bars on minor road approaches (Low)

Bluff Street and Connector Roadway

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). The southwest leg of the intersection serves as an entrance ramp onto US 20 and is one-way. It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed land use area and features sidewalks only on one side of the intersection, but lacks crosswalks. The intersection is illuminated, and the pavement is in good condition.



Figure 120: Intersection of Bluff Street and Connector Roadway

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision is rear end (front-to-rear), along with sideswipe (same direction) and non-collision (single vehicle) crashes, suggesting possible driver behavior and control issues. The primary contributing factor to the KABCO crash is loss of control, while other major contributing factors to KABCO crashes include improper or erratic lane changing and improper starting maneuvers. The KAB Annual PCR for the intersection is 0.002425, indicating a low severity level, while the KABCO Annual PCR is 0.686839, which is considered medium. Based on statewide rankings, this intersection is ranked 7,850th for KAB crashes and 1,749th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate alternative intersection designs for this location (possibly removing US 20 entrance ramp leg in conjunction with other intersection redesigns in the vicinity (High)
- Improve visibility by providing enhanced signing and delineation (Low)
- Add red pennants to stop sign to increase conspicuity (Low)
- Provide a stop bar on minor road approach (Low)

Grandview Avenue and West 3rd Street

This site is a four-legged, semi-divided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area, with a medical center located in the northeast quadrant. It features well-defined curbs, curb ramps, and sidewalks, with overhead lighting ensuring adequate visibility. The pavement is in good condition, and marked crosswalks are present on two sides of the intersection.

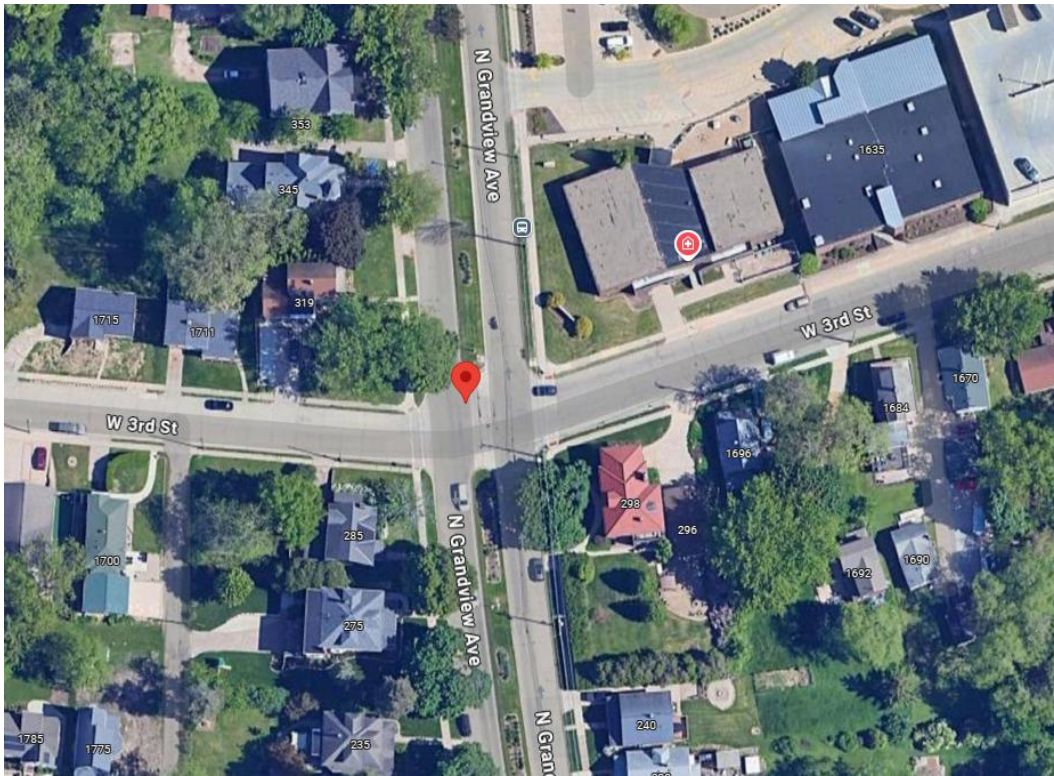


Figure 121: Intersection of Grandview Avenue and West 3rd Street

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and ten CO crashes. The predominant manners of collision are broadside (front-to-side) and rear-end (front-to-rear), as well as an angle collision (oncoming left turn). The primary contributing factor to the KABCO crash was loss of control along with failure to yield right-of-way from a stop sign, driver distraction, running a stop sign, following too closely, FTYROW during left-turn maneuvers, loss of control, and running off the road. The KAB Annual PCR for this intersection is 0.012491, indicating a low severity level, while the KABCO Annual PCR is 0.658028, which is considered medium. Based on statewide rankings, this intersection is ranked 5,174th for KAB crashes and 1,829th for KABCO crashes out of 115,274 intersections, identifying it as a notable location for potential safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide supplementary stop signs mounted on the left side of the roadway (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Install a larger no parking sign (Low)

University Avenue and Wilson Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

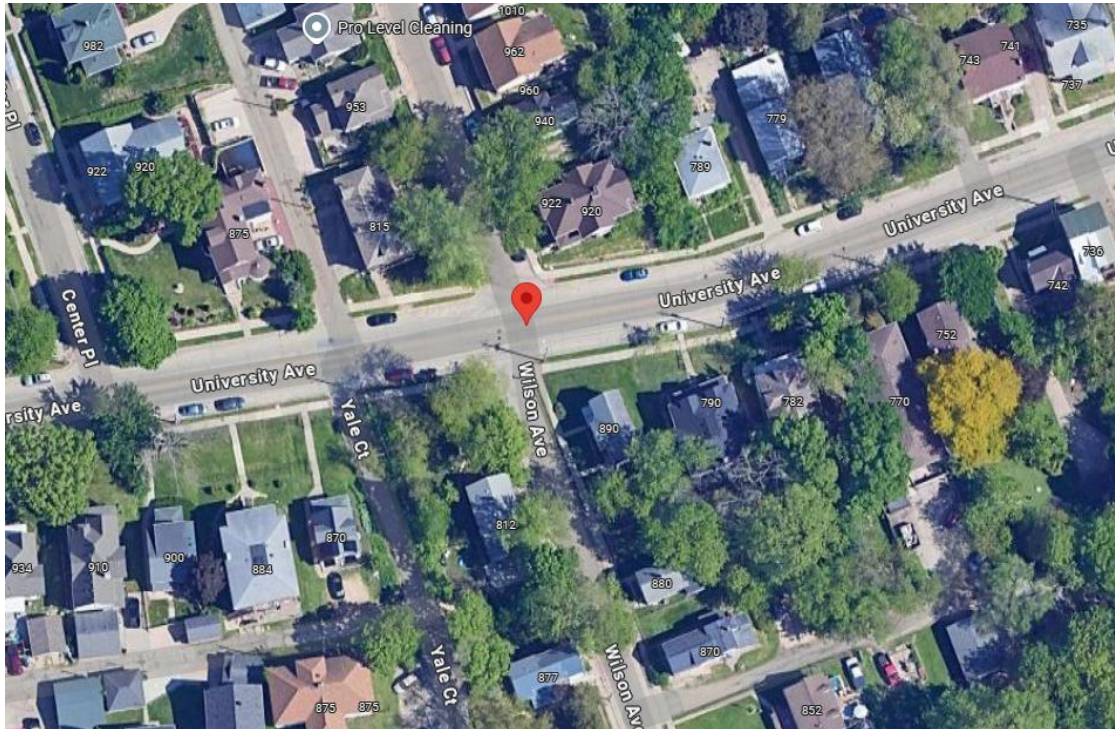


Figure 122: Intersection of University Avenue and Wilson Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision is broadside (front-to-side), with other crashes being non-collision and sideswipe (same direction). The primary contributing factor to the KABCO crash is loss of control, which led to a broadside collision. Other contributing factors for the KABCO crashes include failure to yield right-of-way from stop signs, from uncontrolled approaches, and from driveways, along with instances of running stop signs. The KAB Annual PCR for the intersection is 0.032357, indicating a low severity level, while the KABCO Annual PCR is 0.65349, which is considered medium. Based on statewide rankings, this intersection is ranked 2,543rd for KAB crashes and 1,841st for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Install bicycle warning signs (Low)
- Improve bicycle facilities (Moderate)
- Provide stop bar on minor road approaches (Low)

Locust Street and West 8th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

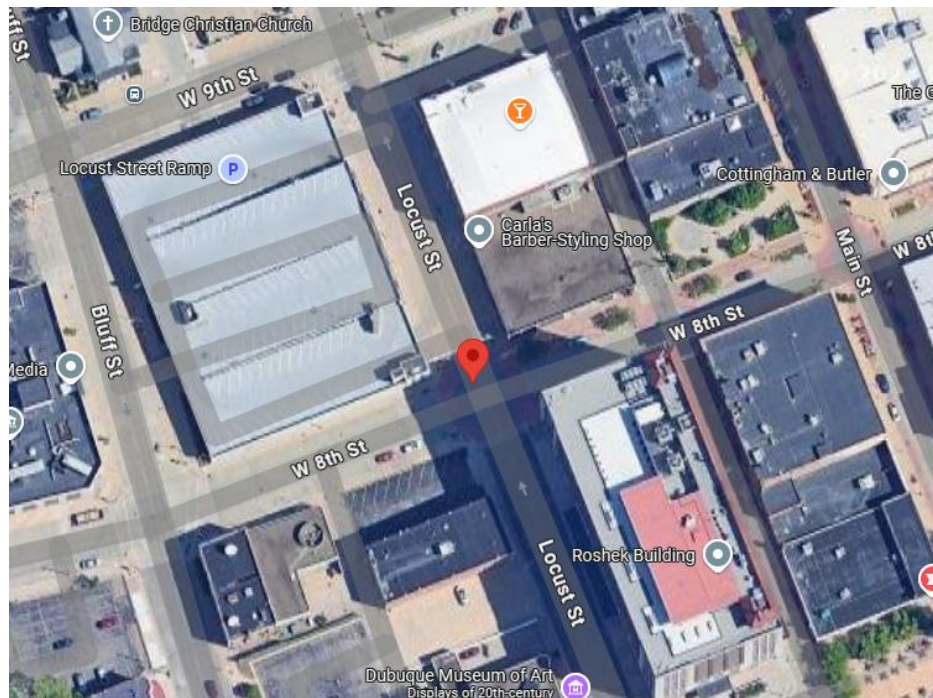


Figure 123: Intersection of Locust Street and West 8th Street

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018-2022), including zero KAB crashes and ten CO crashes. The predominant manner of collision is broadside (front-to-side), followed by rear-end collisions, sideswipes, and non-collision crashes, indicating a variety of contributing risk factors. For KABCO crashes, the primary contributing factor was lost control, as well as running a traffic signal, improper or erratic lane changes, making improper turns, and traveling the wrong way. The KAB Annual PCR for the intersection is -0.035877, indicating no severity level, while the KABCO Annual PCR is 0.648296, which is considered medium. Based on statewide rankings, this intersection is ranked 112,732nd for KAB crashes and 1,856th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Low/Moderate)
- Install retroreflective tape on poles for delineation (Low)
- Provide left-turn channelization (Moderate)

Central Avenue and East 19th Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks to support pedestrian safety. The intersection is illuminated, and the pavement is in good condition. No marked crosswalks are provided at this location.

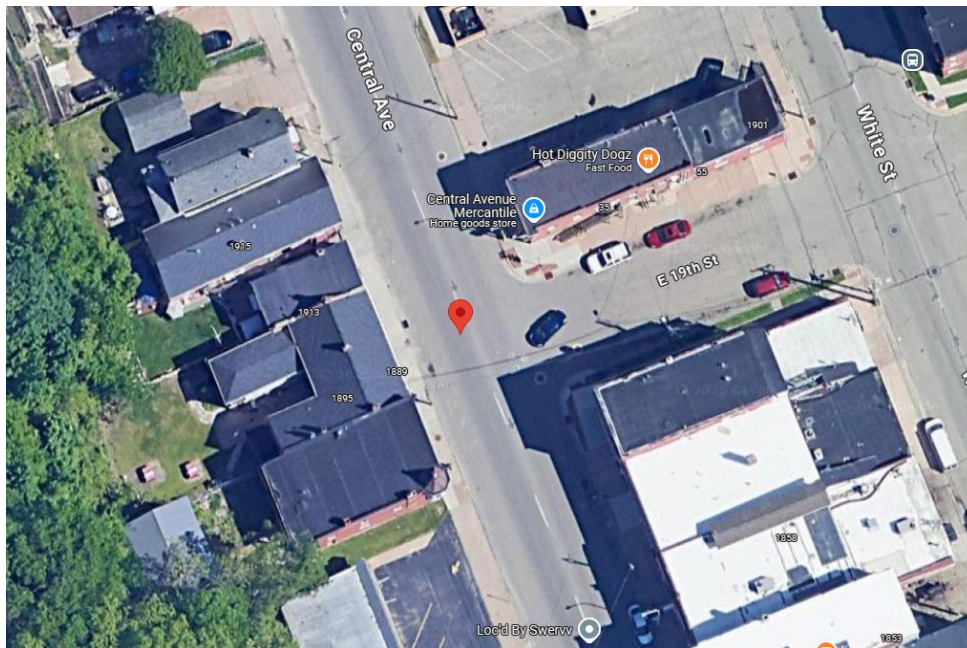


Figure 124: Intersection of Central Avenue and East 19th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), all of which were CO crashes. The predominant manner of collision is sideswipe (same direction), while other reported crash types include angle (oncoming left turn), broadside (front-to-side), and rear-end collisions, pointing to potential issues related to lane discipline, turning maneuvers, and signal compliance. The primary contributing factors to crashes at this location are failure to yield right-of-way during left-turn movements and making improper turns. Additional contributing factors include improper or erratic lane changes, making improper turns,

and FTYROW violations from stop signs. The KAB Annual PCR for the intersection is - 0.001145, indicating no severity level, while the KABCO Annual PCR is 0.645573, which is considered medium. Based on statewide rankings, this intersection is ranked 94,703rd for KAB crashes and 1,862nd for KABCO crashes out of 115,274 intersections statewide, suggesting it may require operational improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install lane assignment pavement markings on north approach (Low)
- Provide left-turn channelization on north approach (Moderate)
- Install Stay in Lane and No Weaving signage (Low)
- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Jackson Street and East 28th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but lacks crosswalks. The intersection is illuminated, and the pavement is in good condition.

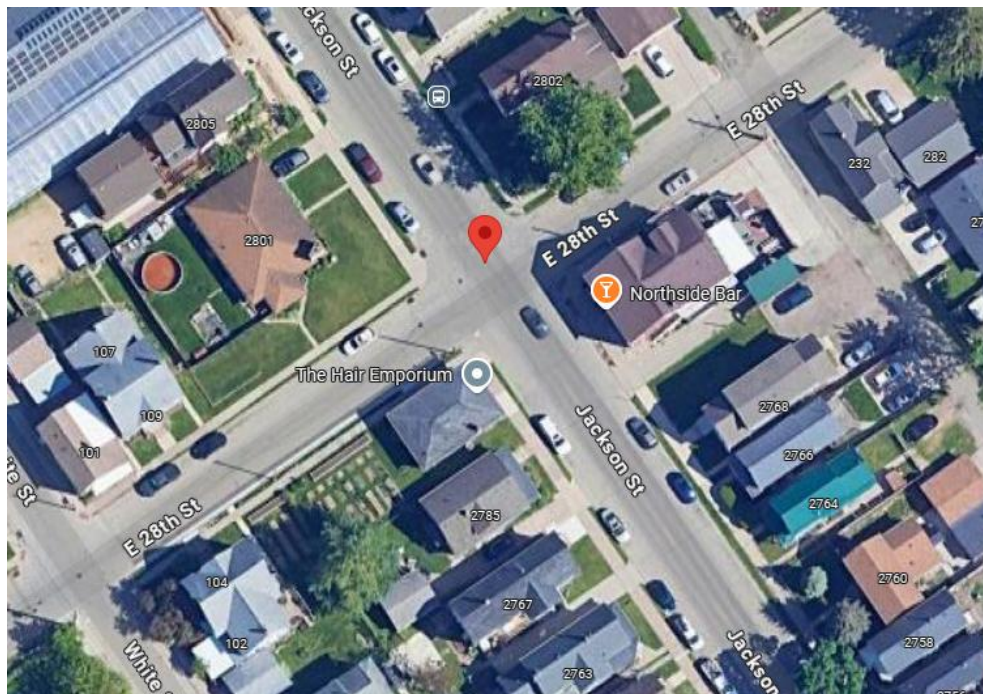


Figure 125: Intersection of Jackson Street and East 28th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision is broadside (front-to-side), as well as sideswipe (same direction) and rear-end collisions, indicating a range of contributing factors and potential conflicts at the intersection. The primary contributing factor to the KABCO crash is failure to yield the right-of-way from a stop sign, which led to broadside crashes. Other contributing factors to KABCO crashes include loss of control, running stop sign, and swerving/evasive maneuvers. The KAB Annual PCR for the intersection is 0.025711, indicating a low severity level, while the KABCO Annual PCR is 0.642280, which is considered medium. Based on statewide rankings, this intersection is ranked 3,505th for KAB crashes and 1,877th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Consider conversion to all-way stop-control (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)
- Add crosswalks if needed (Low)

Main Street and West 15th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The area is a mixture of commercial and residential land use. The intersection features well-defined curbs, curb ramps, and sidewalks, but no crosswalks are present. Overhead lighting ensures good visibility, and the pavement is in good condition.

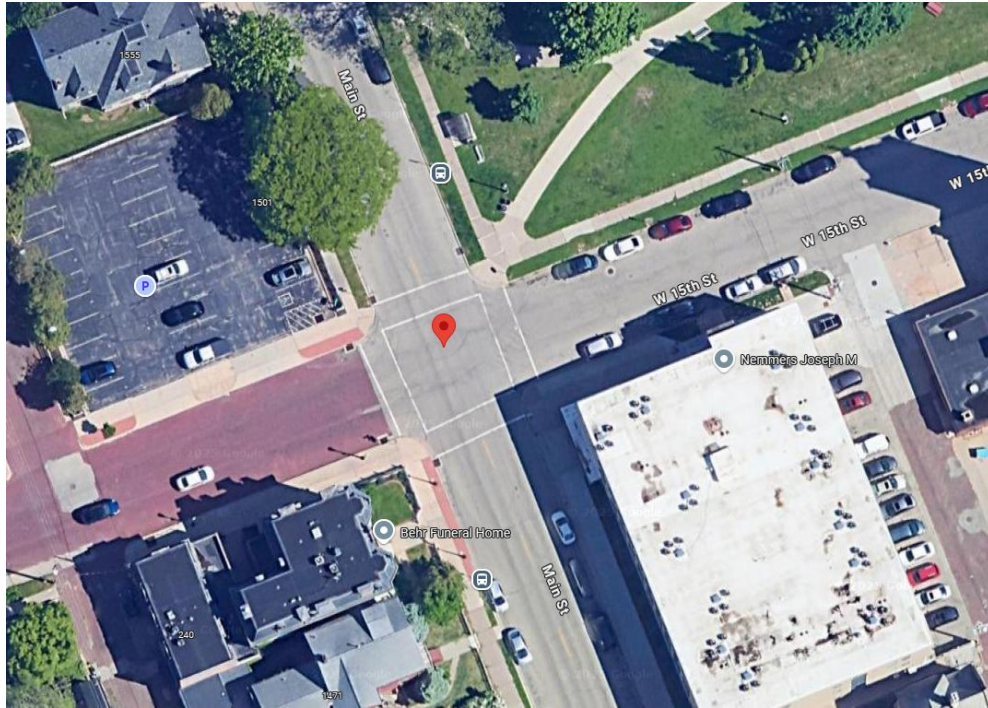


Figure 126: Intersection of Main Street and West 15th Street

Crash Summary

Crash reports indicate that seven crashes occurred at this intersection over a five-year period (2018–2022), including one KAB crash and six CO crashes. The predominant manners of collision were broadside (front-to-side) and rear-end (front-to-rear). The primary contributing factor to the KABCO crash was failure to yield right-of-way (FTYROW) at a stop sign. Other contributing factors to overall crashes include driver distraction and driving too fast for conditions. The KAB Annual PCR for the intersection is 0.020983, which is considered low, while the KABCO Annual PCR is 0.641883, indicating a medium severity level. Based on statewide rankings, this intersection is ranked 4,142nd for KAB crashes and 1,879th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Install more visible no parking signs (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bars on minor road approaches (Low)
- Add crosswalks if needed (Low)

Peru Road and Toledo Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks to support pedestrian movement. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

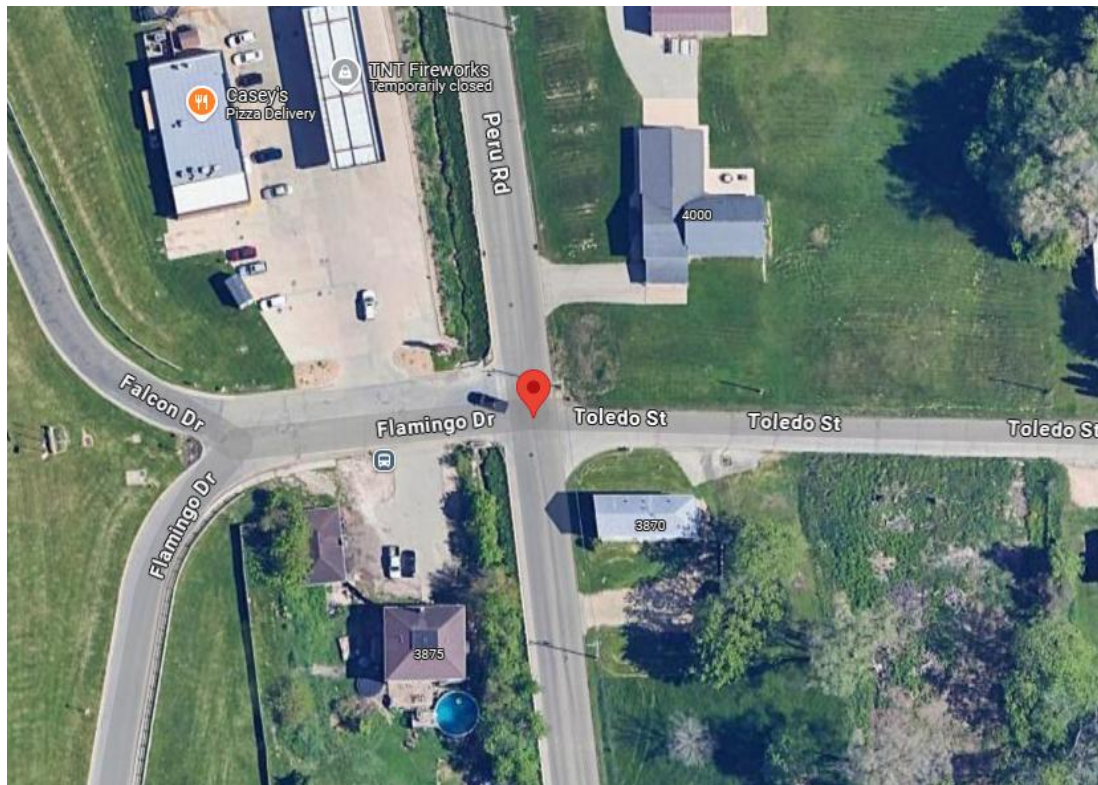


Figure 127: Intersection of Peru Road and Toledo Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision include broadside (front-to-side), rear-end collisions, non-collision single-vehicle crashes and rear to rear crashes, highlighting varied driver behaviors and situational hazards. The primary contributing factor to the KABCO crashes is running stop sign indicating possible issues related to rules violation. Other contributing factors for KABCO crashes include driving too fast for conditions, loss of control, improper turns, running off road on right side, and driver inexperience. The KAB Annual PCR for the intersection is 0.025355, indicating a low severity level, while the KABCO Annual PCR is 0.640616, which is considered medium. Based on statewide rankings, this intersection is ranked 3,548th for KAB crashes and 1,885th for KABCO crashes out of 115,274 intersections statewide, reflecting a need for moderate attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install intersection ahead warning signs (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approaches (Low)
- Add crosswalks if needed (Low)

Main Street and West 13th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on the minor road. The intersection is illuminated, and the pavement is in good condition.

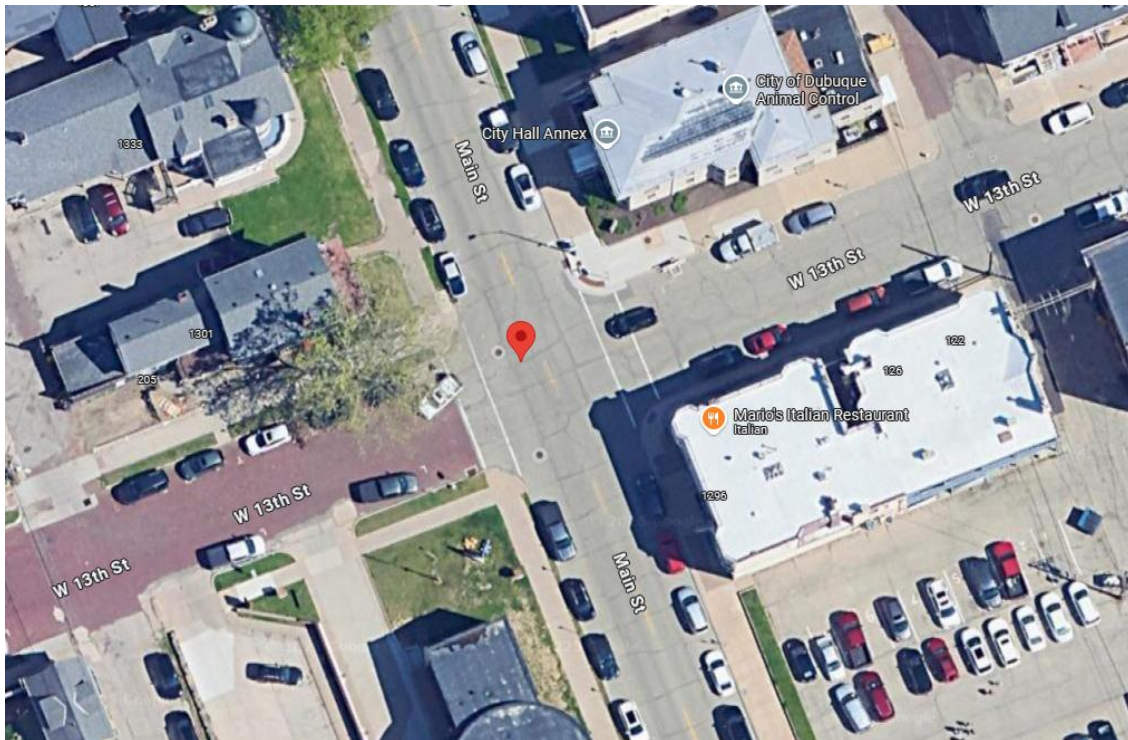


Figure 128: Intersection of Main Street and West 13th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and eight CO crashes. The predominant manner of collision is broadside (front-to-side), as well as one non-collision crash (single vehicle). The primary contributing factors to KABCO crashes include failure to yield right-of-way from stop signs, and running stop signs. The KAB Annual PCR for the intersection is -0.024464, indicating no

severity level, while the KABCO Annual PCR is 0.631610, which is considered medium. Based on statewide rankings, this intersection is ranked 111,913th for KAB crashes and 1,920th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Install bicycle warning signs (Low)
- Improve bicycle facilities on road (Moderate)
- Provide stop bar on minor road approaches (Low)

Chavenelle Road and Radford Road

This intersection in the city of Dubuque is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The area features a mixture of land uses and includes well-defined curbs, curb ramps, and sidewalks. The intersection is well-lit by overhead lighting, and the pavement is in good condition. However, there are no marked crosswalks present.

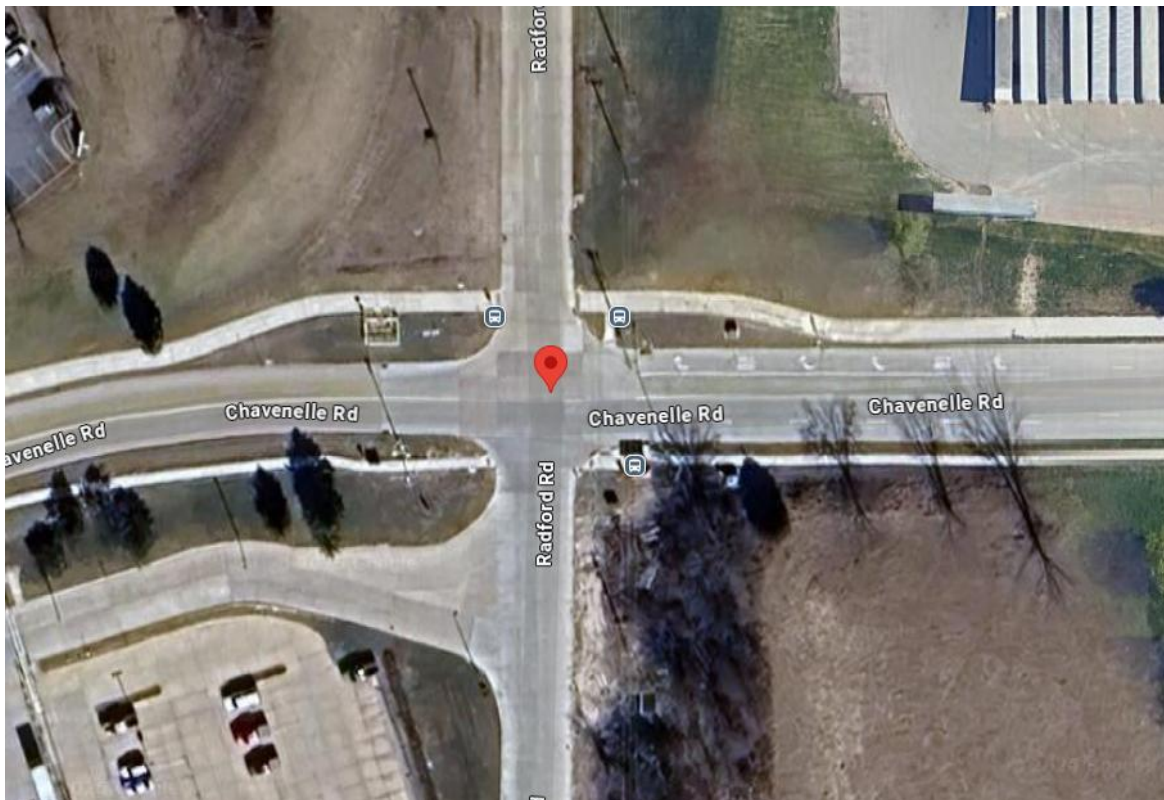


Figure 129: Intersection of Chavenelle Road and Radford Road

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes, with no severe (KAB) crashes reported. The predominant manner of collision is broadside (front-to-side), with other types of collisions including rear-end crashes, angle crashes (oncoming left turn), non-collision single-vehicle events, and sideswipe crashes in the same direction. This variety indicates potential concerns related to lane discipline, turning movements, and yielding behavior. The major contributing factors to these crashes include failure to yield right-of-way from driveways and stop signs, vehicles following too closely, loss of control, and improper driving actions. The KAB Annual PCR for the intersection is -0.040756, indicating no severe crash activity, while the KABCO Annual PCR is 0.625863, placing the site at a medium severity level. Based on statewide rankings, this intersection is ranked 112,966th for KAB crashes and 1,935th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants to stop signs to increase conspicuity (Low)
- Install beacon with bicycle crossing sign (Low)
- Provide stop bar on minor road approaches (Low)
- Add crosswalks if needed (Low)

Locust Street and Pierce Street

This site is a three-legged, Undivided, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed commercial and residential area and features well-defined curbs, curb ramps, and sidewalks. However, no marked crosswalks are present. The intersection is illuminated, and the pavement is in good condition.

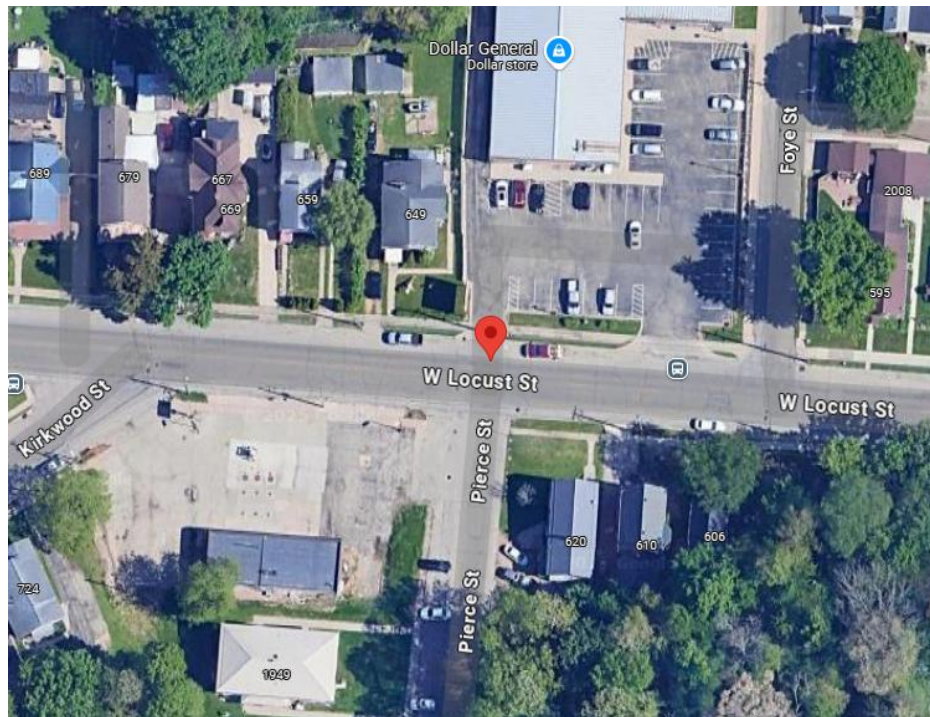


Figure 130: Intersection of Locust Street and Pierce Street

Crash Summary

Crash reports indicate that 10 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and ten CO crashes. The predominant manners of collision are broadside (front-to-side) and rear-end (front-to-rear), as well as angle crashes (oncoming left turn), head-on collisions, sideswipe (same direction), and non-collision crashes, suggesting diverse crash patterns and driver errors. The variety in crash types highlights multiple contributing behaviors. The primary contributing factors to CO crashes include failure to yield right-of-way from driveways and while making left turns, loss of control, and improper backing. The KAB Annual PCR for the intersection is -0.000331 , indicating no severity level, while the KABCO Annual PCR is 0.617902 , which is considered medium. Based on statewide rankings, this intersection is ranked 73,389th for KAB crashes and 1,955th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Implement access management by using driveway closures or turn restrictions with proper signage (Low/Moderate)
- Provide stop bar on minor road approaches (Low)

Iowa Street and West 14th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with both commercial and residential land-use. It features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

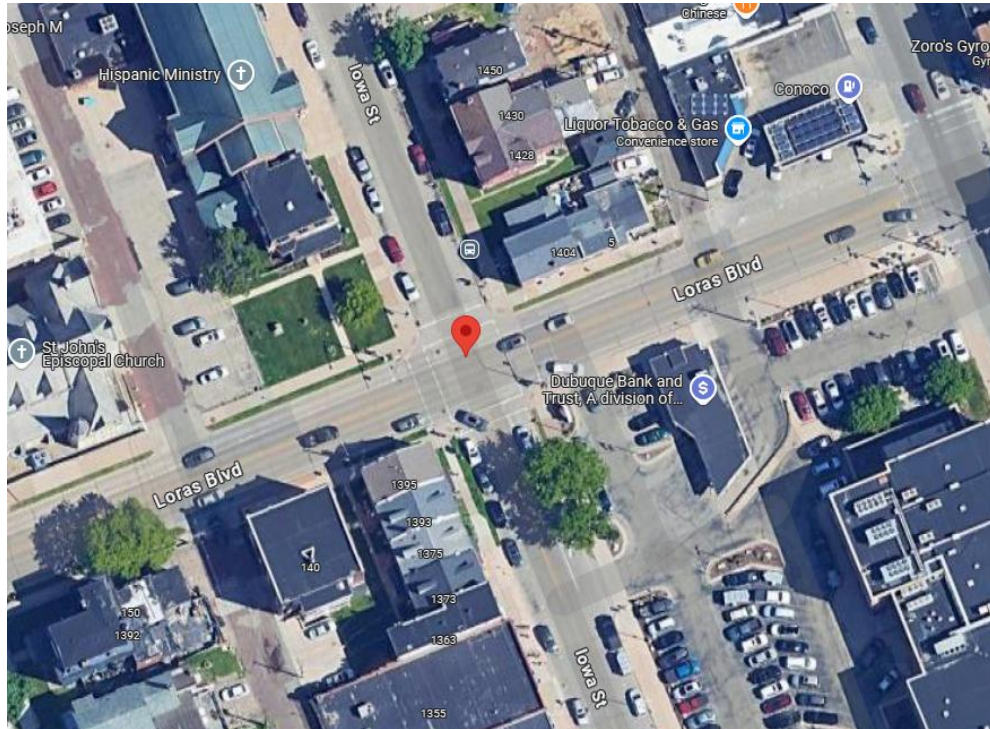


Figure 131: Intersection of Iowa Street and West 14th Street

Crash Summary

Crash reports indicate that 14 crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and 14 CO crashes. The predominant manner of collision is broadside (front-to-side), followed by sideswipe (same direction), angle (oncoming left turn), rear-end, and non-collision (single-vehicle), suggesting a variety of issues including turn conflicts, lane departure, and inattentive driving. The primary contributing factors to the CO crashes include running traffic signals, improper or erratic lane usage, failure to yield right-of-way while making left turns, and loss of control. The KAB Annual PCR for the intersection is -0.109186, indicating no severity level, while the KABCO Annual PCR is 0.601914, which is considered medium. Based on statewide rankings, this intersection is ranked 114,399th for KAB crashes and 2,000th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Moderate)
- Provide bicycle signs (Low)
- Determine if changes to the yellow and all-red interval are needed (Low)

East 27th Street and Jackson Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but no marked crosswalks are present. The intersection is illuminated, and the pavement is in good condition.

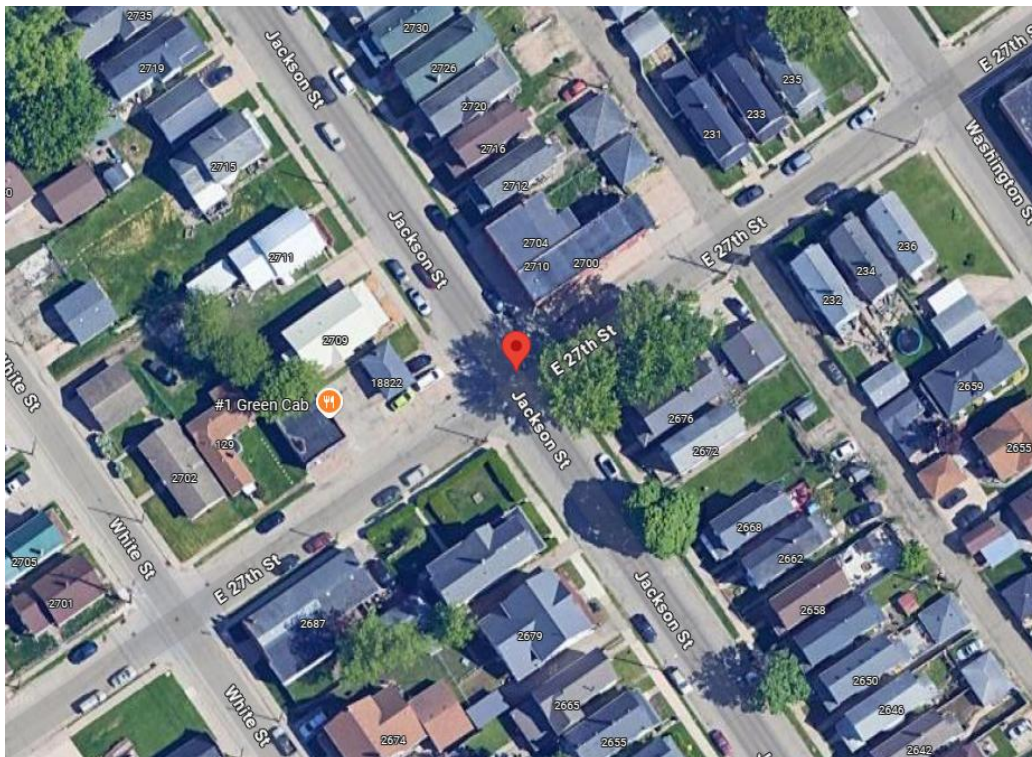


Figure 132: Intersection of East 27th Street and Jackson Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and six CO crashes. The predominant manner of collision is broadside (front-to-side), as well as rear-end and sideswipe (same direction), suggesting potential issues with stop compliance and maneuvering behavior at the intersection. The primary contributing factor to KABCO crashes is failure to yield right-of-way from a stop sign, which led to broadside collisions. Other contributing factors include failure to yield from parked position, loss of control, running stop sign, and vehicles running off the road to the right. The KAB Annual PCR for the intersection is 0.022446, indicating a low severity level, while the KABCO Annual PCR is 0.599315, which is considered medium. Based on statewide rankings,

this intersection is ranked 3,949th for KAB crashes and 2,009th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Remove the trees near the intersection approaches (Moderate)
- Provide a stop bar on minor road approaches (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

West 5th Street and Wilson Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked present.

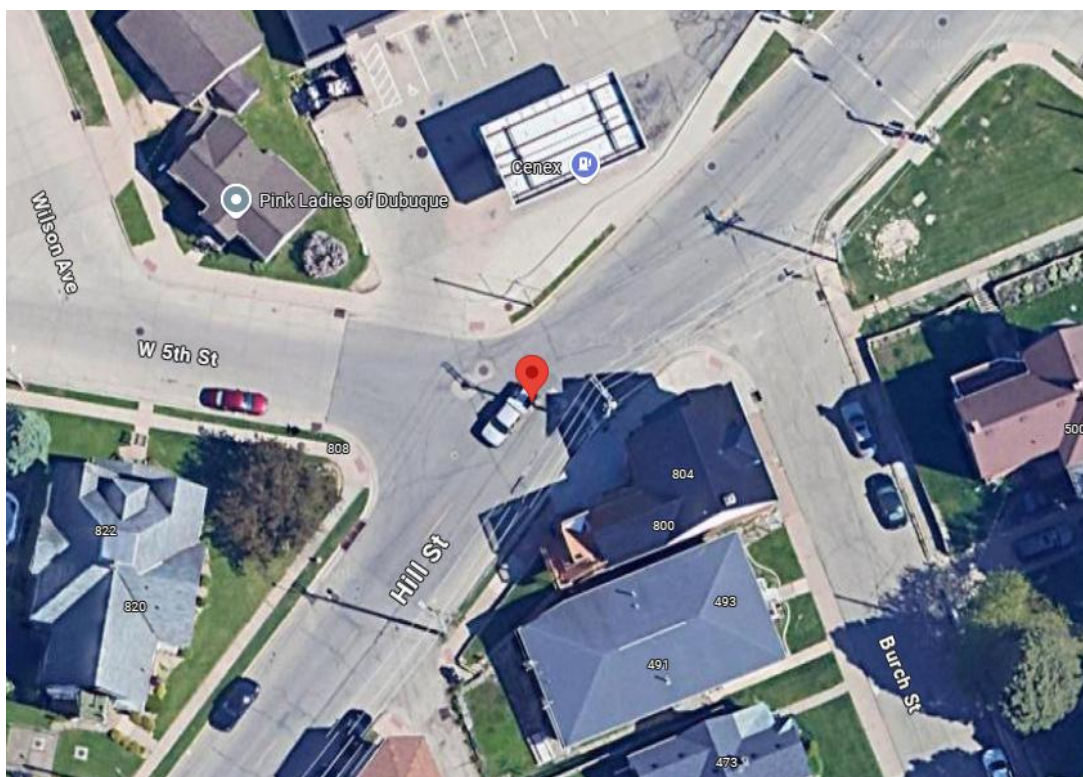


Figure 133: Intersection of West 5th Street and Wilson Street

Crash Summary

Crash reports indicate eight crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO. The predominant manners of collision are rear

end (front-to-rear), angle (oncoming left turn), broadside (front-to-side), and head-on (front-to-front), suggesting a variety of conflict points at the intersection. The primary contributing factor to these crashes is loss of control, failing to keep in proper lane, and several types of failure to yield right-of-way (FTYROW), including from parked positions, from stop signs, and during left-turn maneuvers. These factors point to driver behavior and decision-making errors as key safety concerns. The KAB Annual PCR for the intersection is -0.000762, indicating no severe injury or fatal crashes during the period, while the KABCO Annual PCR is 0.582550, which is considered medium. Based on statewide rankings, this intersection is ranked 88,773rd for KAB crashes and 2,054th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Add crosswalks if needed (Low)

White Street and East 6th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks, but no crosswalks. The intersection is illuminated, and the pavement is in good condition.

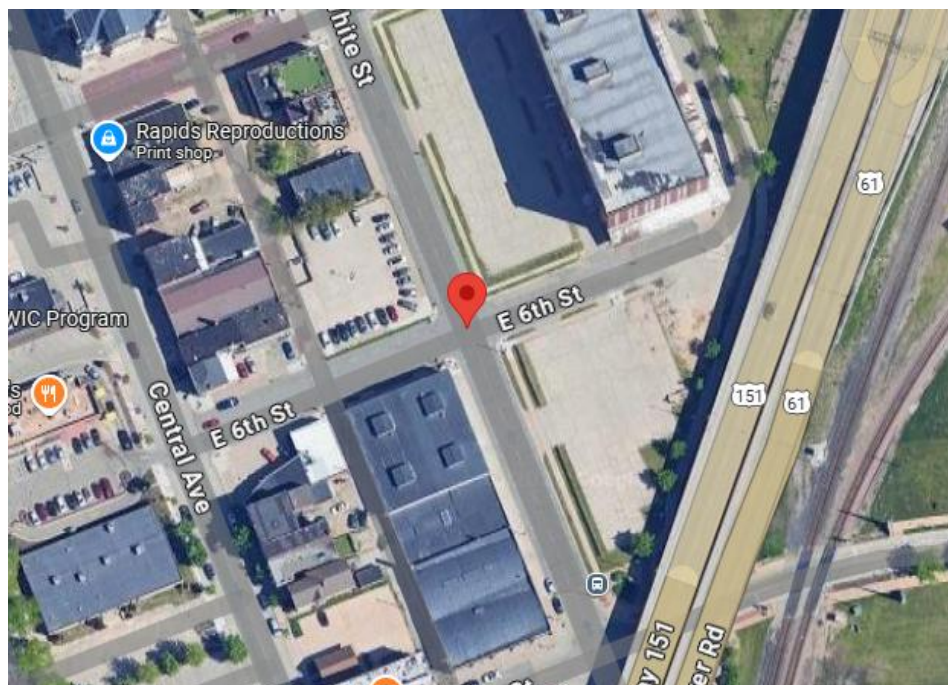


Figure 134: Intersection of White Street and East 6th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), including zero KAB crashes and eight CO crashes. The predominant manner of collision is sideswipe (same direction), as well as broadside (front-to-side) and angle (oncoming left turn), suggesting potential issues with lane discipline and turning behavior. The primary contributing factors to CO crashes include improper or erratic lane changes, improper turns, driver distraction, and running a stop sign. These behaviors highlight concerns around driver attentiveness and compliance with traffic control. The KAB Annual PCR for the intersection is - 0.025439, indicating no recorded severe injury or fatal crashes, while the KABCO Annual PCR is 0.575354, which is considered medium. Based on statewide rankings, this intersection is ranked 112,002nd for KAB crashes and 2,071st for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide left-turn lanes on south approach (Moderate)
- Add red pennants to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approaches (Low)

Alpine Street and Carlotta Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

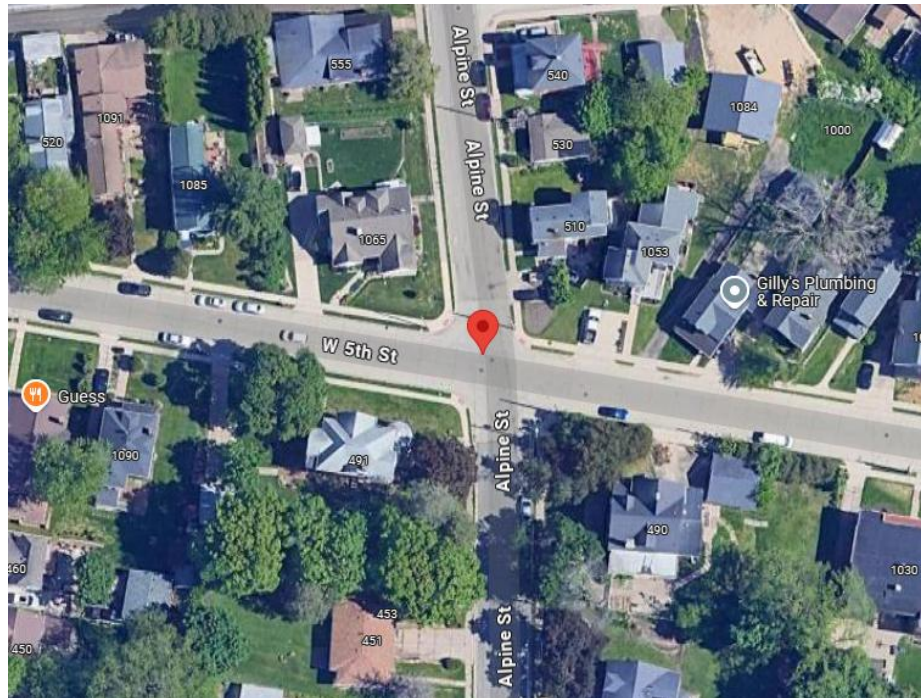


Figure 135: Intersection of Alpine Street and Carlotta Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and six CO crashes. The predominant manner of collision is broadside (front-to-side), as well as head-on and rear-end collisions, suggesting concerns with lane discipline, stop compliance, and driver attentiveness. The primary contributing factor to KABCO crashes is running a stop sign, which led to broadside collisions at the intersection. Other contributing factors include driver loss of control and failure to yield right-of-way from stop signs. The KAB Annual PCR for the intersection is 0.014341, indicating a low severity level, while the KABCO Annual PCR is 0.574584, which is considered medium. Based on statewide rankings, this intersection is ranked 4,948th for KAB crashes and 2,075th for KABCO crashes out of 115,274 intersections statewide, highlighting its moderate risk profile.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Clear sight triangles on stop-controlled approaches (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approaches (Low)
- Restrict or eliminate parking (Low)

Pennsylvania Avenue and Donovan Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. There are bus stops near the intersection, however, there are no marked crosswalks. Overhead lighting is present, and the pavement is in good condition.



Figure 136: Intersection of Pennsylvania Avenue and Donovan Drive

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes reported. The predominant manner of collision is rear end (front-to-rear), although one of the crashes involved broadside (front-to-side) collisions. The primary contributing factor to crashes at this location is loss of control, followed by driver distraction (inattention), following too closely, and running a stop sign. The KAB Annual PCR for the intersection is -0.002032, indicating no severity level, while the KABCO Annual PCR is 0.574063, which is considered medium. Based on statewide rankings, this intersection is ranked 99,707th for KAB crashes and 2,085th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install intersection ahead warning sign (Low)

- Install beacon with pedestrian crossing signs (Low)
- Add crosswalks (Low)

Kennedy Road and West 32nd Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with both commercial and undeveloped surroundings. It features well-defined curbs, curb ramps, sidewalks, overhead lighting, and marked crosswalks. The pavement is in good condition.

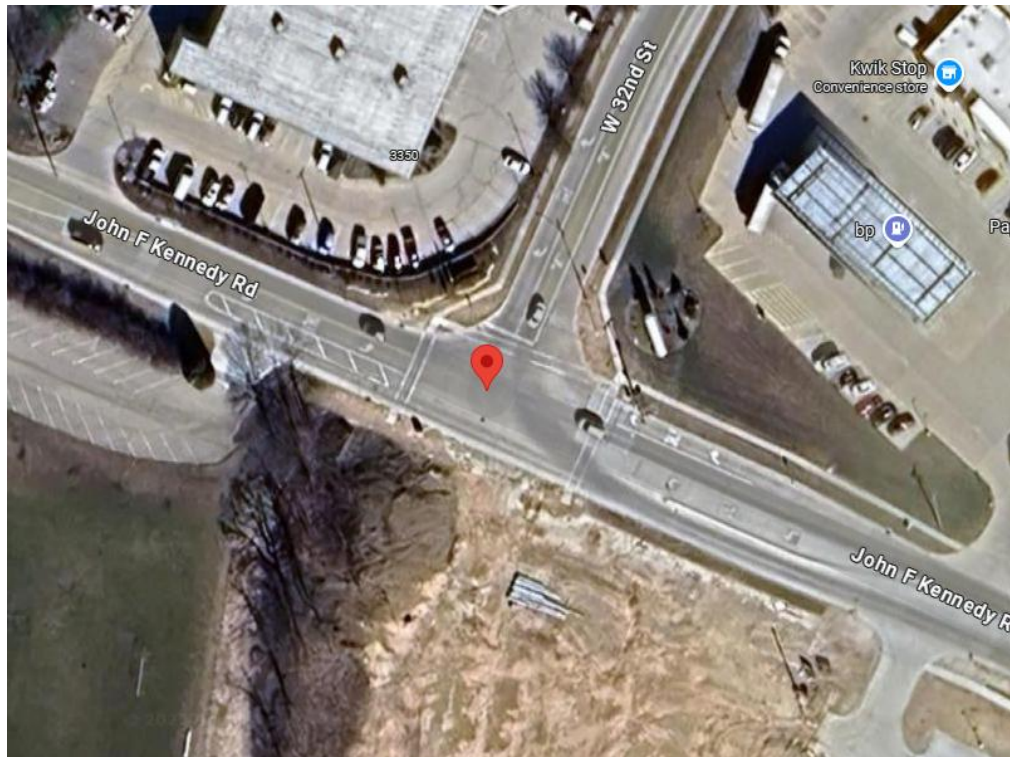


Figure 137: Intersection of Kennedy Road and West 32nd Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and six CO crashes. The predominant manners of collision are broadside (front-to-side) and head-on (front-to-front), followed by rear-end and angle (oncoming left turn) crashes, suggesting issues with traffic flow and yielding behavior. The primary contributing factor to the KABCO crashes is running a stop sign. Other contributing factors include failure to yield right-of-way from a stop sign, and driver distraction. The KAB Annual PCR for the intersection is 0.032964, indicating a low severity level, while the KABCO Annual PCR is 0.572018, which is considered medium. Based on statewide rankings, this intersection is ranked 2,435th for KAB crashes and 2,092nd for KABCO crashes out of 115,274 intersections, highlighting its relevance for safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Cross Traffic does not Stop warning signs (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Central Avenue and East 6th Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition; however, there are no marked crosswalks present.

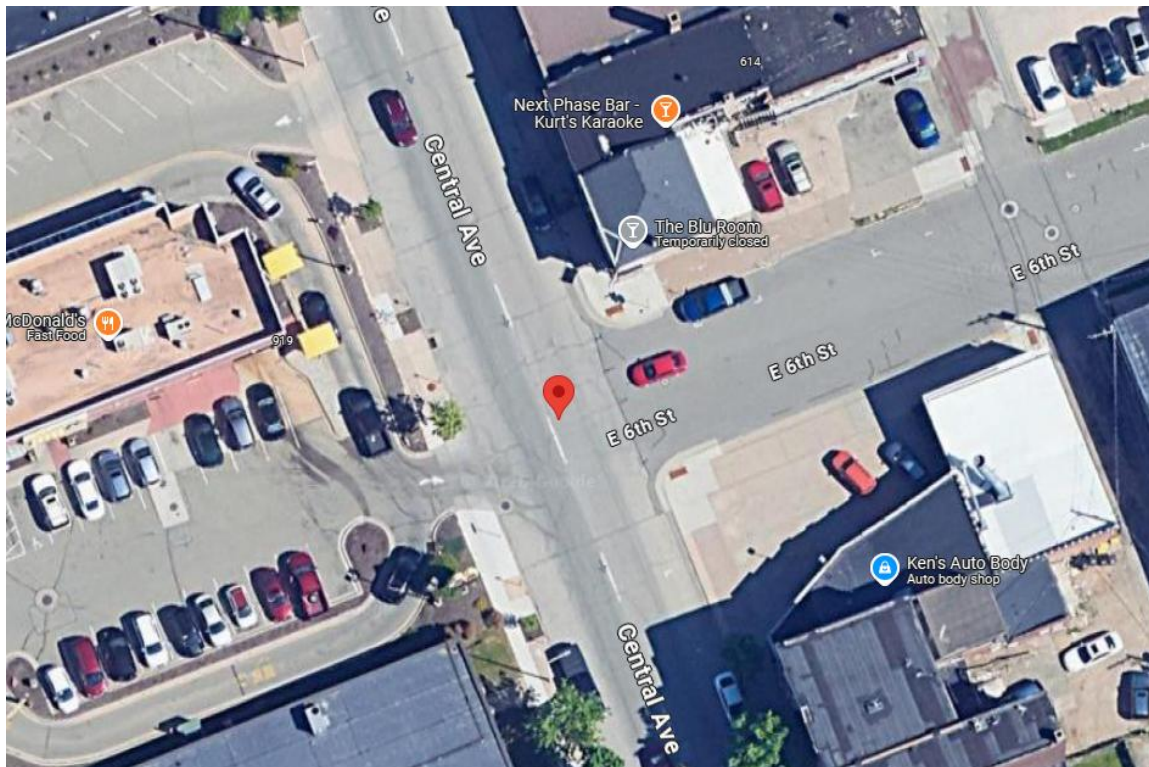


Figure 138: Intersection of Central Avenue and East 6th Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and seven CO crashes. The predominant manner of collision are sideswipe (same direction), rear-end (front-to-rear), and other unspecified crashes were also reported. The contributing factors to CO crashes include improper turning movements, driver distraction (both inattentive and manual), failure to yield right-of-way from parking areas, erratic lane changes, and lost control. The KAB Annual PCR for the

intersection is -0.002046, indicating a low severity level, while the KABCO Annual PCR is 0.57129, which is considered medium. Based on statewide rankings, this intersection is ranked 99,758th for KAB crashes and 2,094th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Provide left-turn lanes on north approach (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Central Avenue and 11th Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

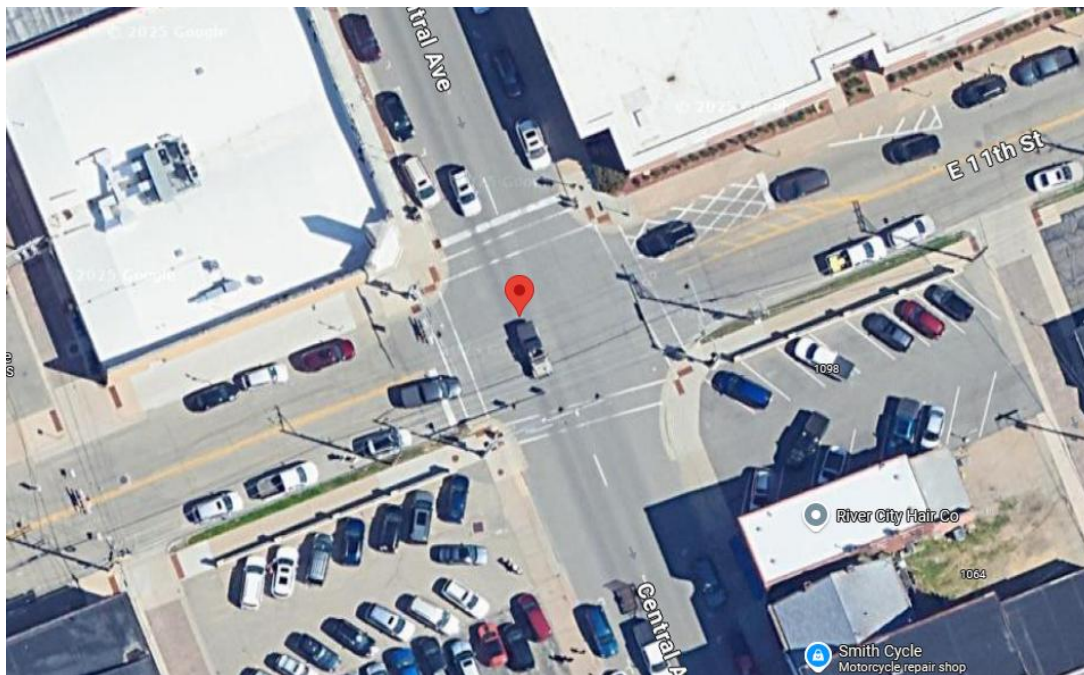


Figure 139: Intersection of Central Avenue and 11th Street

Crash Summary

Crash reports indicate that 13 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and thirteen CO crashes. The predominant manner of collision is sideswipe (same direction), as well as rear-end (front-to-rear), broadside (front-to-

side), angle crashes (oncoming left turn), and non-collision crashes, suggesting potential issues with lane changing behavior, inadequate gap acceptance, or visibility constraints at the intersection. The major contributing factors to CO crashes include improper turning movements, failure to yield right-of-way from driveways and stop signs, lost control, and driver distraction. The KAB Annual PCR for the intersection is -0.069227, indicating no severity level, while the KABCO Annual PCR is 0.567857, which is considered medium. Based on statewide rankings, this intersection is ranked 113,854th for KAB crashes and 2,106th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Employ multiphase signal operation (Moderate)
- Provide left-turn channelization (Moderate)
- Relocate the utility poles; if relocation is not feasible, install retroreflective tape (Moderate)
- Install push button activation for pedestrian crossing (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Garfield Avenue and Windsor Avenue

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but no crosswalks. The intersection is illuminated, and the pavement is in good condition.

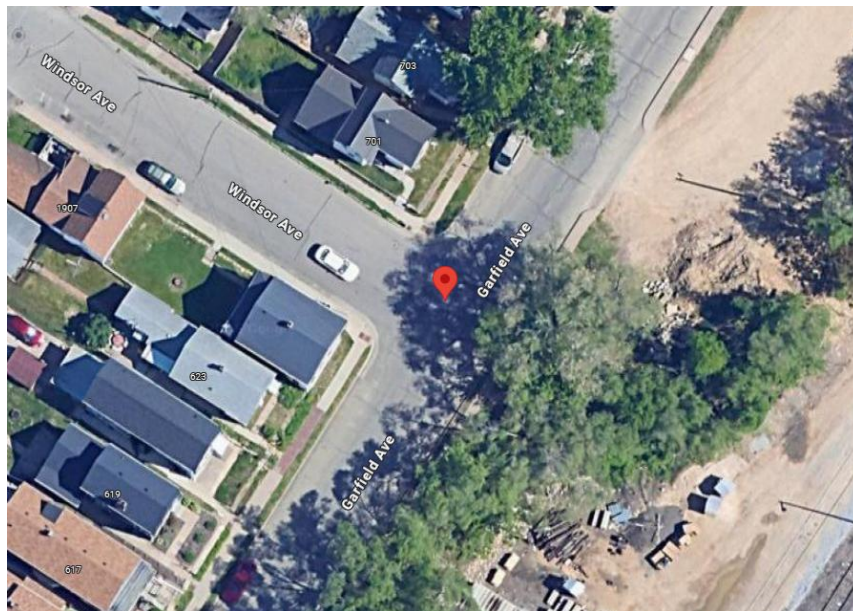


Figure 140: Intersection of Garfield Avenue and Windsor Avenue

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and five CO crashes. The predominant manner of collision include non-collision (single vehicle), rear-end (front to rear), angle crashes (oncoming left turn) and sideswipe collisions in the opposite direction, highlighting a variety of crash types. The primary contributing factor to KABCO crashes at this location is driver distraction, with one crash linked to external distraction and others associated with internal or other forms of distraction. Additional contributing factors include driving too fast for conditions, and failure to keep in proper lane. The KAB Annual PCR for the intersection is 0.003495, indicating a low severity level, while the KABCO Annual PCR is 0.566759, which is considered medium. Based on statewide rankings, this intersection is ranked 7,547th for KAB crashes and 2,109th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide lane markings (Low)
- Provide left-turn lanes at intersection (Moderate)
- Add red pennants to stop signs to increase conspicuity (Low)

White Street and East 30th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but no crosswalks. A bus stop is located near the intersection. The intersection is illuminated, and the pavement is in good condition.

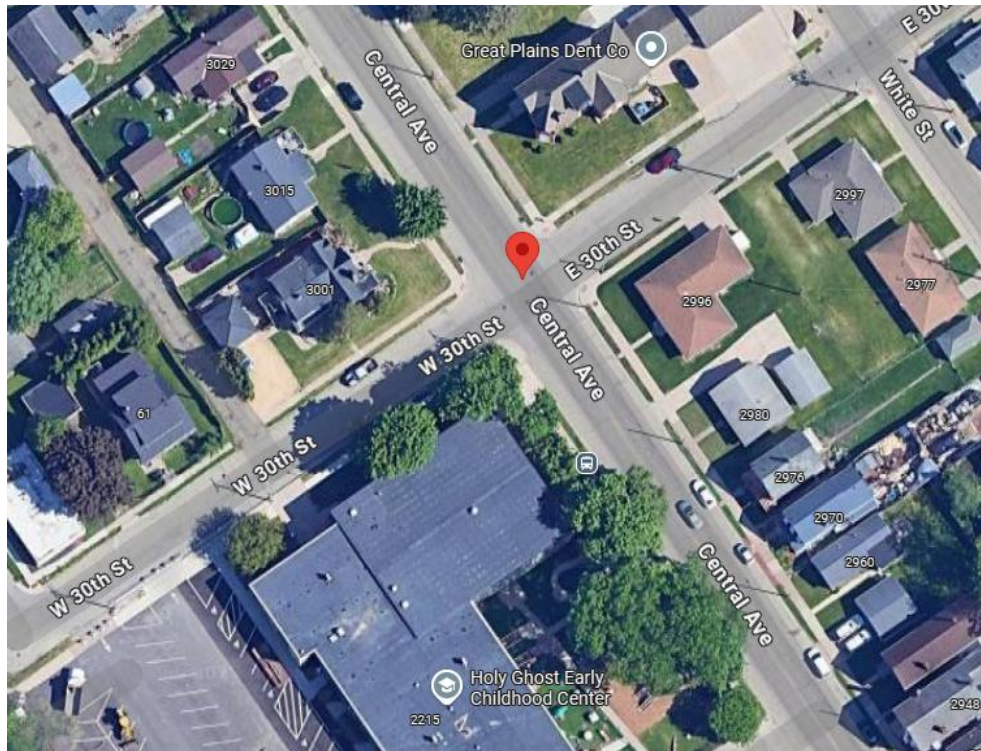


Figure 141: Intersection of White Street and East 30th Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision is rear end (front-to-rear), followed by sideswipe (same direction), broadside (front-to-side), non-collision (single vehicle), and rear-to-side collisions, suggesting possible challenges with driver attentiveness, lane discipline, and stop compliance. The primary contributing factor to KABCO crashes is loss of control. Other contributing factors include failure to yield right-of-way from stop signs, improper backing, and running stop sign. The KAB Annual PCR for the intersection is 0.034314, indicating a low severity level, while the KABCO Annual PCR is 0.564487, which is considered medium. Based on statewide rankings, this intersection is ranked 1,861st for KAB crashes and 2,113th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install rectangular rapid flashing beacon (RRFB) for pedestrian crossing (Moderate)
- Add flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road approaches (Low)
- Restrict or eliminate parking (Low)

Rhomberg Avenue and Windsor Avenue

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks and marked crosswalks. A bus stop is located nearby. The intersection is illuminated, and the pavement is in good condition.

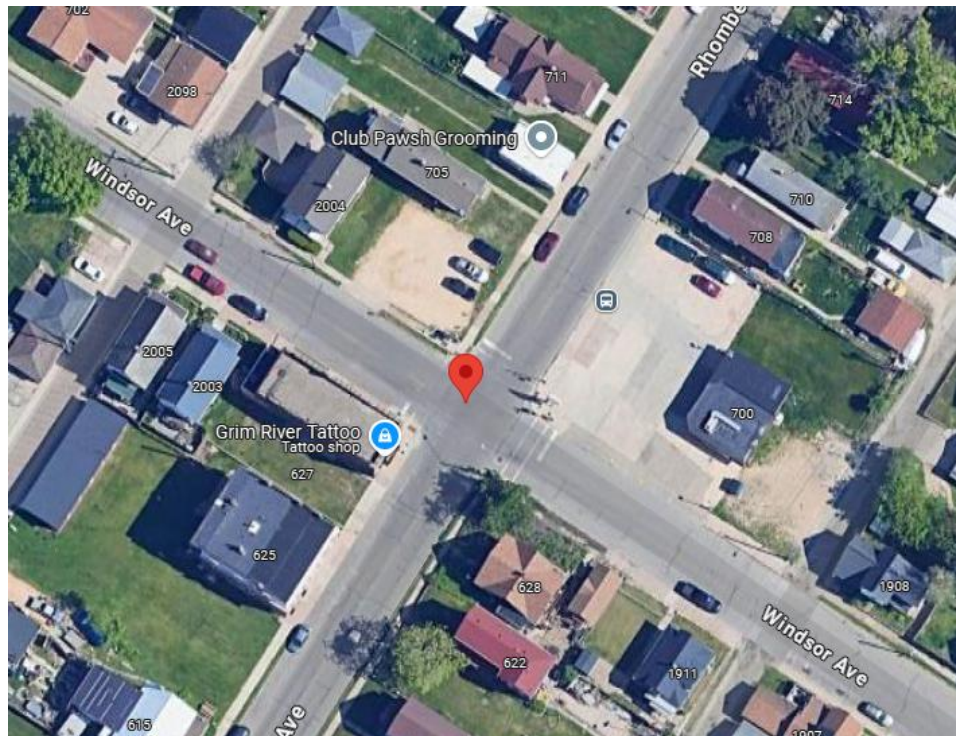


Figure 142: Intersection of Rhomberg Avenue and Windsor Avenue

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eleven CO crashes. The manner of collision include broadside (front-to-side), rear-end (front-to-rear), sideswipe (same and opposite direction), angle (oncoming left turn), head-on, and non-collision single vehicle events. The primary contributing factor to KABCO crashes is lost control, as well as running a traffic signal, failure to yield right-of-way while making a left turn, aggressive driving, improper turning, driver distraction, and failure to dim lights. The KAB Annual PCR for the intersection is 0.02223, indicating a low severity level, while the KABCO Annual PCR is 0.562214, which is considered medium. Based on statewide rankings, this intersection is ranked 3,977th for KAB crashes and 2,116th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Install retroreflective traffic signal backplates (Low)
- Restrict or eliminate parking (Low)

Central Avenue and East 8th Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on the minor road. The intersection is illuminated, and the pavement is in good condition.

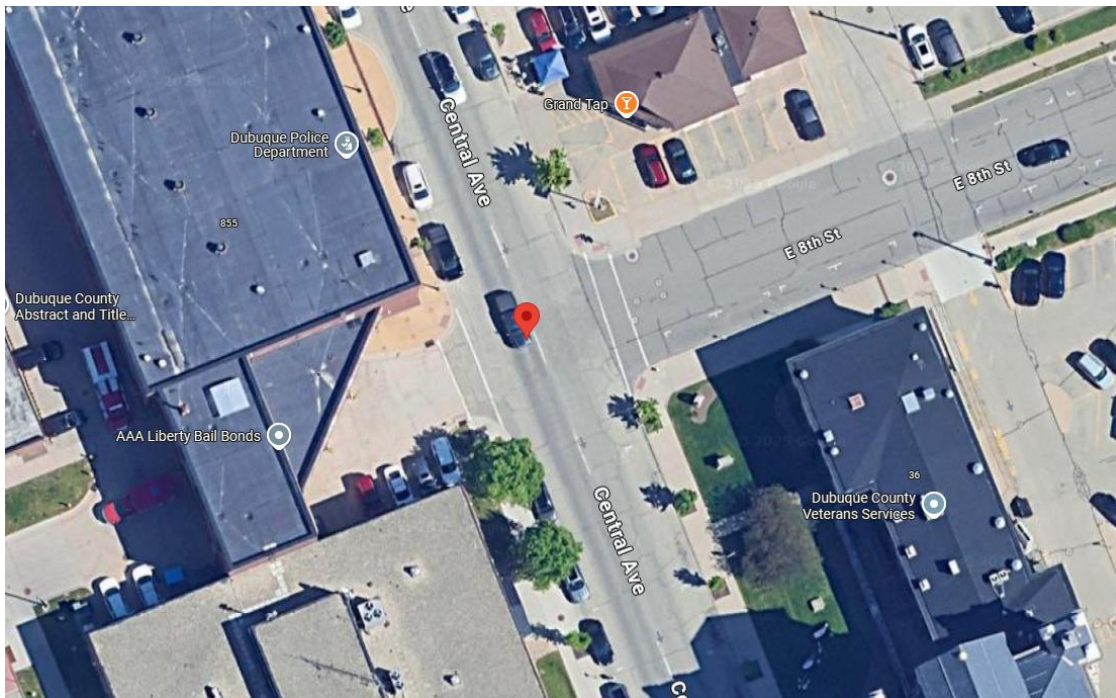


Figure 143: Intersection of Central Avenue and East 8th Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018-2022), including one KAB crash and six CO crashes. The predominant manner of collision is sideswipe (same direction), followed by angle (oncoming left turn), rear-to-side, and non-collision crashes, highlighting a variety of crash behaviors at this location. The major contributing factors across all crashes include failure to yield right-of-way from driveways and parking positions, improper or erratic lane changes, lost control, and improper turning movements. The KAB Annual PCR for the intersection is 0.007374, indicating a low severity level, while the KABCO Annual PCR is 0.560051, which is considered medium. Based on statewide rankings, this intersection is ranked 6,547th for KAB crashes and 2,125th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install rectangular rapid flashing beacon (RRFB) for pedestrian crossing (Moderate)
- Provide marked crosswalks on the major road (Low)
- Restrict or eliminate parking (Low)
- Provide left-turn lanes on north approach (Moderate)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Spruce Street and Wilbur Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks present.



Figure 144: Intersection of Spruce Street and Wilbur Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is non-collision (single vehicle) crashes, as well as broadside and rear-end collisions, indicating potential issues with visibility and following distance. The primary contributing

factors for KABCO crashes include loss of control, running off the road (left side), driving too fast for conditions, and equipment failure. The KAB Annual PCR for the intersection is - 0.001443, indicating no recent severe injury crashes, while the KABCO Annual PCR is 0.556395, which is considered medium. Based on statewide rankings, this intersection is ranked 97,040th for KAB crashes and 2,131st for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Improve visibility of the intersection by providing lighting (Moderate)
- Restrict or eliminate parking (Low)
- Install retroreflective tape on poles to increase conspicuity (Low)
- Provide stop bar on minor road approach (Low)

Lincoln Avenue and Windsor Avenue

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks on three sides of the road. The intersection is illuminated, and the pavement is in good condition.

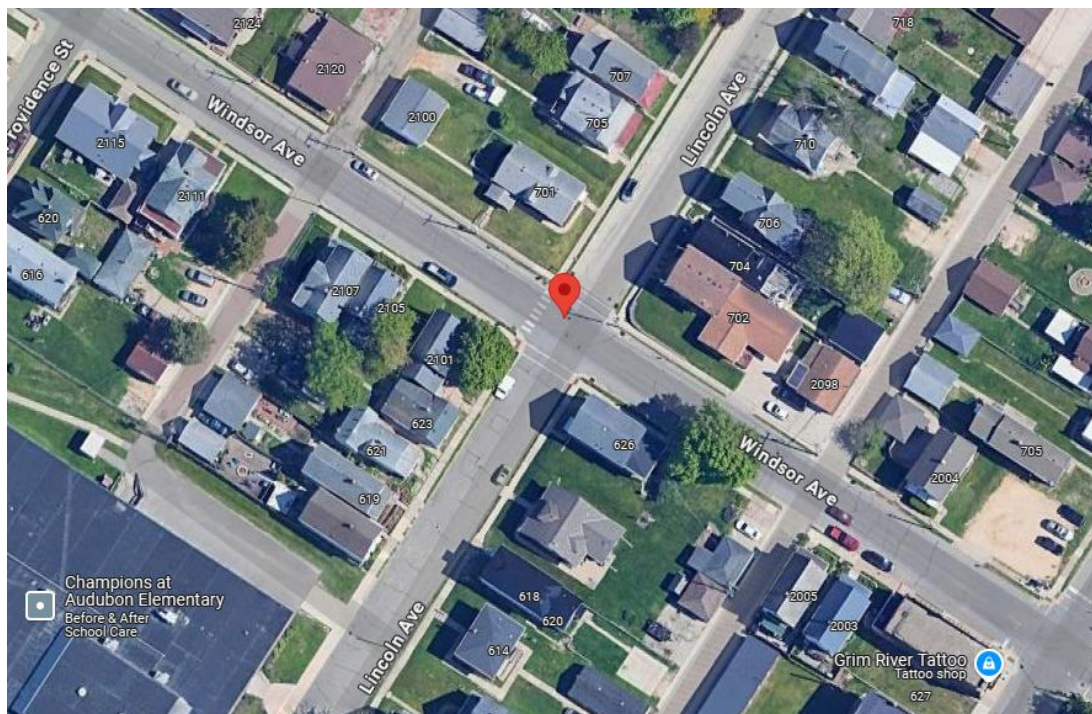


Figure 145: Intersection of Lincoln Avenue and Windsor Avenue

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and eight CO crashes. The predominant manner of collision is broadside (front-to-side), accounting for the majority of crashes. Additionally, angle crashes (oncoming left turn) were also reported, suggesting potential concerns with turning movements and failure to comply with traffic control devices. The primary contributing factor to KABCO crashes is running a stop sign, which led to broadside collisions. Other contributing factors for overall crashes include failure to yield right-of-way during left turns and operating a vehicle in an erratic manner. The KAB Annual PCR for the intersection is 0.030102, indicating a low severity level, while the KABCO Annual PCR is 0.552215, which is considered medium. Based on statewide rankings, this intersection is ranked 2,908th for KAB crashes and 2,143rd for KABCO crashes out of 115,274 intersections statewide, highlighting it as a location warranting safety improvements.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Investigate conversion to all-way stop-control (Low)

Grandview Avenue and Bradley Street

This site is a three-legged, semi-divided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area. It features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present and the pavement is in good condition. Marked crosswalks are not present.

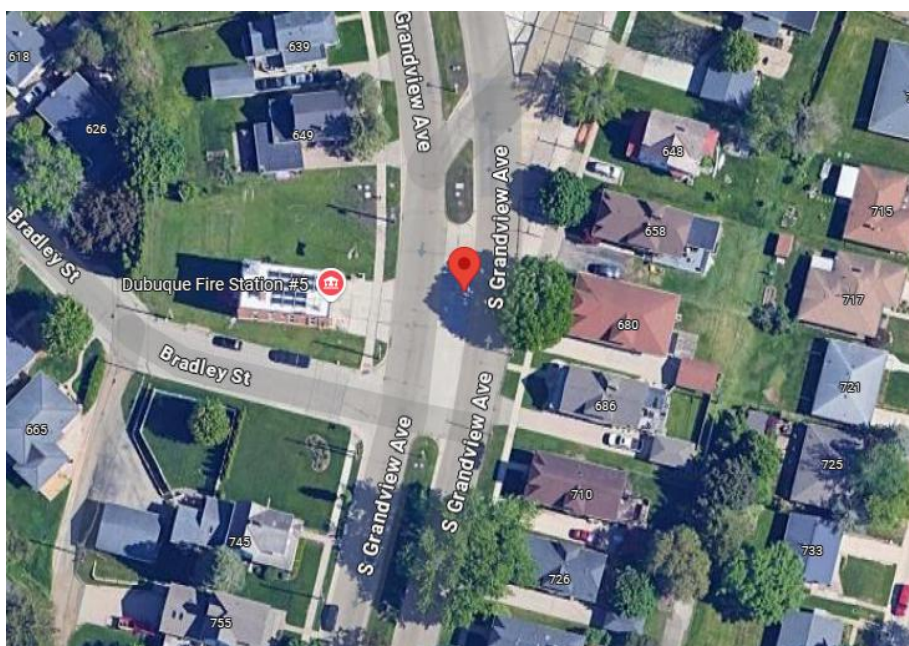


Figure 146: Intersection of Grandview Avenue and Bradley Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and five CO crashes. The predominant manner of collision is non-collision (single vehicle), followed by angle (oncoming left turn), broadside (front-to-side), and sideswipe (same direction). The primary contributing factors across all crashes include driver distraction (manual), excessive speed for conditions, improper turning movements, failure to yield right-of-way from a stop sign and traveling the wrong way. The KAB Annual PCR for the intersection is 0.03108, indicating a low severity level, while the KABCO Annual PCR is 0.534437, which falls within the medium range. Based on statewide rankings, this intersection is ranked 2,763rd for KAB crashes and 2,217th for KABCO crashes out of 115,274 intersections, identifying it as a moderate-risk site.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install retroreflective tape on poles to provide conspicuity (Low)
- Provide stop bar on minor road approach (Low)
- Add red pennants to stop signs to increase conspicuity (Low)

Pennsylvania Avenue and Key Way

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is located in a predominantly residential area with a church nearby. It features well-defined curbs, curb ramps, and sidewalks. The road is not illuminated. In addition, there are no marked crosswalks present.

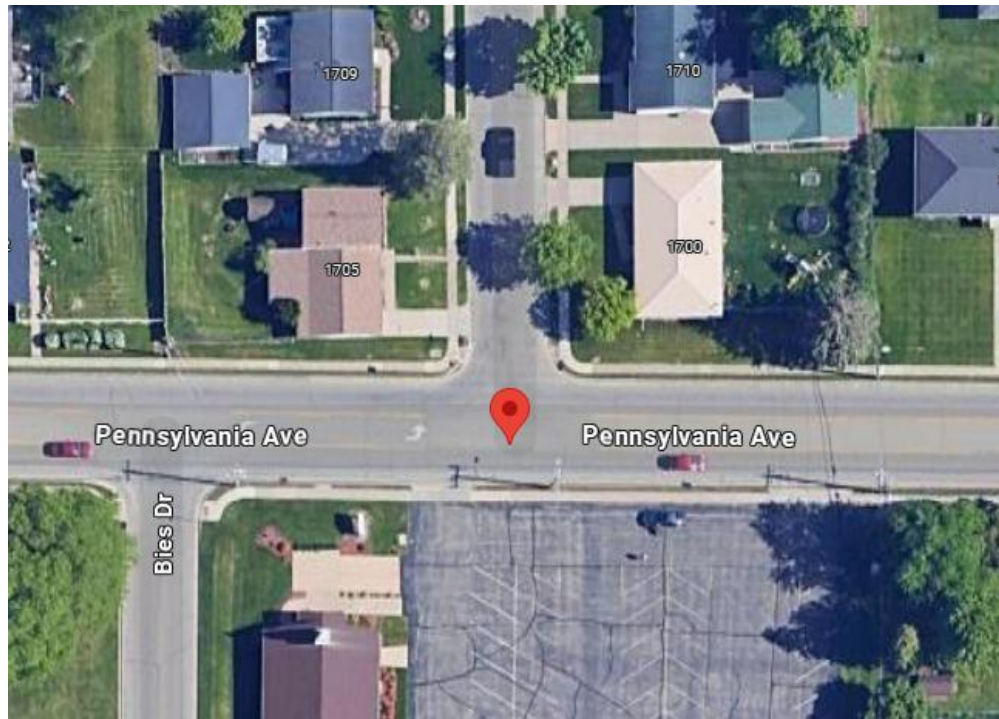


Figure 147: Intersection of Pennsylvania Avenue and Key Way

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and seven CO crashes. The predominant manner of collision is rear end (front-to-rear), accounting for the largest share of crashes. Angle crashes (oncoming left turn), broadside (front-to-side), and non-collision (single vehicle) incidents were also reported, indicating a mix of failure to maintain safe following distances and right-of-way errors. The primary contributing factor to the total crash was loss of control, followed by running a stop sign, failure to yield right-of-way (both from stop sign and during left turns), and running off the road. The KAB Annual PCR for the intersection is 0.011819, indicating a low severity level, while the KABCO Annual PCR is 0.516913, which is considered medium. Based on statewide rankings, this intersection is ranked 5,275th for KAB crashes and 2,289th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Add overhead illumination (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Relocate the utility poles; if relocation is not feasible, install retroreflective tape to increase conspicuity (Moderate)

Main Street and West 3rd Street

This site is a four-legged, undivided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

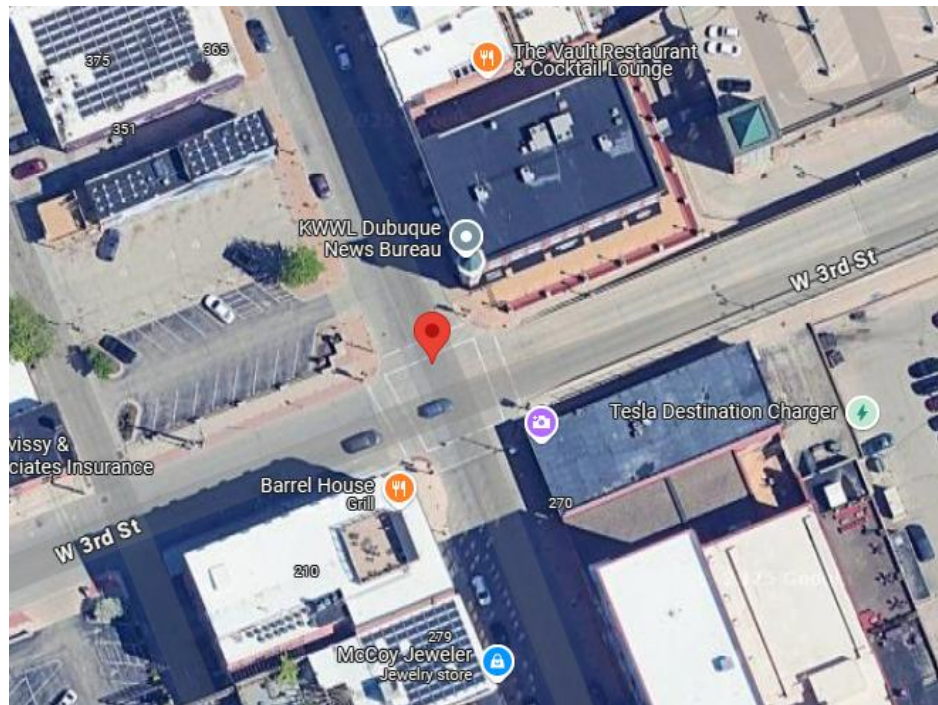


Figure 148: Intersection of Main Street and West 3rd Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), with no reported KAB crashes and all 12 being classified as CO crashes. The predominant manners of collision are broadside (front-to-side), rear-end (front-to-rear), sideswipe (same and opposite directions) and angle crashes (oncoming left turn), which suggest potential conflicts of different type of crashes at the location. The major contributing factors for the KABCO crashes include running a traffic signal, and lost control. Other causes noted were failure to yield right-of-way while making left turns, improper backing, and improper turning. The KAB Annual PCR for the intersection is -0.077443, indicating no severity level, while the KABCO Annual PCR is 0.514341, which falls into the medium range. Based on statewide rankings, the intersection is ranked 113,978th for KAB crashes and 2,302nd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Install overhead traffic signal (Moderate)

Rosedale Avenue and Locust Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area. It features well-defined curbs, curb ramps, sidewalks, and overhead lighting. The pavement is in good condition, but there are no marked crosswalks present.



Figure 149: Intersection of Rosedale Avenue and Locust Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and seven CO crashes. The predominant manner of collision is rear end (front-to-rear), as well as sideswipe (same direction) and non-collision incidents (such as running off-road). These crash types suggest possible issues with driver attentiveness. The primary contributing factor to these crashes is loss of control, followed by driver distraction and exceeding the authorized speed limit. Other causes include improper passing and vehicles running off the road. The KAB Annual PCR for the intersection is - 0.000871, indicating no severity level, while the KABCO Annual PCR is 0.511944, which is considered medium. Based on statewide rankings, this intersection is ranked 91,269th for KAB crashes and 2,317th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve visibility of the intersection by providing lighting (Moderate)
- Install retroreflective tape on poles to provide delineation (Low)

University Avenue and Center Place

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. It is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present, and roadside trees are obstructing the line of sight at the intersection.

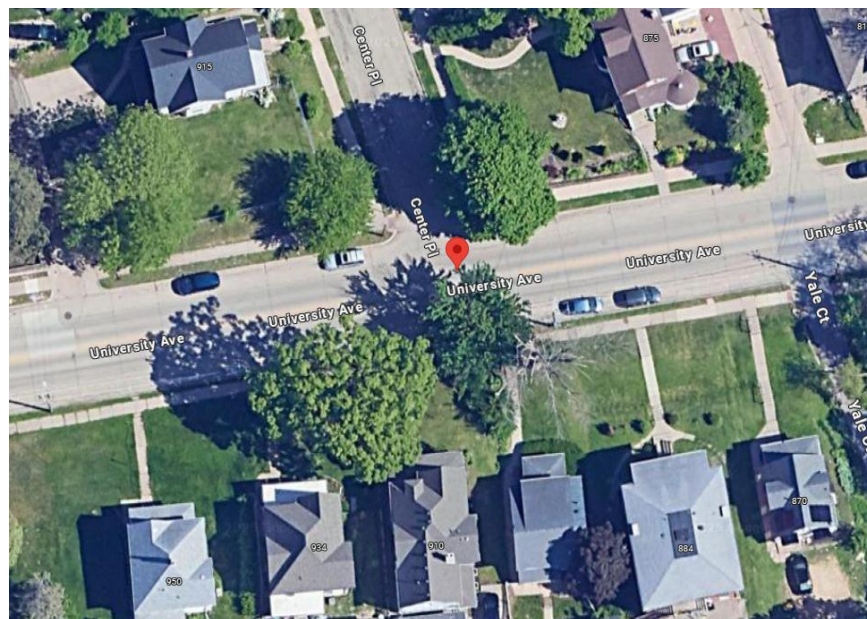


Figure 150: Intersection of University Avenue and Center Place

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and seven CO crashes. The most frequent manner of collision is rear end (front-to-rear), followed by angle crashes (oncoming left turn), broadside (front-to-side), sideswipe (same direction), and single-vehicle crashes (non-collision). The primary contributing factor to these crashes is loss of control, which led to a variety of collision types. Other contributing factors include failure to yield right-of-way from driveways and while making left turns, improper backing, and driver distraction. The KAB Annual PCR for the intersection is -0.000758, indicating no severity level, while the KABCO Annual PCR is 0.508485, which is considered medium. Based on statewide rankings, this intersection is ranked

88,699th for KAB crashes and 2,335th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Cut down the trees that block sight distances (Moderate)
- Install intersection ahead warning signs (Low)
- Provide stop bar on minor road approaches (Low)
- Add flashing beacons to stop signs to increase conspicuity (Low)

Locust Street and Kirkwood Street

This site is a three-legged, undivided, low speed, yield controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks but no crosswalks. A bus stop is located at the intersection. The area is illuminated and the road pavement is in good condition.

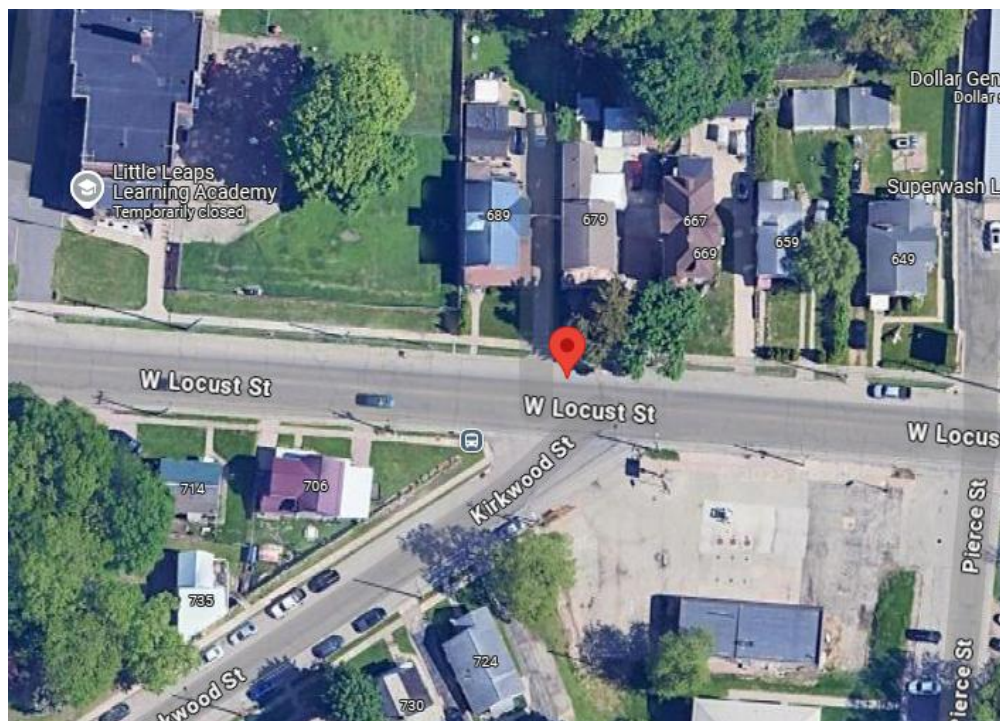


Figure 151: Intersection of Locust Street and Kirkwood Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), all of which were CO (property damage or minor injury) crashes. The predominant manners of collision are rear end (front-to-rear) and angle crashes (oncoming left turn), with a

sideswipe was also observed, suggesting various types of conflicts at the intersection. The primary contributing factor to these crashes is failure to yield right-of-way (FTYROW) from yield signs, which accounted for half of all reported crashes. Other contributing factors include loss of control, improper passing, and running off the road. The KAB Annual PCR for the intersection is -0.002493, indicating no severity, while the KABCO Annual PCR is 0.507776, which falls within the medium range. Based on statewide rankings, this intersection is ranked 101,173rd for KAB crashes and 2,342nd for KABCO crashes out of 115,274 intersections statewide, pointing to a moderate crash frequency but low severity.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Convert intersection to stop control (Low)
- Provide stop bar on minor road approach (Low)
- Restrict or eliminate parking (Low)
- Add crosswalks if needed (Low)

Maquoketa Street and Rockdale Road

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for immediate attention and potential countermeasures. The intersection is surrounded by residential area with some commercial present. It lacks well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition.

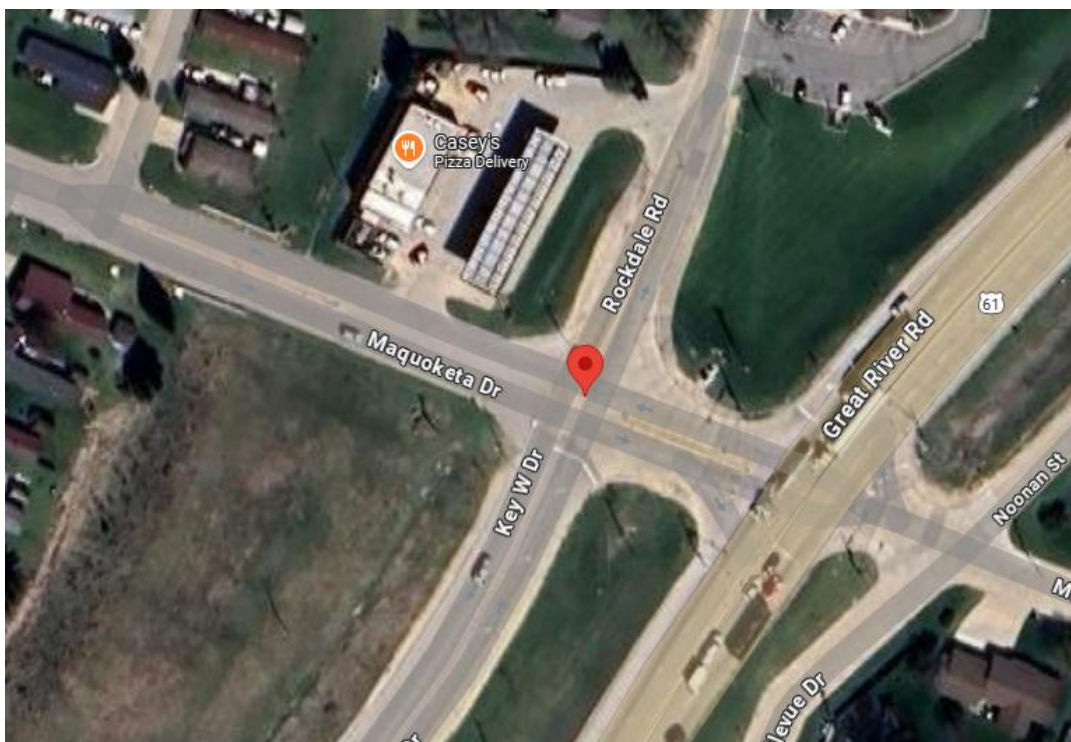


Figure 152: Intersection of Maquoketa Street and Rockdale Road

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018–2022), with all being classified as CO (property damage or complaint of pain), and none being classified as KAB (severe crashes). The predominant manner of collision is broadside (front-to-side), with other reported collision types including head-on (front-to-front), rear-end (front-to-rear), sideswipe (same direction), and rear-to-side collisions. The major contributing factor to KABCO crashes at this location is running a stop sign, followed by failure to yield right-of-way from parking or stop sign, improper backing, and traveling the wrong way on a divided highway. These behaviors suggest issues with compliance, and visibility at the intersection. The KAB Annual PCR for the intersection is -0.044013, indicating no severity level for serious injuries. However, the KABCO Annual PCR is 0.494769, which is considered medium. Based on statewide rankings, this intersection is ranked 113,114th for KAB crashes and 2,405th for KABCO crashes out of 115,274 intersections statewide, highlighting it as a location with frequent non-severe but recurring crash patterns.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Investigate alternative intersection designs and implement in conjunction with the nearby US 61 intersection (High)
- Add red pennants to stop signs to increase conspicuity (Low)
- Install sidewalks and other pedestrian-related infrastructure (Moderate/High)

Loras Boulevard and Bluff Street

This site is a four-legged, undivided, low-speed, signalized intersection ([Google Maps Link](#)). It has a moderate KABCO PCR level, indicating the need for potential safety improvements. The intersection is located in a mixed residential and commercial area and features well-defined curbs, curb ramps, and sidewalks. It is illuminated, and the pavement is in fair condition. Marked crosswalks are present at the intersection.

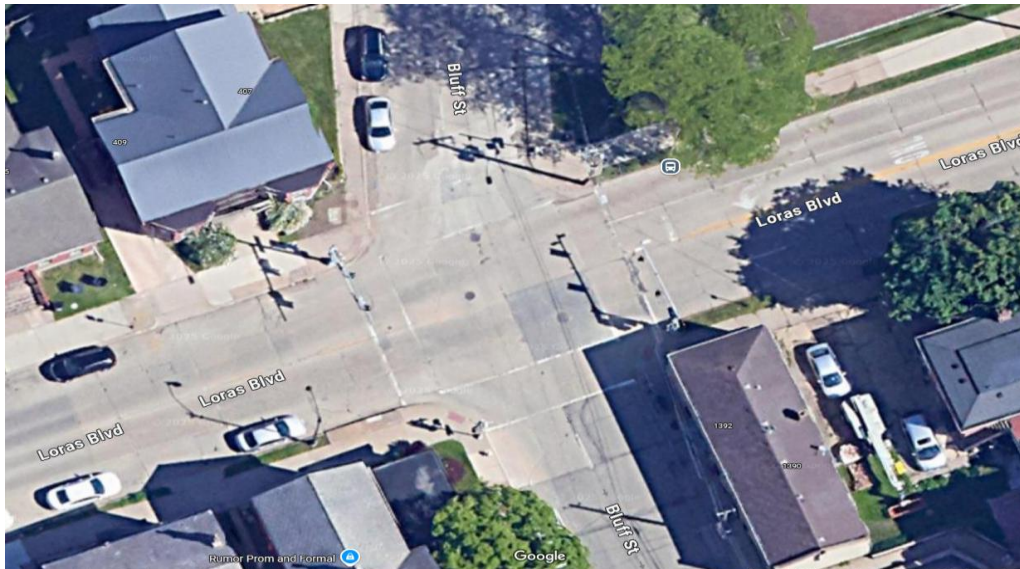


Figure 153: Intersection of Loras Boulevard and Bluff Street

Crash Summary

Crash data from 2018 to 2024 indicate 13 crashes occurred at this intersection. The manner of collisions includes broadside, sideswipe, and rear-end crashes. Reported contributing factors include loss of control, running a traffic signal, improper lane changing, and wet and dark-lighted conditions. This intersection has a KABCO Annual PCR of 0.494132, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Evaluate signal phasing (Low)
- Enhance pavement markings, to improve lane guidance and visibility (Low)
- Add retroreflective backplate borders to signal heads (Low)

Loras Boulevard and Cummins Street

This site is a three-legged, undivided, low-speed, partial stop-controlled intersection ([Google Maps Link](#)). It has a moderate KABCO PCR level, indicating potential safety concerns. The surrounding area includes a mix of residential and commercial properties. The intersection has poor pavement markings on the northbound and eastbound approaches, and visibility issues have been reported. Additionally, a driveway is located approximately 60 feet from the intersection on the eastbound approach, which may contribute to access-related conflicts.



Figure 154: Intersection of Loras Boulevard and Cummins Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and five CO crashes. The manner of collisions includes sideswipe (same direction), rear-end, and broadside crashes. Reported contributing factors include loss of control, speeding, improper backing, and vision obstruction. This intersection has a KABCO Annual PCR of 0.487632, suggesting a moderate frequency of crashes requiring attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- High friction surface treatment to improve traction (Medium).
- Road marking enhancements to improve lane guidance (Low)
- Install improved lighting to increase visibility (Medium).

East 9th Street-Kerper Boulevard and Elm Street

This site is a four-legged, undivided, low-speed, signalized intersection ([Google Maps Link](#)). It has a moderate KABCO PCR level, indicating potential safety concerns. The area surrounding the intersection includes a mix of commercial and residential properties. The intersection has worn pavement markings on the eastbound approach, and there are dedicated right-turn lanes on the southbound and westbound approaches. Crosswalk markings are present.

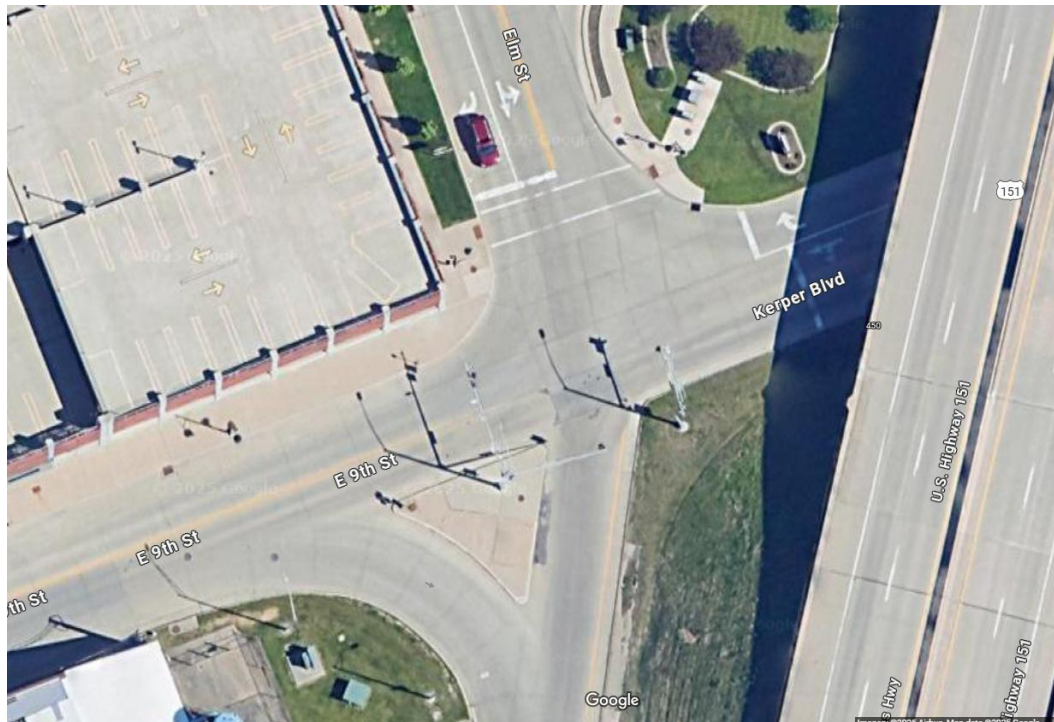


Figure 155: Intersection of East 9th Street-Kerper Boulevard and Elm Street

Crash Summary

Crash reports indicate that 11 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and eleven CO crashes. The manner of collisions includes rear-end, two angle, and broadside crashes. Contributing factors include loss of control, improper turning while making a left turn, and running a traffic signal. This intersection has a KABCO Annual PCR of 0.486721, suggesting a moderate frequency of crashes requiring attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Review signal phasing (Low)
- Determine if changes to the yellow and all-red interval are needed (Low)
- Implement protected left-turn signals (Moderate).

Cardiff Street, Summit Street and West 3rd Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It has a moderate KABCO PCR level, indicating potential safety concerns. The intersection has household driveways in close proximity, and both Cardiff and Summit Streets have downgrade slopes. On-street parking is present, which may impact visibility. There are no crosswalk markings, but

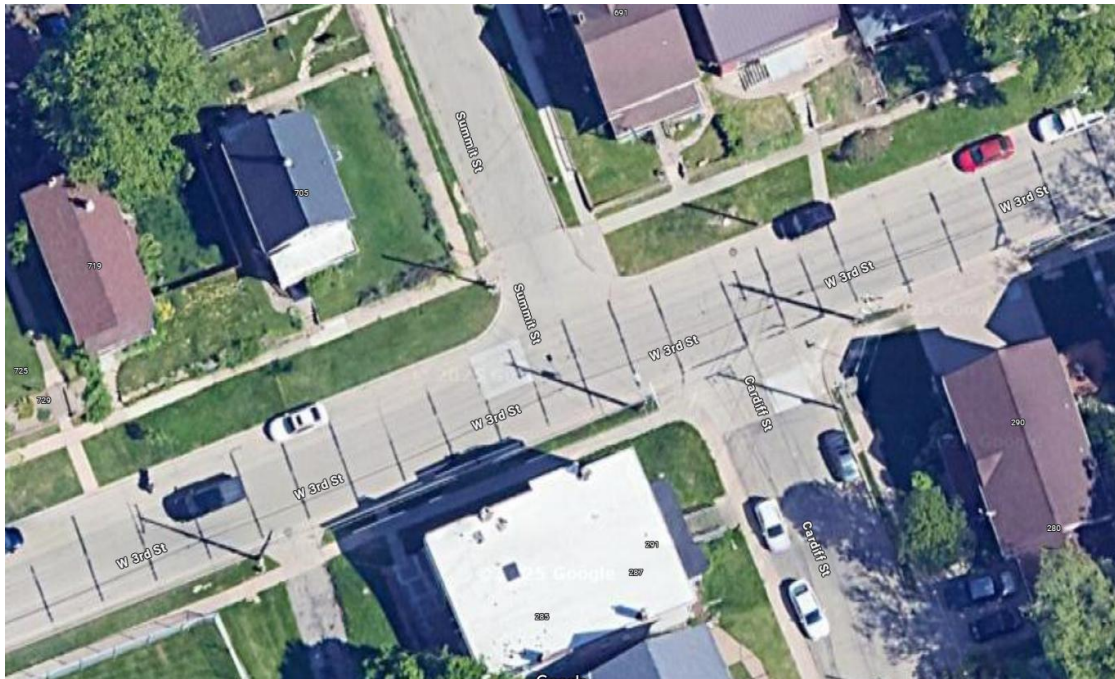


Figure 156: Intersection of Cardiff Street, Summit Street and West 3rd Street

Crash Summary

Crash data from 2018 to 2024 indicates a total of six crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision includes broadside, sideswipe, and rear-end crashes. Reported contributing factors include failure to yield right-of-way from a stop, improper backing, and loss of control. This intersection has a KABCO Annual PCR of 0.481226, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Check for adequate pavement friction and install high-friction surface treatment if needed (Moderate)
- Install intersection warning signage (Low)
- Review location of stop signs (Low)

East 24th Street and Queen Street

This is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It has a moderate KABCO PCR level, indicating potential safety concerns. The intersection is located in a residential area and features well-defined curbs, curb ramps, and sidewalks. It is illuminated, and the pavement is in good condition. Marked crosswalks are not present at the intersection, but there are well-defined curbs, curb ramps, and sidewalks.

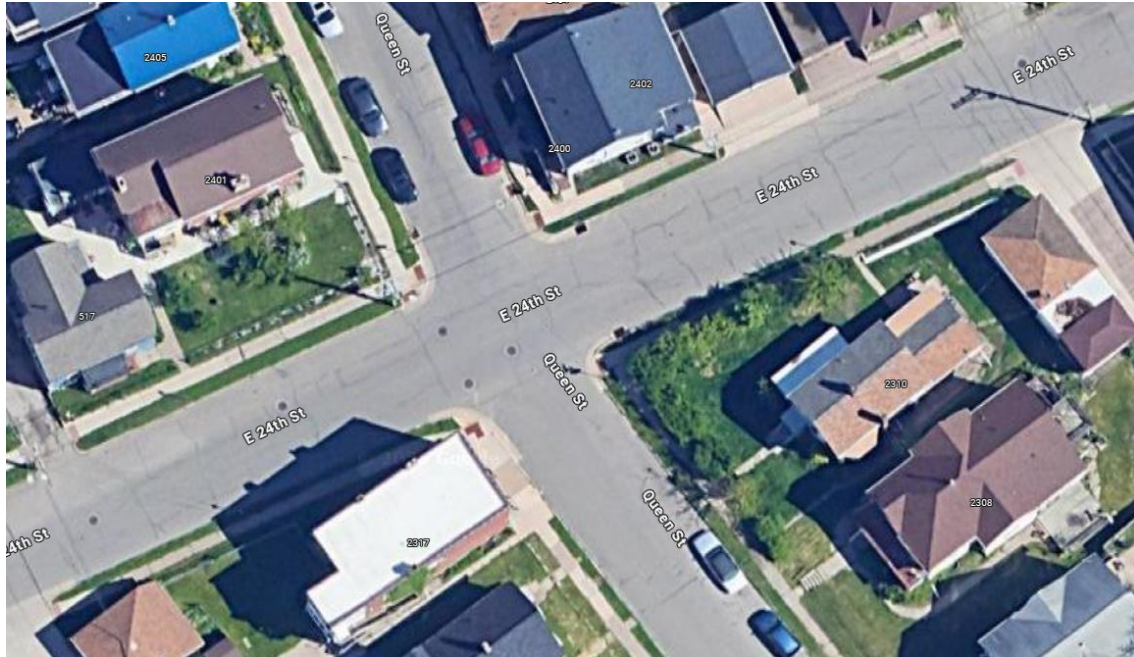


Figure 157: Intersection of East 24th Street and Queen Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. One crash resulted in a severe injury (KAB), while the remaining five were classified as property damage or minor injury crashes (CO). The most common crash type was broadside, followed by angle, rear-end, single-vehicle/non-motorist, and sideswipe collisions. The primary contributing factors include running a stop sign and loss of control. This intersection has a KABCO Annual PCR of 0.474161, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Add stop bars (Low)
- Add crosswalks if needed (Low)

Locust Street South and West 5th Street

This is a four-legged, undivided, low-speed, signalized intersection in Dubuque. On-street parking is present on the northbound, southbound, and westbound approaches. The westbound approach includes a dedicated right-turn lane. Marked crosswalks are present at the intersection.

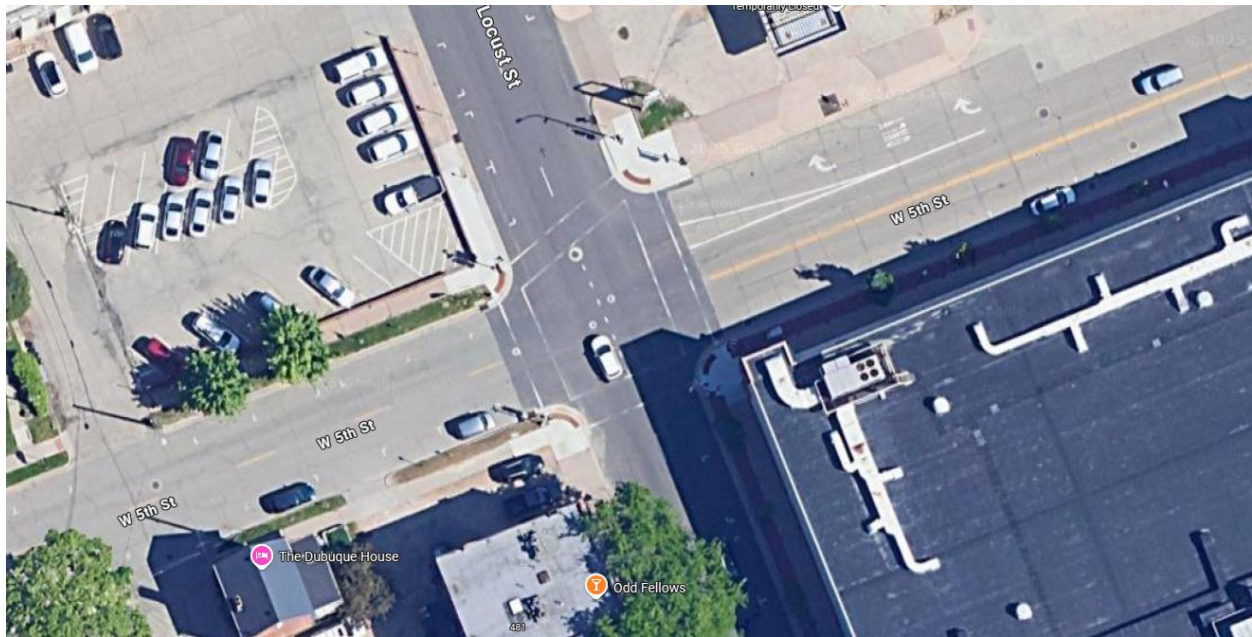


Figure 158: Intersection of Locust Street South and West 5th Street ([Google Maps](#))

Crash Summary

Crash data from 2018 to 2022 indicates that 11 crashes occurred at this intersection, including 1 severe injury (KAB) crash and 10 other crashes (CO). The manner of collision includes broadside, sideswipe, and rear-end. Contributing factors include running the traffic signal, improper lane changing, and one loss of control. Adverse roadway conditions were also reported. This intersection has a KABCO Annual PCR of 0.472482, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Enhance traffic signal visibility by adding reflective borders (Low)
- Review signal timing (Low)
- Add lane configuration and destination signage for the south approach (Low)
- Add directional lane markings for the south approach (Low)
- Convert signals to overhead mast arms (Moderate/High)

East 7th Street and White Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Map Link](#)). The intersection has sight distance limitations for the northbound and southbound approaches, which may impact driver visibility and reaction time. Marked crosswalks are not present at the intersection.

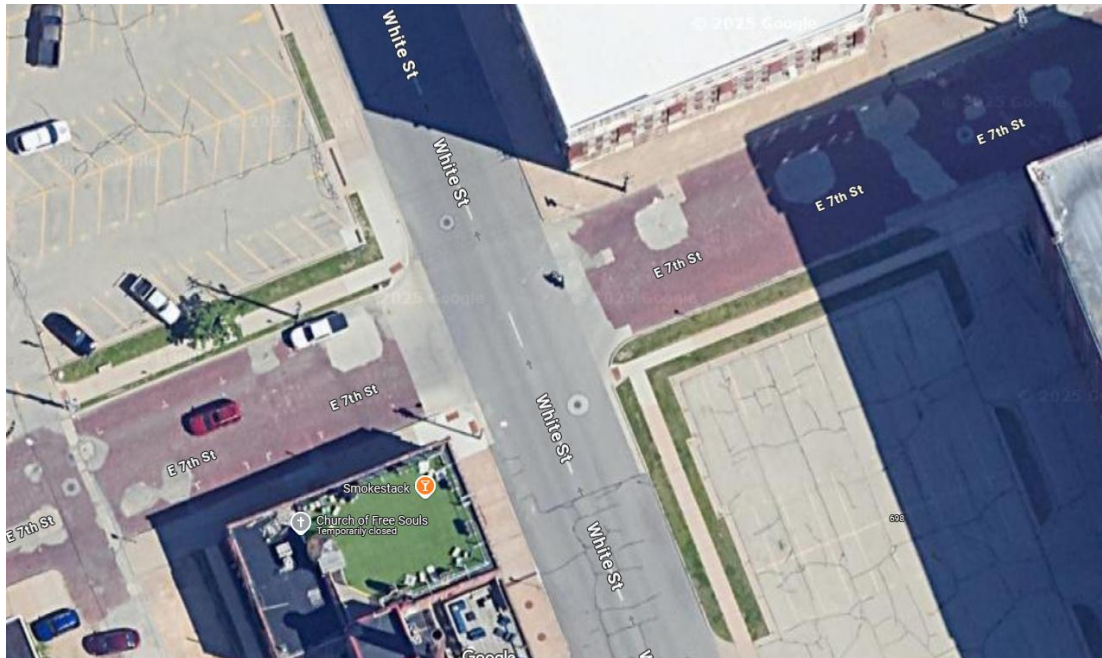


Figure 159: Intersection of East 7th Street and White Street

Crash Summary

Crash data from 2018 to 2022 indicates that seven crashes occurred at this intersection. No fatal or severe injury crashes were reported. The manner of collision included sideswipe, broadside and angle crashes. Contributing factors included improper lane changing, loss of control, reckless/negligent driving, and failure to yield right-of-way. This intersection has a KABCO Annual PCR of 0.471676, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasure is recommended:

- Enhance intersection signage and lane markings (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Brown Street and University Avenue

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The eastbound approach appears to have insufficient sight distance, which may impact driver decision-making. Pavement markings may be in marginal condition, and there are no marked crosswalks at the intersection.



Figure 160: Intersection of Brown Street and University Avenue

Crash Summary

Crash data from 2018 to 2022 indicates that six crashes occurred at this intersection. No fatal or severe injury crashes were reported. The manner of collision includes rear-end, broadside, failure to yield right-of-way and improper turning. Contributing factors include **loss** of control, driver distraction, following too close, failure to yield right-of-way, and improper turning. This intersection has a KABCO Annual PCR of 0.460694, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Perform a sight distance study (Low)
- Improve signage and stop sign visibility (red pennants to stop signs to increase conspicuity) (Low)
- Enhance pavement markings on the westbound approach (Low)
- Add crosswalks if needed (Low)

West 32nd Street and Carter Road

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The northbound approach may have limited visibility due to overgrown bushes, which may obstruct sightlines for drivers. There is no pedestrian infrastructure present. There is curbing present on Carter Road, and an overhead light is present.

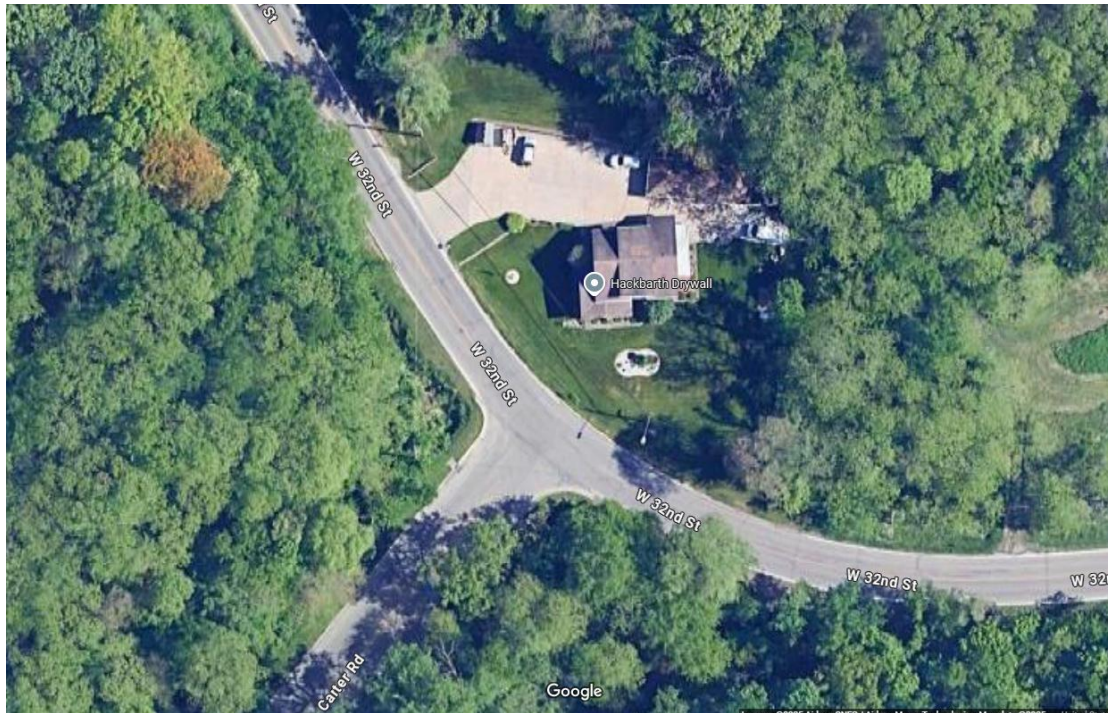


Figure 161: Intersection of West 32nd Street and Carter Road

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection, including one severe injury (KAB) crash and five other crashes (CO). The manner of collision includes rear-end, broadside crash, head-on crash, sideswipe crash, and non-collision incidents due to animal presence, loss of control, and running off the road. This intersection has a KABCO Annual PCR of 0.45899, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Improve visibility by clearing overgrown bushes along the northbound approach (Low)
- Install additional lighting to improve visibility at night (Low)

11th Street and Iowa Street

This is a four-legged, undivided, low-speed intersection with partial stop control ([Google Maps Link](#)). The intersection is located in a commercial area. On-street parking is present on all approaches, which may contribute to limited sight distance. Pedestrian infrastructure is present, including marked crosswalks on the east and west approaches. Overhead lighting is also present.



Figure 162: Intersection of 11th Street and Iowa Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and seven CO crashes. The manner of collision includes broadside, failure to yield right-of-way, running stop sign, sideswipe, non-collision, loss of control and alcohol involvement. This intersection has a KABCO Annual PCR of 0.458771, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Enhance pavement markings and delineation for lane discipline (Low)
- Perform a sight distance study (Low)
- Consider a possible change in control type based on sight distance study (Low/Moderate)

Asbury Road and Judson Drive

This site is a three-legged, undivided, low-speed intersection with partial stop control ([Google Maps Link](#)). The intersection is near multiple driveways, which may impact visibility and driver decision-making. On-street parking is present. Sidewalks and curb ramps are present, but there are no crosswalks. Limited overhead lighting is also present.

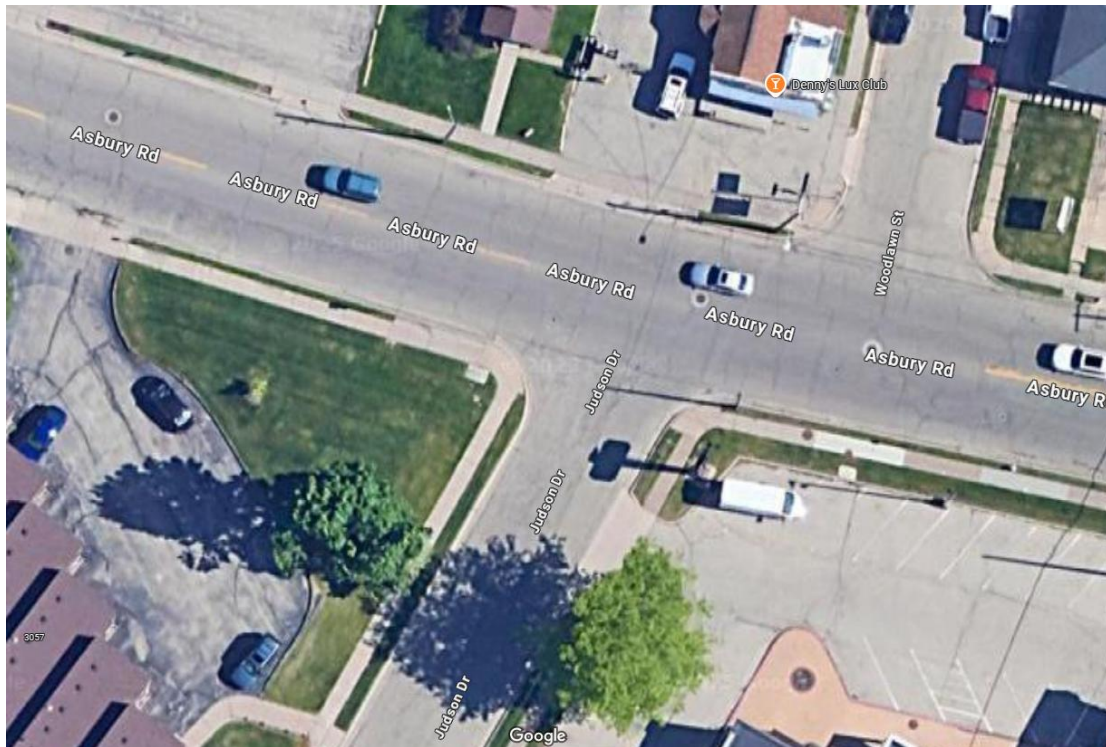


Figure 163: Intersection of Asbury Road and Judson Drive

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. The manner of collision includes rear-end and broadside crashes. Contributing factors include following too close, driver fatigue, loss of control, failure to yield right-of-way, and running a stop sign. This intersection has a KABCO Annual PCR of 0.45802.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants to stop signs to increase conspicuity (Low)
- Enhance pavement markings and delineation for lane discipline (Low)
- Add crosswalks if needed (Low)
- Relocate the utility poles; if relocation is not feasible, install retroreflective tape to increase conspicuity (Moderate)

Central Avenue and East 27th Street

This site is a three-legged, undivided, low-speed intersection with partial stop control ([Google Maps Link](#)). On-street parking is present, and there are possible sight distance issues that may impact driver decision-making. Pedestrian infrastructure and overhead lighting are present at the intersection. However, there are no crosswalks present.

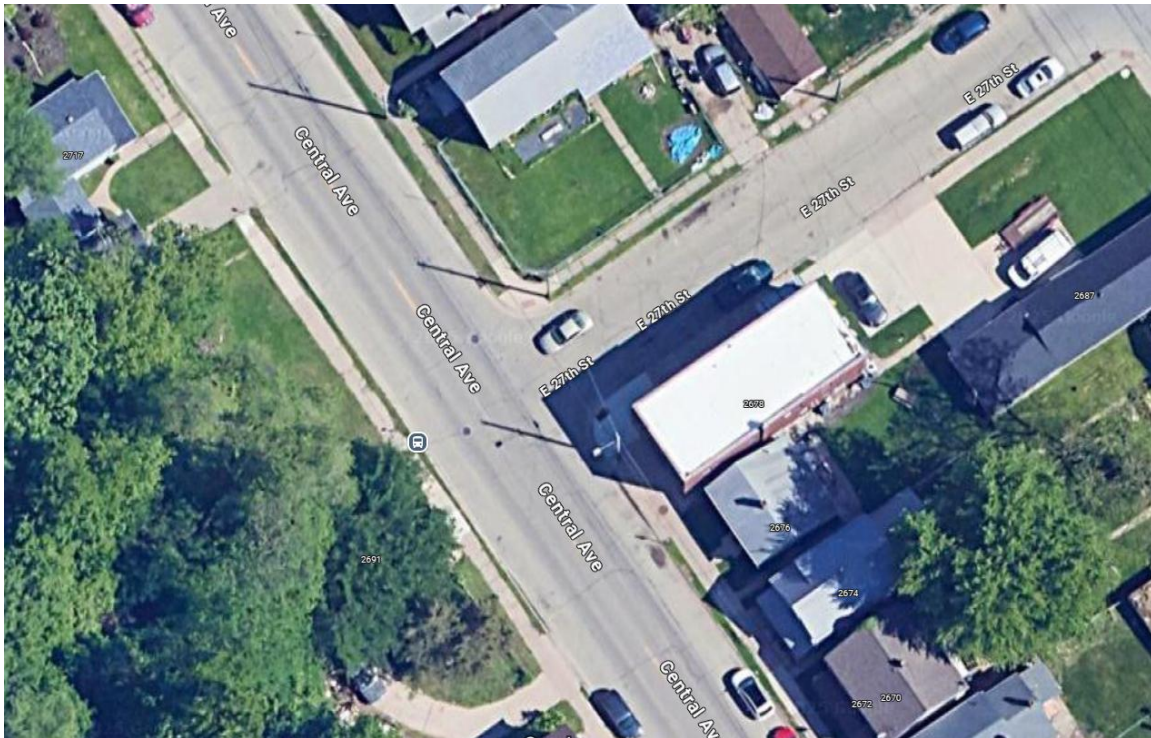


Figure 164: Intersection of Central Avenue and East 27th Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. The manner of collision included four rear-end and two broadside crashes. Crash causes included following too close, driver distraction, loss of control failure to yield right-of-way, running a stop sign, and driver distraction. This intersection has a KABCO Annual PCR of 0.454103.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Improve existing pavement markings (Low)
- Perform a sight distance study (Low)
- Consider possible change in control type based on sight distance study (Moderate)

Loras Boulevard and Dell Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). Dell Street is on a downgrade into the intersection. On-street parking is present, which may impact visibility. Pedestrian infrastructure includes sidewalks and curb ramps, but no crosswalks are present. Overhead lighting is also present.

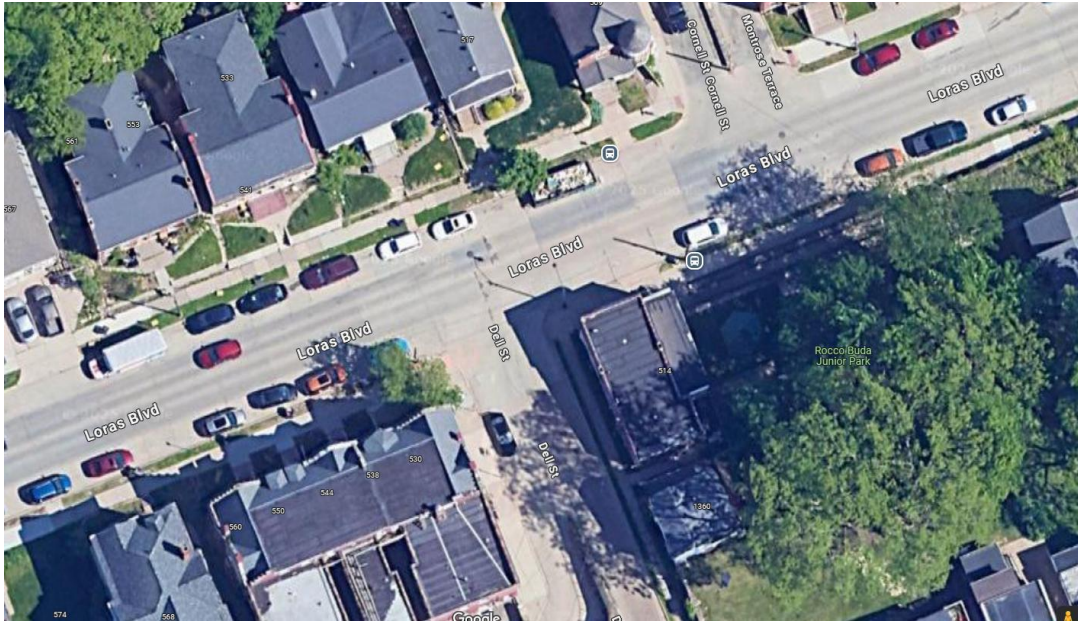


Figure 165: Intersection of Loras Boulevard and Dell Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and six CO crashes. The manner of collision included broadside, rear-to-rear, sideswipe, and head-on crashes. Reported contributing factors included collision with a parked vehicle, running a stop sign, and loss of control. Three crashes occurred under adverse weather conditions (one in snow, one in slush, and one in both snow and slush). This intersection has a KABCO Annual PCR of 0.453406, indicating a moderate crash frequency.

Potential Safety Improvements

Based on crash history and contributing factors, the following safety countermeasures are recommended:

- Check for adequate pavement friction to ensure sufficient grip (Low)
- Install high-friction surface treatment if needed (Moderate)
- Improve signage to enhance driver awareness and adherence to traffic controls (Low)
- Enhance pavement markings to provide clearer guidance (Low)
- Add crosswalks if needed (Low)

West 3rd Street and North Booth Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The intersection has on-street parking and may have sight distance issues. The north approach is on a downgrade into the intersection. Pedestrian infrastructure includes sidewalks, curb ramps and a marked crosswalks with signage on the east approach. Overhead lighting is present above the crosswalk.

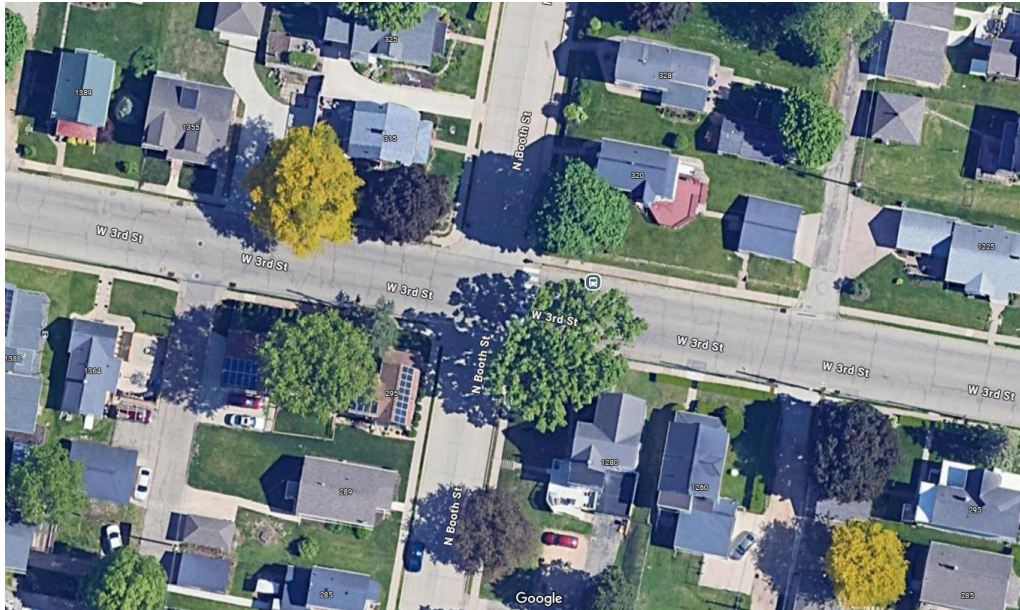


Figure 166: Intersection of West 3rd Street and North Booth Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision included broadside and non-collision crashes. Reported contributing factors included failure to yield right-of-way and driver distraction. This intersection has a KABCO Annual PCR of 0.447542, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Trim vegetation and remove obstructions (Low/Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Apply high-visibility pavement markings (Low)

Peru Road and Tanzanite Drive

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). Peru Road is on a grade through the intersection. Tanzanite Drive has curb and gutter installed, but there is no pedestrian infrastructure present along either roadway. Overhead lighting is present.



Figure 167: Intersection of Peru Road and Tanzanite Drive

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision includes rear-end (front to rear), non-collision (single vehicle), and one other types of crashes. Reported contributing factors included loss of control, distraction, inattentiveness, being under the influence, and following too closely. This intersection has a KABCO Annual PCR of 0.444711, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install larger Stop signs (Low)
- Install Stop Ahead warning sign (Low)
- Refresh pavement markings (Low)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)

Humboldt Street and Rhomberg Avenue

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The intersection may have sight distance issues. It is located in a residential area, and pedestrian infrastructure includes sidewalks and curb ramps. There are no marked crosswalks present. There is an overhead light present.



Figure 168: Intersection of Humboldt Street and Rhomberg Avenue

Crash Summary

Crash data from 2018 to 2022 indicates a total of 6 crashes occurred at this intersection. There was one crash with a KAB severity and five crashes with CO severity. The manner of collision includes sideswipe (same direction), rear-end (front to rear), broadside (front to side) crashes, and rear-to-side crashes. Reported contributing factors include driver distraction, loss of control, being under the influence, over-correcting/over-steering, inattentiveness, failure to yield right-of-way while making a left turn, and improper backing. This intersection has a KABCO Annual PCR of 0.439299, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Refresh pavement markings (Low)
- Implement parking restrictions (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Pennsylvania Avenue and Green Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It is located in a residential area, with a school located directly to the south. Extensive pedestrian infrastructure is present, including sidewalks, curb ramps, and a pedestrian traffic

signal on the west approach. Overhead lighting is also present in the vicinity of the intersection. Although not at the intersection itself.

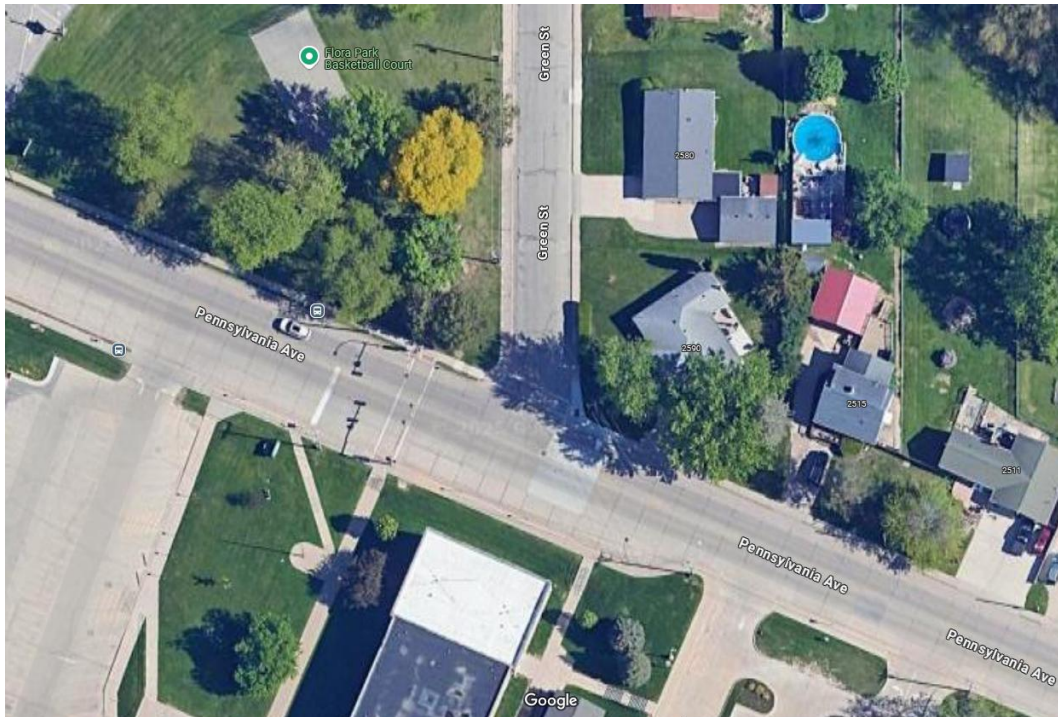


Figure 169: Intersection of Pennsylvania Avenue and Green Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of 6 crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision includes rear-end (front to rear) and angle (oncoming left turn) crashes. Reported contributing factors include loss of control, following too closely, and making improper turns. This intersection has a KABCO Annual PCR of 0.437121, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install high visibility crosswalk markings (Low)
- Install additional pedestrian warning signage as needed (Low)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)

15th Street and Iowa Street

This site is a four-legged, undivided, low-speed, all-way stop intersection ([Google Map Link](#)). The intersection may have sight distance issues. The site is in a residential area, and on street

parking is present. Pedestrian infrastructure includes sidewalks, curb ramps and marked crosswalks. Overhead lighting is present.



Figure 170: Intersection of 15th Street and Iowa Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of five crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision includes “other”, sideswipe (same direction), rear-end (front to rear), rear-to-side, non-collision (single vehicle) incidents, and broadside (front to side) crashes. Reported contributing factors include loss of control, starting or backing improperly, being under the influence, failure to yield right-of-way from a stop sign, and emotional factors. This intersection has a KABCO Annual PCR of 0.419135, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Refresh pavement markings (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Restrict on-street parking (Low)

Iowa Street and West 16th Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The intersection may have issues with sight distance. It is located in a residential area and has on street parking. Pedestrian infrastructure is present and consists of sidewalks and curb ramps, but no crosswalks. Overhead lighting is present.

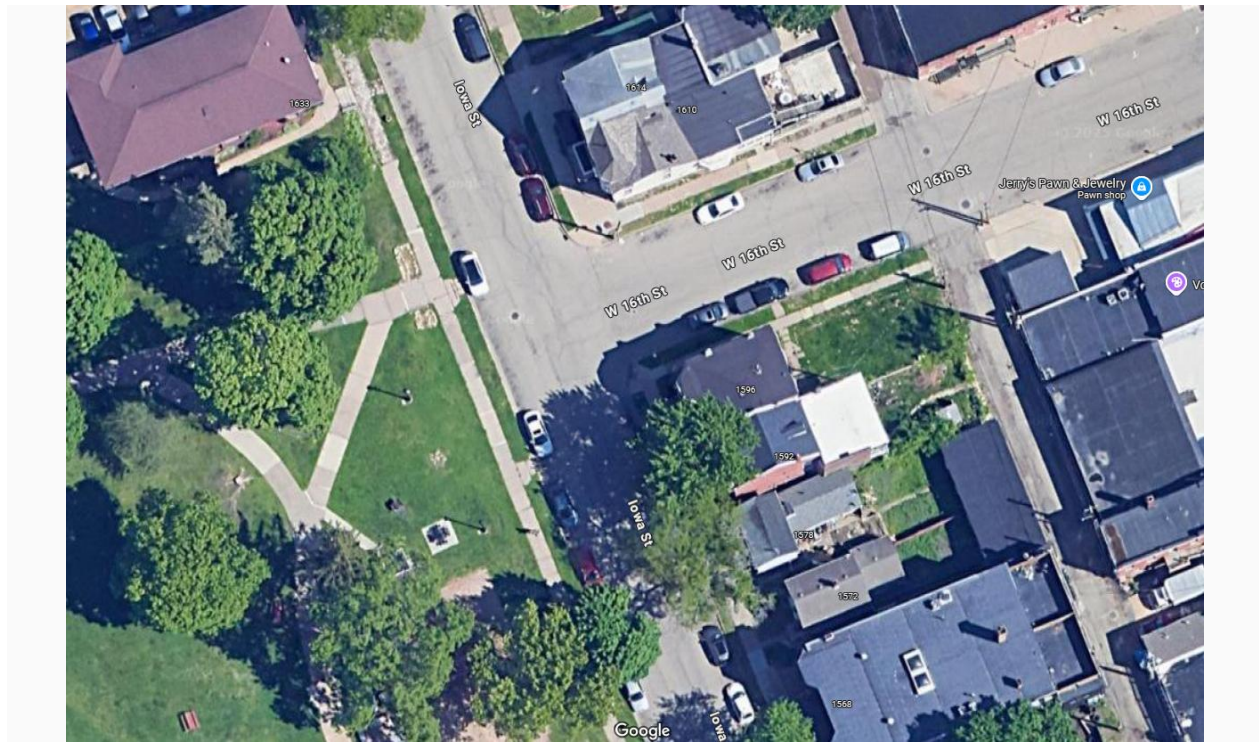


Figure 171: Intersection of Iowa Street and West 16th Street

Crash Summary

Crash data from 2018 to 2022 indicates a total of six crashes occurred at this intersection. There were no reported fatal or severe injury crashes. The manner of collision includes three rear-end (front to rear), “other”, rear-to-side, sideswipe (same direction), angle (oncoming left turn), and non-collision (single vehicle) crashes. Reported contributing factors include unknown, starting or backing improperly, loss of control, making improper turn, and being under the influence. This intersection has a KABCO Annual PCR of 0.417951, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Refresh pavement markings (Low)
- Restrict on-street parking (Low)

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

West 11th Street and Main Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It is located in a commercial area and on-street parking is present. There may be a restricted sight distance issue. Pedestrian facilities include sidewalks and curb ramps, along with marked crosswalks on the east and west approaches. Overhead lighting is present.

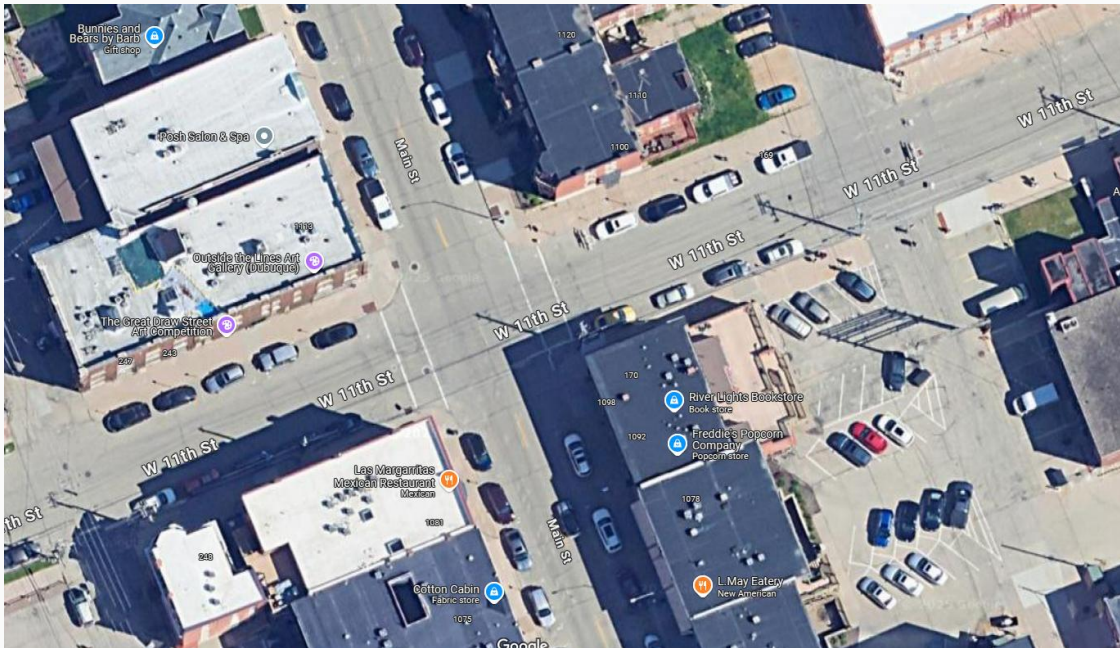


Figure 172: Intersection of West 11th Street and Main Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and five CO crashes. The manner of collision included broadside (front to side), sideswipe, and rear end crashes. Contributing factors included failure to yield right-of-way from a stop sign, running a stop sign, FTYROW from a parked position, following too closely, reckless/erratic/careless/negligent operation and backing improperly. This intersection has a KABCO Annual PCR of 0.413897, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Restrict on street parking near corners (Low)
- Refresh pavement markings (Low)
- Add crosswalks on other approaches if needed (Low)

Mineral Street and New Haven Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). In reality, this site consists of a complex interaction between the intersections of New Haven Street, Mineral Street, and Devon Drive. It is located in a residential area and has sidewalks and curb ramps present. No marked crosswalks have been installed, and only limited overhead lighting is present in the area of the New Haven Street and Mineral Street intersection.

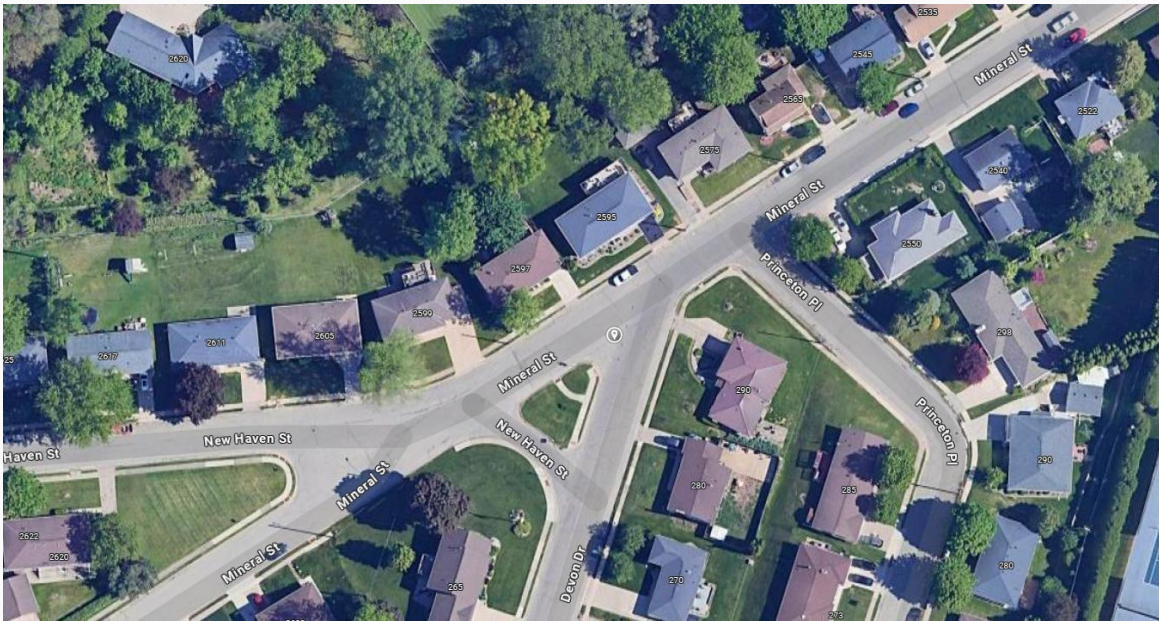


Figure 173: Intersection of Mineral Street and New Haven Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and four CO crashes. The manner of collision included broadside (front to side), non-collision (single vehicle), rear-end, sideswipe, and “other”. Contributing factors in crashes included running a stop sign, loss of control, non-collision (single vehicle), traveling the wrong way/on the wrong side, and emotional factors. This intersection has a KABCO Annual PCR of 0.412602, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Add or refresh pavement markings, including stop bars (Low)
- Investigate alternative intersection designs (e.g. roundabout) for this location and implement (Moderate/High)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)

Locust Street and West 15th Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). This is a residential area, and on-street parking is present. This may contribute to restricted sight distance. Pedestrian infrastructure includes sidewalks and curb ramps, but not marked crosswalks. No overhead lighting is present.

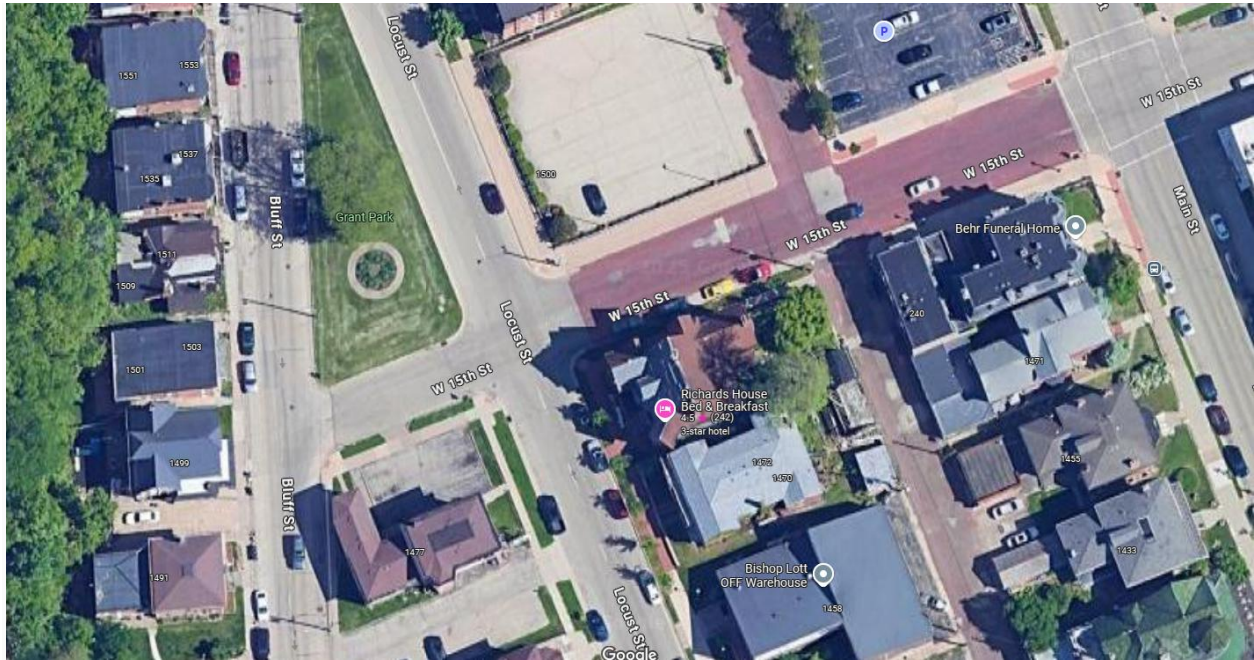


Figure 174: Intersection of Locust Street and West 15th Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and four CO crashes. The manner of collision included rear-end (front to rear), broadside, and sideswipe. Contributing factors included failure to keep in the proper lane, failure to yield right-of-way from a stop sign, improper/erratic lane changing, other interior distractions, and loss of control. This intersection has a KABCO Annual PCR of 0.401537, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Extend no-parking zones (Low)
- Add crosswalks if needed (Low)
- Install overhead lighting (Moderate)

Central Avenue and West 13th Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). This location is a commercial area and on-street parking is present. Pedestrian infrastructure includes sidewalks, curb ramps, and marked crosswalks on the east and west approaches. Overhead lighting is present.

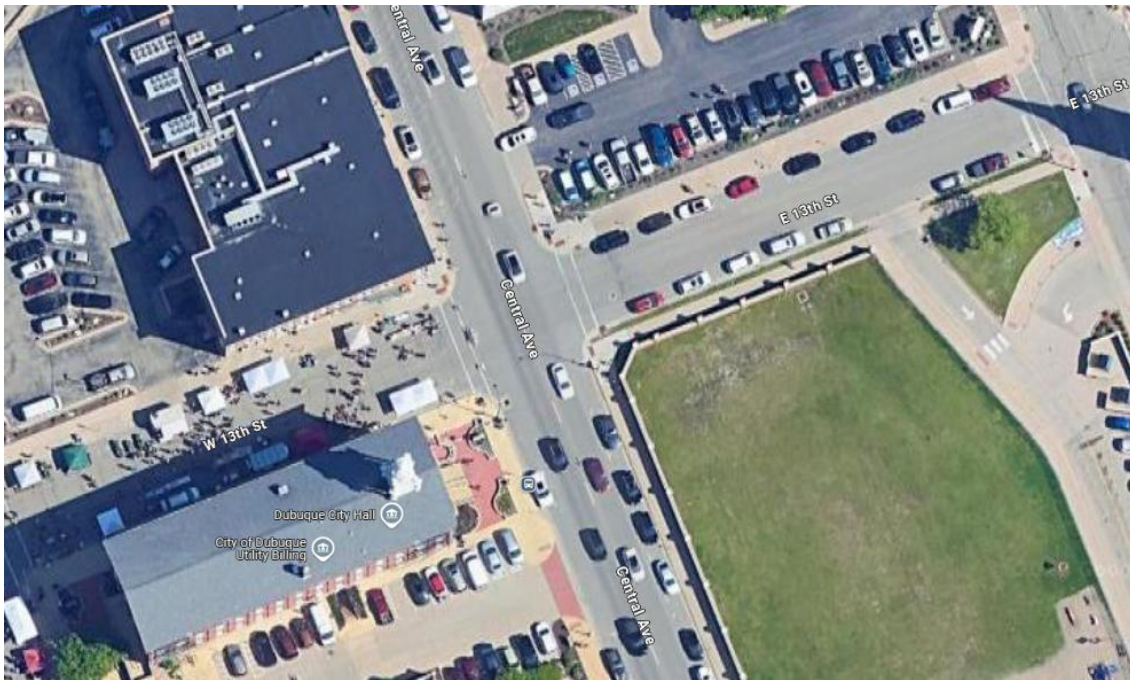


Figure 175: Intersection of Central Avenue and West 13th Street

Crash Summary

Crash reports indicate that ten crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and nine CO crashes. The manner of collision included broadside (front to side), sideswipe (same direction), angle (oncoming left turn), rear-end (front to rear), and non-collision (single vehicle) crashes. Contributing factors included improper turns, running stop signs, emotional factors, traveling the wrong way/on the wrong side, loss of control, and following too closely. This intersection has a KABCO Annual PCR of 0.400221, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install lane-use pavement markings and directional signs (Low)

- Upgrade pedestrian crossings with rectangular rapid flash beacons (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Implement safety recommendations made in Central and White Corridor Study (Varies)

Central Avenue and West 16th Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It is located in a commercial area, and on-street parking is present. This may contribute to restricted sight distance. Pedestrian infrastructure includes sidewalks, curb ramps, but no marked crosswalks. Limited overhead lighting is present.

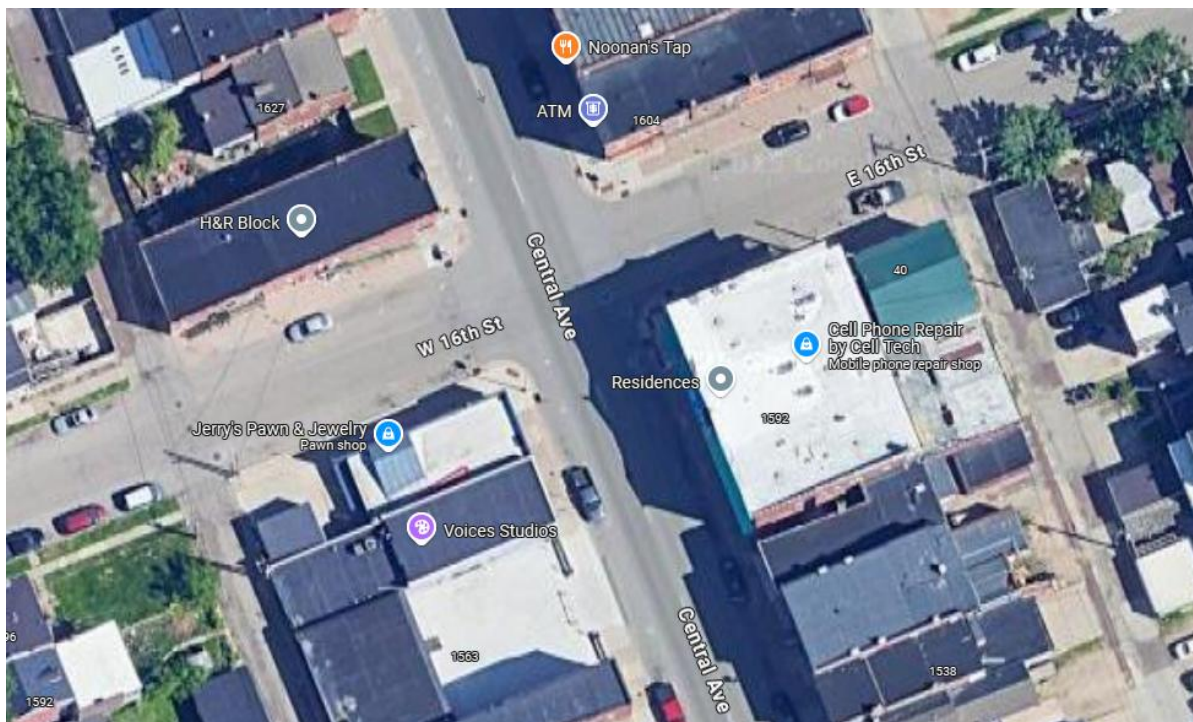


Figure 176: Intersection of Central Avenue and West 16th Street

Crash Summary

Crash reports indicate that seven crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and six CO crashes. The manner of collision included sideswipe (same direction), rear-end (front to rear), broadside (front to side), angle (oncoming left turn), non-collision (single vehicle), and “other” crashes. Contributing factors included improper/erratic lane changing, driver distraction, loss of control, unknown/medical (seizure reaction), starting/backing improperly, vision obstruction, loss of control. running a stop sign, making improper turn, and failure to yield right-of-way while making a left turn. This intersection has a KABCO Annual PCR of 0.400173, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Improve signage and pavement markings (Low)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)

University Avenue and Air Hill Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). It is located in a residential area and has on-street parking. The intersection has a steep slope on the northbound approach. Pedestrian infrastructure includes sidewalks, and curb ramps, but no marked crosswalks. Overhead lighting is present.

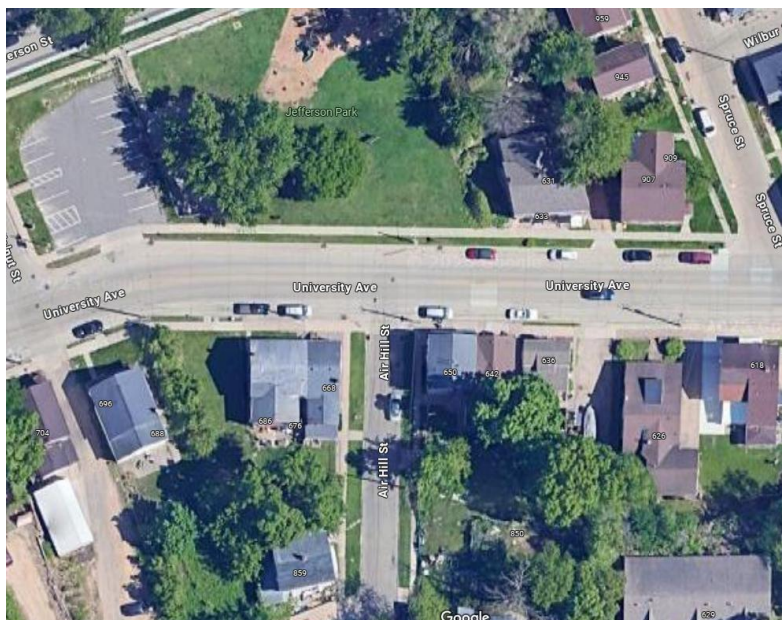


Figure 177: Intersection of University Avenue and Air Hill Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and five CO crashes. The manner of collision included rear-end (front to rear), non-collision (single vehicle), and sideswipe (same direction) crashes. Contributing factors included running off the road, improper backing, driving too fast for conditions, emotional factors, loss of control, driver distraction, and starting or backing

improperly. This intersection has a KABCO Annual PCR of 0.399803, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Enhance signage and pavement markings (Low)
- Apply high-friction surface treatment (HFST) on the northbound approach (Moderate)
- Restrict parking (Low)

Jackson Street and East 32nd Street

This site is a four-legged, undivided, low-speed, signalized intersection ([Google Maps Link](#)). It is located in a mixed residential and light industrial area. There is a driveway in the southeast corner of the intersection. Pedestrian infrastructure includes sidewalks, and curb ramps, but no marked crosswalks. Overhead lighting is present.

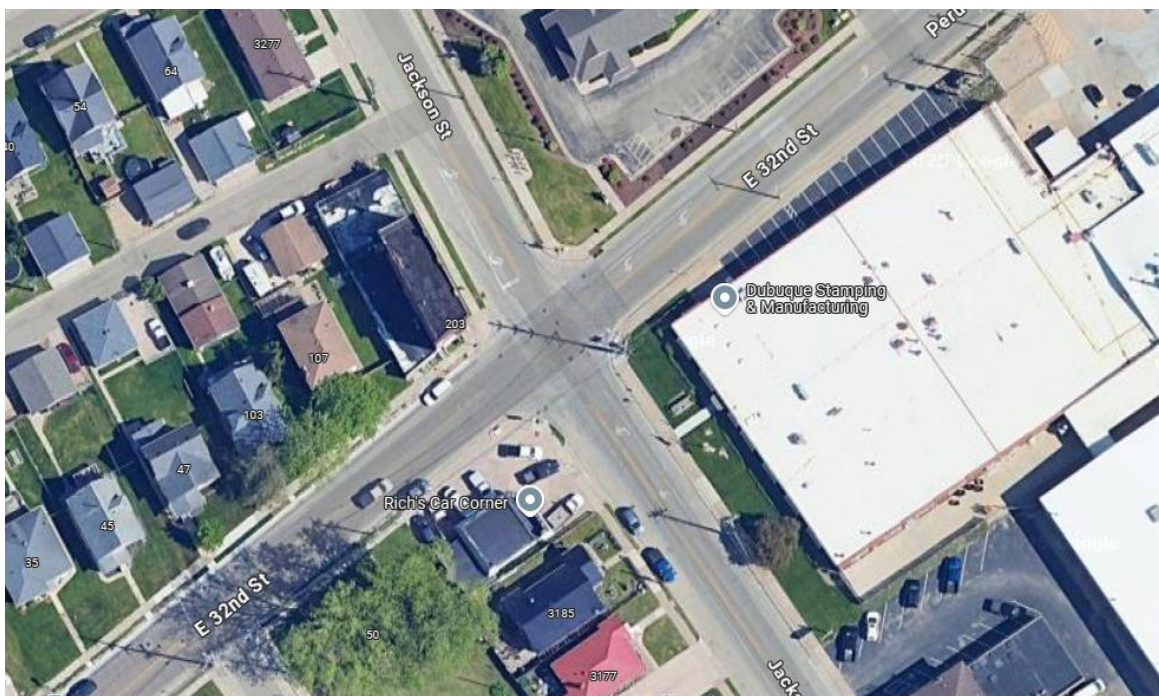


Figure 178: Intersection of Jackson Street and East 32nd Street

Crash Summary

Crash reports indicate that 12 crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and twelve CO crashes. The manner of collision

included sideswipe (same direction), non-collision (single vehicle), angle (oncoming left turn), broadside (front to side), and rear-end (front to rear) crashes. Contributing factors included improper turns, loss of control, failure to yield right-of-way while making left turns, running traffic signals, and improper starting/backing. This intersection has a KABCO Annual PCR of 0.394738, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Enhance traffic signal visibility by adding retroreflective borders to backplates (Low)
- Determine if changes to the yellow and all-red interval are needed (Low)
- Add directional lane markings (Low)
- Convert signals to overhead mast arms to improve visibility (Moderate)
- Implement protected left-turn phasing (Moderate/High)
- Install a speed feedback sign (permanent or temporary) to encourage speed compliance in the area (Low)

East 9th Street and Jackson Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The intersection is located in a commercial area with on-street parking. Pedestrian infrastructure includes sidewalks, curb ramps, and marked crosswalks. Street lighting is present.

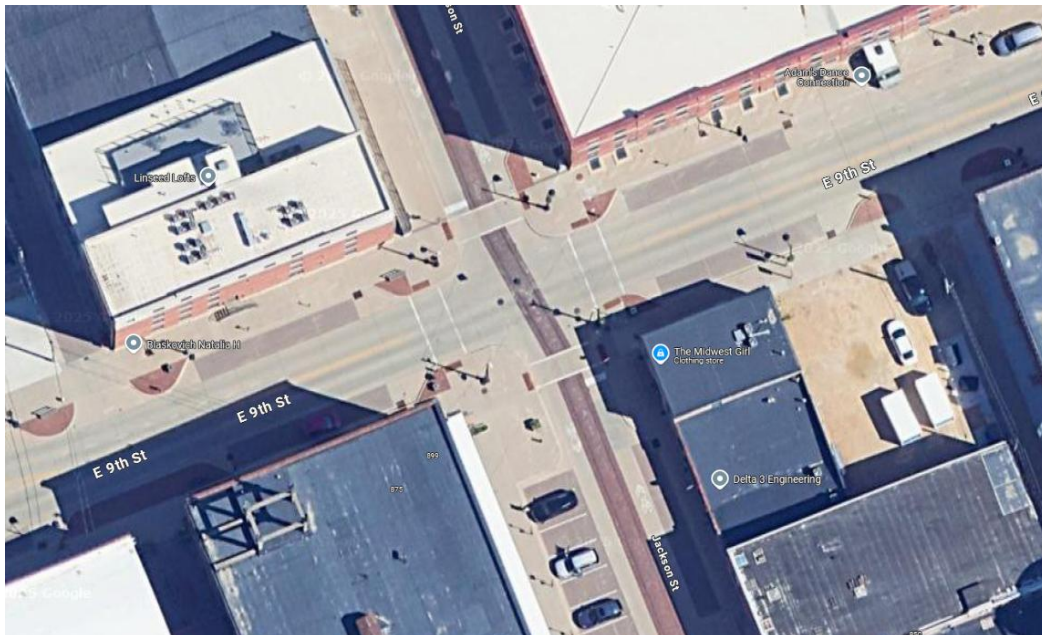


Figure 179: Intersection of East 9th Street and Jackson Street

Crash Report Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and four CO crashes. The manner of collision included broadside (front to side) and sideswipe (same direction) crashes. Contributing factors to crashes included running stop signs, failure to yield right-of-way from stop signs, and no improper action. This intersection has a KABCO Annual PCR of 0.394193, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Prince Street and East 24th Street

This site is a four-legged, semi-divided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The location is a mix of residential and commercial, with on-street parking present on some approaches. There appear to be restricted sight distance issues, particularly for westbound traffic. Pedestrian infrastructure includes sidewalks, curb ramps, and marked crosswalks. Overhead lighting is present.

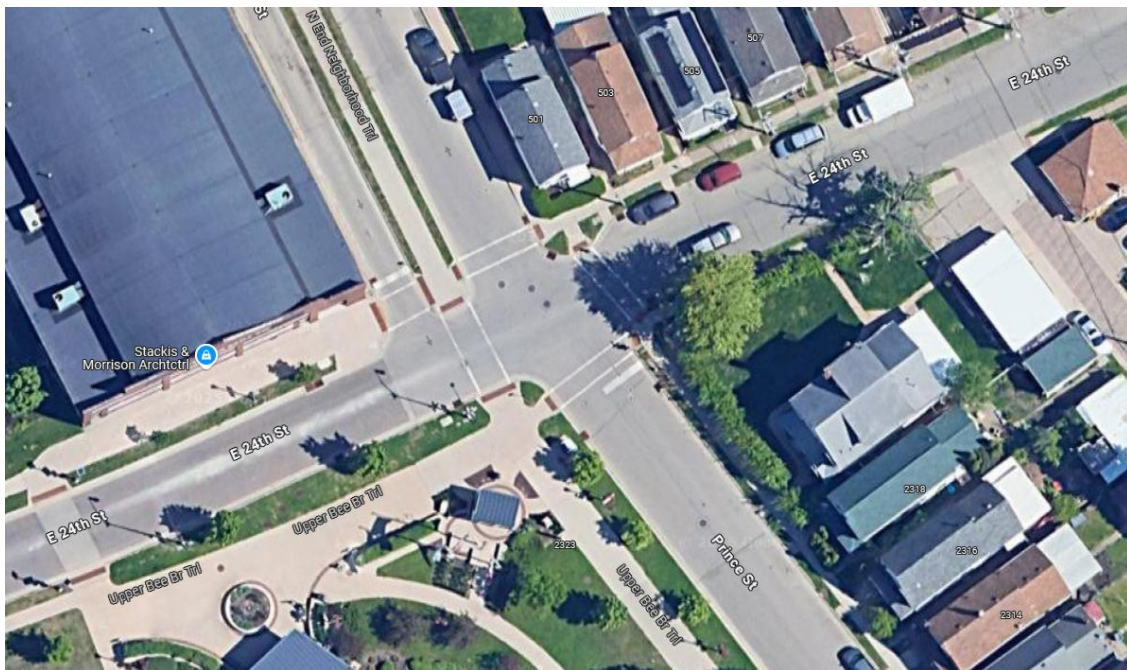


Figure 180: Intersection of Prince Street and East 24th Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and five CO crashes. The manner of collision included broadside (front to side), angle (oncoming left turn), “other”, sideswipe (same direction), and non-collision (single vehicle) crashes. Contributing factors to crashes included running stop signs and failure to yield right-of-way from stop signs, improper backing, loss of control, impairment, and running off the road to the right. This intersection has a KABCO Annual PCR of 0.392788, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Add flashing beacons to stop signs to increase conspicuity (Low)
- Address sight distance issues by restricting on-street parking (Low)
- Reconstruct Elm street to create an undivided two way roadway with separated bike/pedestrian trail relocated to west side of roadway (High)

Rosedale Avenue, Avoca Street, and Grandview Avenue

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). A raised island is in the center of the intersection which allows Grandview Avenue traffic to transition from north-south to east-west without stopping. A steel utility pole is located within this island area. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.

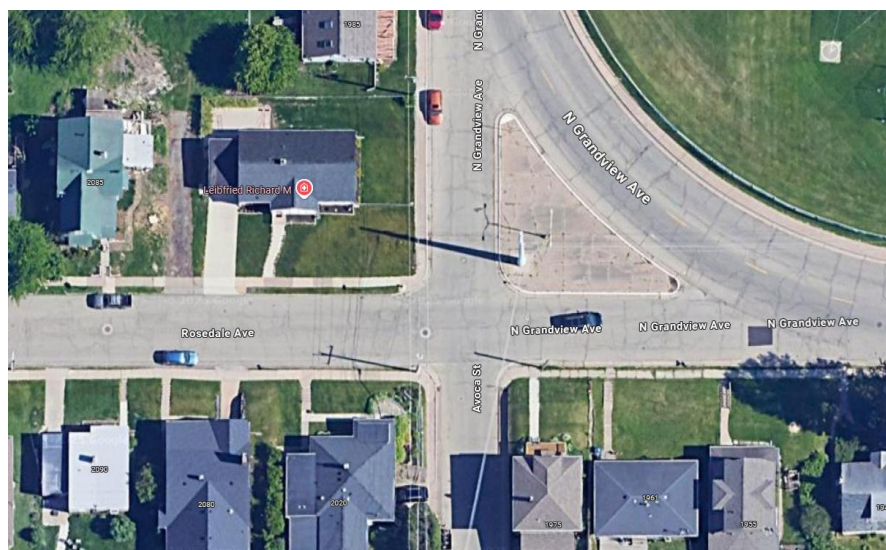


Figure 181: Intersection of Rosedale Avenue, Avoca Street, and Grandview Avenue

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and six CO crashes. The manner of collision included broadside (front to side), “other”, and angle (oncoming left turn) crashes. Contributing factors to crashes included running stop signs and failure to yield right-of-way from stop signs or while making left turns. This intersection has a KABCO Annual PCR of 0.392755, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Clarify lane configuration through on-pavement markings (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Investigate alternative intersection designs (e.g. roundabout) for this location and implement (Moderate/High)
- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate/High)

Grandview Avenue and Bennett Street

This site is a three-legged, divided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The fourth leg of this intersection is an entrance to a hospital. There is restricted sight distance for eastbound traffic. The intersection is located in a mostly residential area. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.

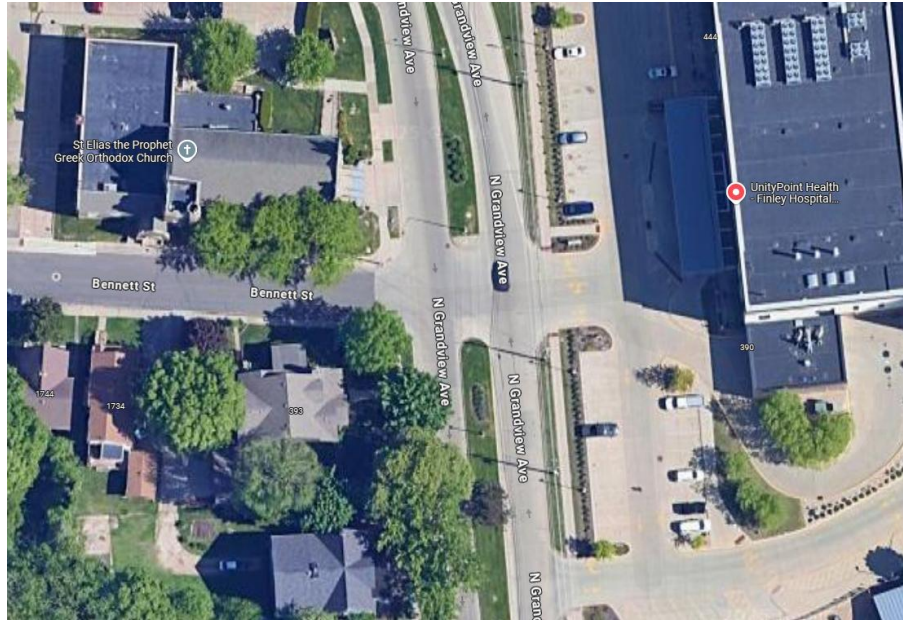


Figure 182: Intersection of Grandview Avenue and Bennett Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and four CO crashes. The manner of collision included broadside (front to side), non-collision (single vehicle), and rear-end (front to rear) crashes. Contributing factors to crashes included failure to yield right-of-way from a driveway, from a stop sign and to non-motorists, being under the influence, and loss of control. This intersection has a KABCO Annual PCR of 0.382142, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Enhance existing signage and markings (Low)
- Add crosswalks and install pedestrian crossing signage (Low)

Locust Street and West 11th Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The location is a primarily residential area. On-street parking and driveways are located near the intersection. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.

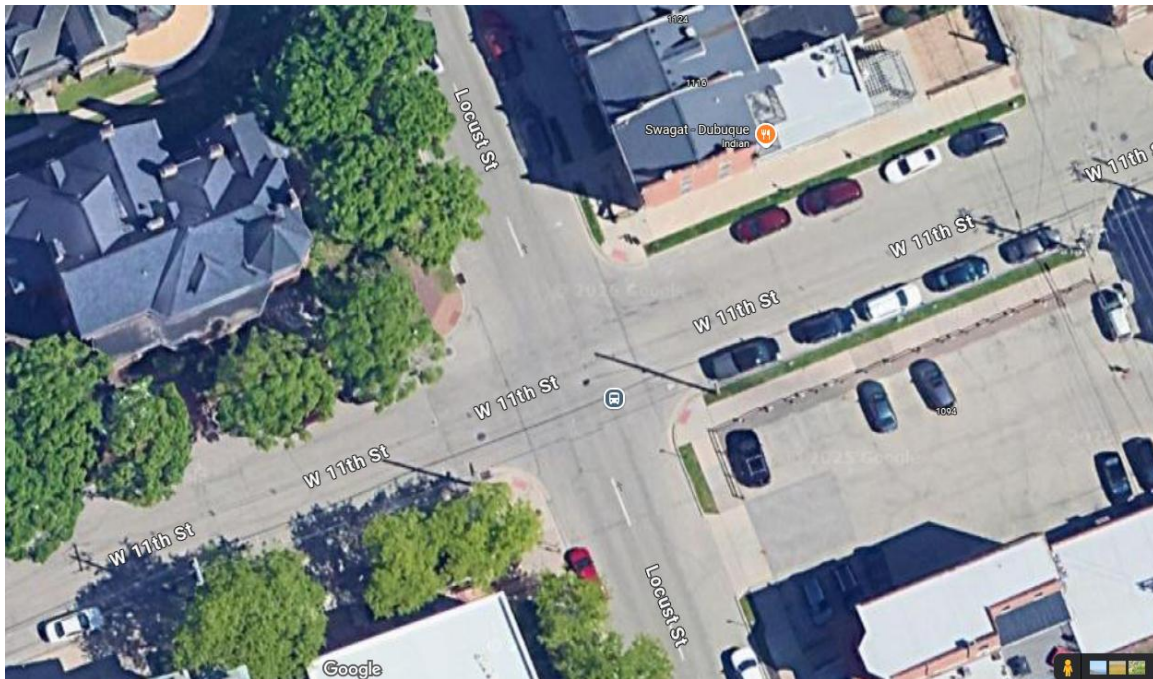


Figure 183: Intersection of Locust Street and West 11th Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crashes and five CO crashes. The manner of collision included sideswipe (same direction), angle (oncoming left turn), head-on (front to front), “other”, and non-collision (single vehicle). Contributing factors to crashes included loss of control, traveling the wrong way/on the wrong side, failure to yield right-of-way from parked positions or while making left turns, improper lane changing, improper turns, traveling the wrong way/on the wrong side, running stop signs, and being under the influence. This intersection has a KABCO Annual PCR of 0.381347, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install larger size signs and retroreflective post strips (Low)
- Enhance pavement markings with stop bars and lane arrows (Low)
- Restrict parking near intersection (Low)
- Increase enforcement of stop-sign compliance and illegal parking (Low/Moderate)

Asbury Road and Cherry Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The area is a mix of residential and commercial. There is a gas station entrance at the intersection, and on-street parking is present. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. No overhead lighting is present.

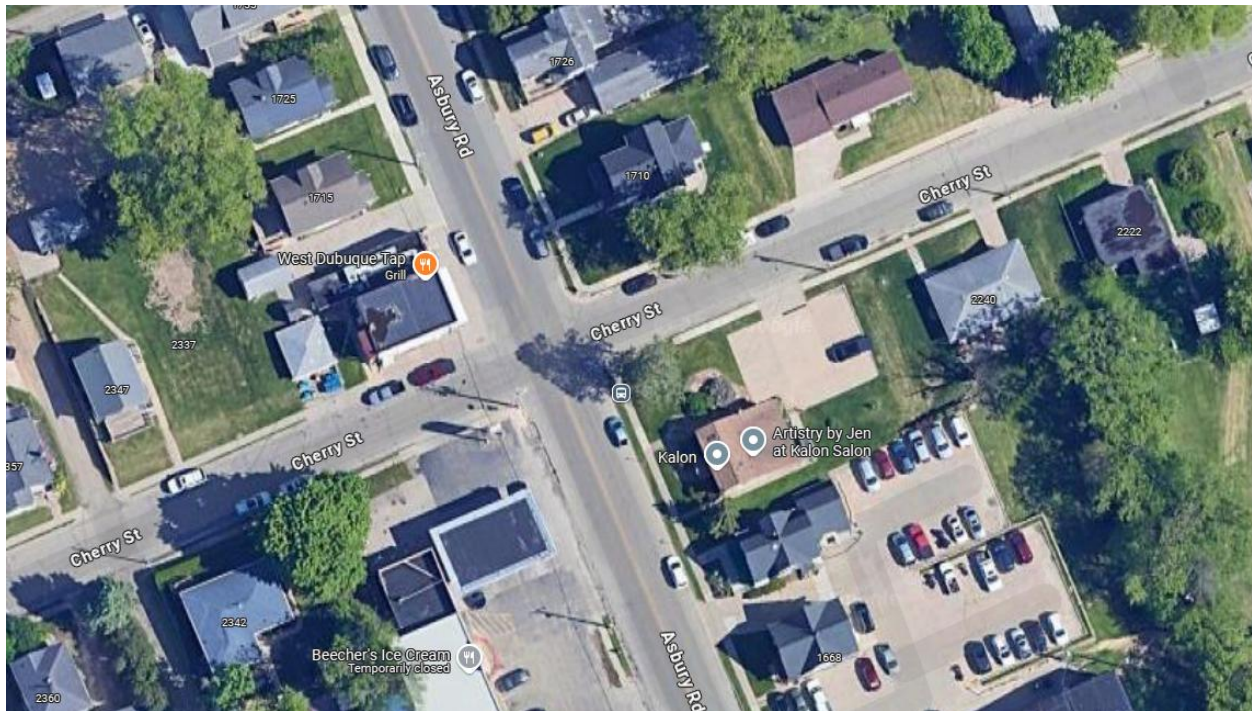


Figure 184: Intersection of Asbury Road and Cherry Street

Crash Summary

Crash reports indicate that nine crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and seven CO crashes. The manner of collision included broadside (front to side), rear-end (front to rear), non-collision (single vehicle), “other”, head-on (front to front), and sideswipe (same direction) crashes. Contributing factors to crashes included running stop signs and failure to yield right-of-way from stop signs or to non-motorists, loss of control, being under the influence, and traveling the wrong way/on the wrong side. This intersection has a KABCO Annual PCR of 0.378332, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install larger size stop signs (Low)

- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Investigate access management options for this location (Moderate)
- Add crosswalks if needed (Low)

Bennet Street and Algona Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection (Google Maps Link). The area is mainly residential, with university-related buildings also located at and near the intersection. On-street parking is present, and there are restricted sight distance and narrow lanes. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.



Figure 185: Intersection of Bennet Street and Algona Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and four CO crashes. The manner of collision included broadside (front to side), sideswipe (same direction), and non-collision (single vehicle). Contributing factors to crashes included running stop signs and failure to yield right-of-way from stop signs, loss of control, being under the influence, making improper turns, and no improper action. This intersection has a KABCO Annual PCR of 0.368373, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install larger size stop signs (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Conduct friction testing and apply high-friction surface treatment (HFST) if needed (Moderate)
- Add crosswalks if needed (Low)

Jackson Street and East 19th Street

This site is a four-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The location is residential, and on-street parking is present. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.

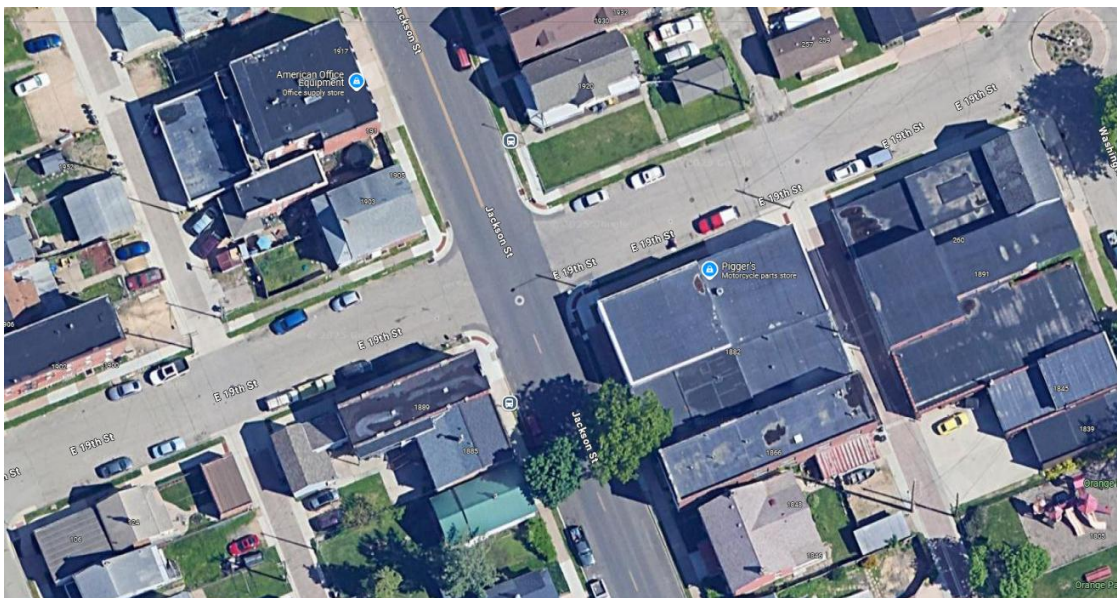


Figure 186: Intersection of Jackson Street and East 19th Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and three CO crashes. The manner of collision included rear-end (front to rear), head-on (front to front), non-collision (single vehicle), and broadside (front to side) crashes. Contributing factors to crashes included loss of control and reckless/erratic driving, traveling the wrong way/on the wrong side, impairment, and failure to

yield right-of-way from a stop sign. This intersection has a KABCO Annual PCR of 0.361591, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Refresh lane markings (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Conduct friction testing and apply high-friction surface treatment (HFST) if needed (Moderate)
- Add crosswalks if needed (Low)

West 17th Street and Iowa Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The area is primarily residential, and on-street parking is present. Pedestrian infrastructure includes sidewalks and curb ramps, but there are marked crosswalks. Overhead lighting is present.

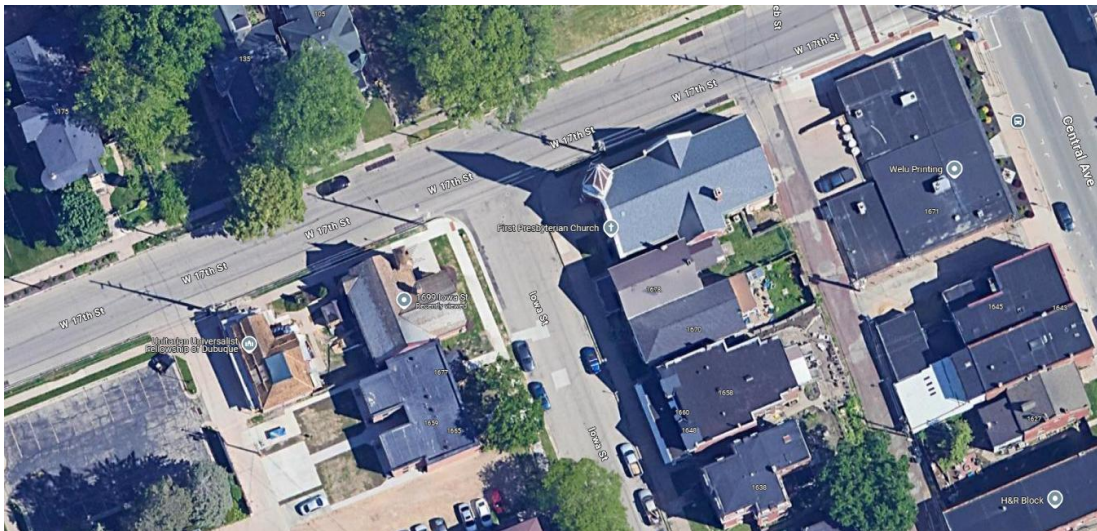


Figure 187: Intersection of West 17th Street and Iowa Street

Crash Summary

Crash reports indicate that five crashes have occurred at this intersection over a five-year period (2018–2022), including zero KAB crashes and five CO crashes. The manner of collision included rear-end (front to rear), broadside (front to side), head-on (front to front), sideswipe (opposite direction), sideswipe (same direction), and “other” crashes. Contributing factors to

crashes included loss of control, running a stop sign, traveling the wrong way/on the wrong side, and failure to yield right-of-way to non-motorists. This intersection has a KABCO Annual PCR of 0.352506, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Refresh lane markings (Low)
- Add red pennants to stop signs to increase conspicuity (Low)
- Conduct friction testing and apply high-friction surface treatment (HFST) if needed (Moderate)
- Add crosswalks if needed (Low)

White Street and West 4th Street

This site is a three-legged, undivided, low-speed, partial stop-control intersection ([Google Maps Link](#)). The south leg of the intersection serves as an entrance ramp to southbound US151. The intersection is located in a commercial area and on-street parking is limited to the north and west approaches. Pedestrian infrastructure consists of sidewalks and curb ramps, and is limited to the north side of the intersection along the north, east and west approaches. Overhead lighting is present.

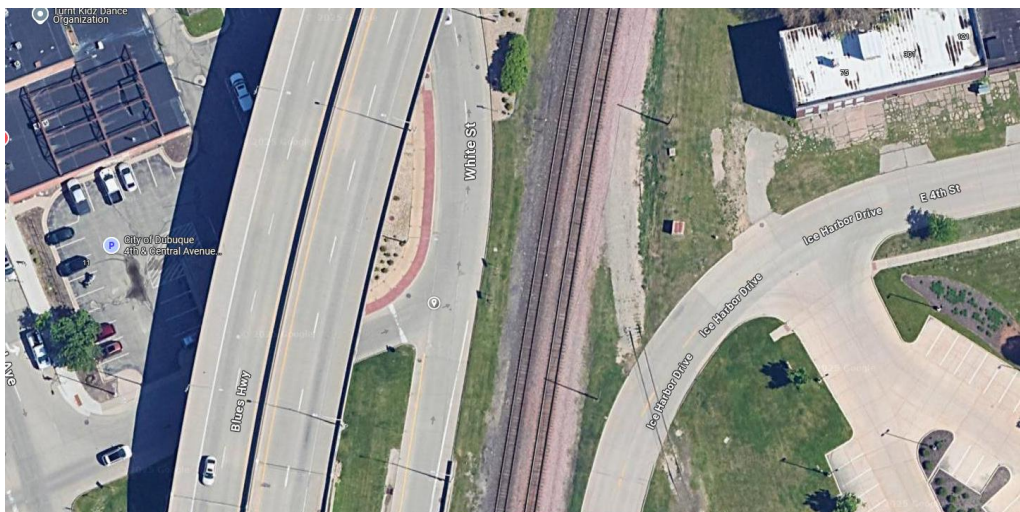


Figure 188: Intersection of White Street and West 4th Street

Crash Report Summary

Crash data from 2018 to 2022 indicates a total of five crashes occurred at this intersection, including one severe (KAB) crash. The manner of collision included sideswipe (same direction),

head-on (front to front), broadside (front to side), and rear end crashes. Contributing factors to crashes included loss of control, failure to yield right-of-way while making a left turn and from a stop sign, and running a stop sign. This intersection has a KABCO Annual PCR of 0.349675, indicating a moderate crash frequency.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety countermeasures are recommended:

- Install larger site stop signs (Low)
- Add crosswalks if needed (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Peru Road and Sheridan Road

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The area is surrounded by residential properties. The intersection lacks curbs, curb ramps, sidewalks and crosswalks. Overhead lighting is present, and the pavement is in good condition.



Figure 189: Intersection of Peru Road and Sheridan Road

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and five CO crashes. The predominant manners of

collision are non-collision (single vehicle) and sideswipe (opposite direction), and head-on (front to front) crashes. The contributing factor to crashes was loss of control, driver distraction, running off the road, and traveling the wrong way. The KAB Annual PCR for the intersection is 0.011479, indicating a low severity level, while the KABCO Annual PCR is 0.344864, which is considered medium. Based on statewide rankings, this intersection is ranked 5,465th for KAB crashes and 3,297th for KABCO crashes out of 115,274 intersections statewide, identifying it as a site of moderate safety concern.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide a stop bar on minor road approach (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

Wilson Street and West 5th Street

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, but lacks marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

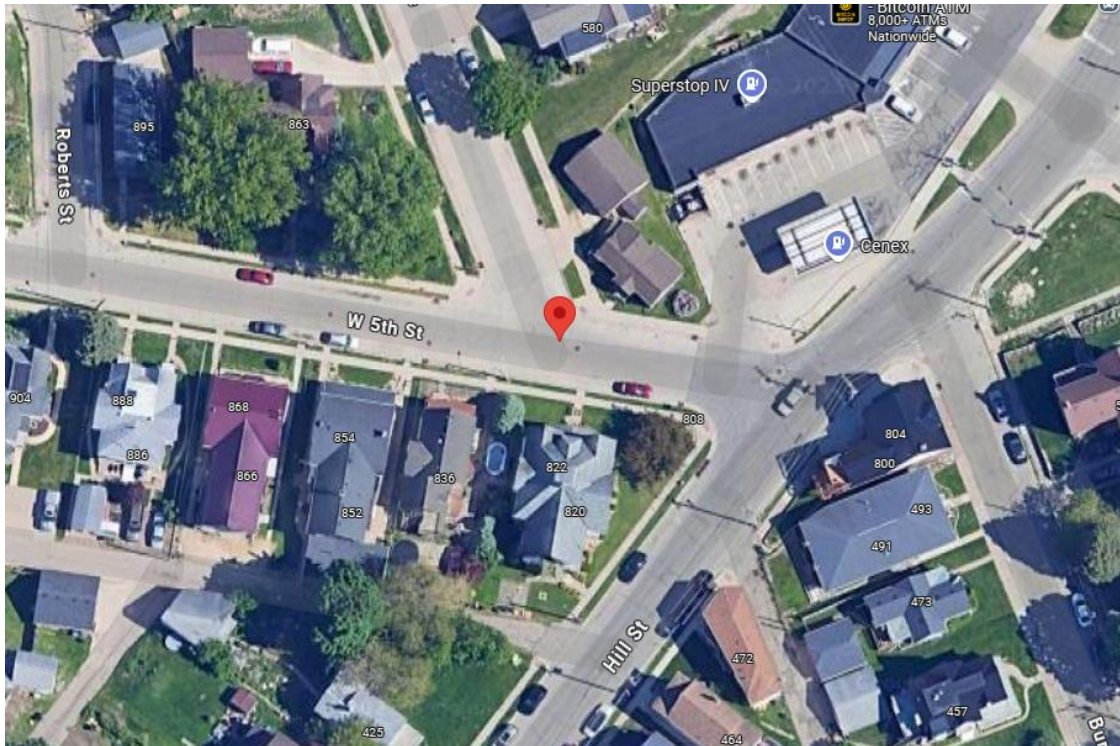


Figure 190: Intersection of Wilson Street and West 5th Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018-2022), including zero KAB crashes and six CO crashes. The predominant manner of collision includes sideswipes in the opposite direction, rear-end, and same-direction sideswipe crashes. The primary contributing factors to crashes are loss of control, driving too fast for conditions, improper backing, and vehicles running off the road to the left. The KAB Annual PCR for the intersection is -0.000432, indicating no severity level, while the KABCO Annual PCR is 0.344316, which is considered medium. Based on statewide rankings, this intersection is ranked 78,717th for KAB crashes and 3,305th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve overhead lighting (Moderate)

Clarke Drive and Grandview Avenue

This site is a four-legged, undivided, low speed, all way stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, sidewalks, and marked crosswalks. The intersection is illuminated, and the pavement is in good condition.



Figure 191: Intersection of Clarke Drive and Grandview Avenue

Crash Summary

Crash reports indicate that 19 crashes have occurred at this intersection over a five-year period (2018-2022), including zero KAB crashes and nineteen CO crashes. The predominant manner of collision is rear end (front-to-rear), broadside (front-to-side), angle (oncoming left turn), head-on (front to front), rear to side, and sideswipe (same direction) crashes, indicating potential issues with driver attention and intersection control. The primary contributing factor to the reported crashes is loss of control, failure to yield right-of-way from stop signs and while making left-turns, running a stop sign, following too closely, and improper backing. The KAB Annual PCR for the intersection is -0.104118, indicating no severity level, while the KABCO Annual PCR is 0.319157, which is considered medium. Based on statewide rankings, this intersection is ranked 114,348th for KAB crashes and 3,472nd for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Be prepared to Stop warning signs (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)

- Education campaign at nearby high school to inform students of predominant crash types and how to avoid them (Low)

Bluff Street and West 11th Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The west approach of the intersection appears to serve more as an alley entrance/exit than a traditional roadway. The intersection is located in a mixed-use area of both residential and commercial land uses. A bus stop is located near the intersection. The intersection features well-defined curbs, curb ramps, sidewalks, and marked crosswalks are present. The area is illuminated, and the pavement is in good condition.

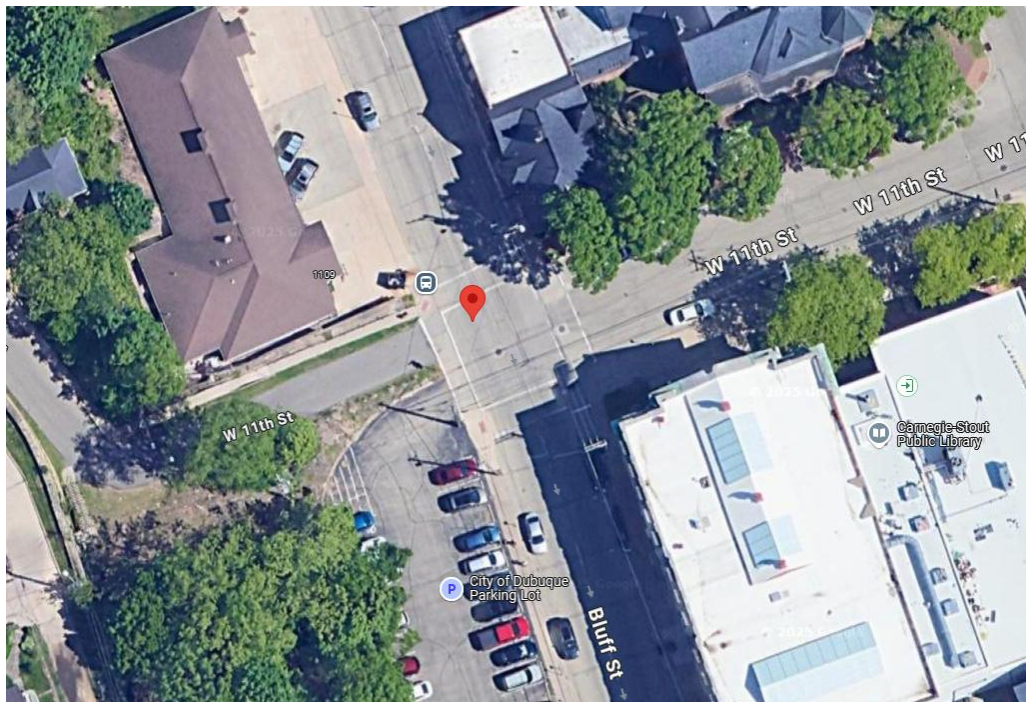


Figure 192: Intersection of Bluff Street and West 11th Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is sideswipe (same direction), head-on, non-collision single vehicle events, and rear-end crashes, suggesting a variety of driver behavior and maneuvering issues. The primary contributing factor to these crashes is lost control, failure to yield right-of-way from parking, and vehicles running off the road to the right. The KAB Annual PCR for the intersection is -0.000706, indicating no severe injury crashes, while the KABCO Annual PCR is 0.317189, which is considered medium. Based on statewide rankings, this intersection is ranked 87,525th for KAB crashes and 3,486th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Restrict or eliminate parking (Low)
- Improve overhead lighting (Moderate)

University Avenue and Auburn Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area comprising residential, educational, and commercial land uses. It features well-defined curbs, curb ramps, and sidewalks. Overhead lighting is present, and the pavement is in good condition. There are no marked crosswalks present.

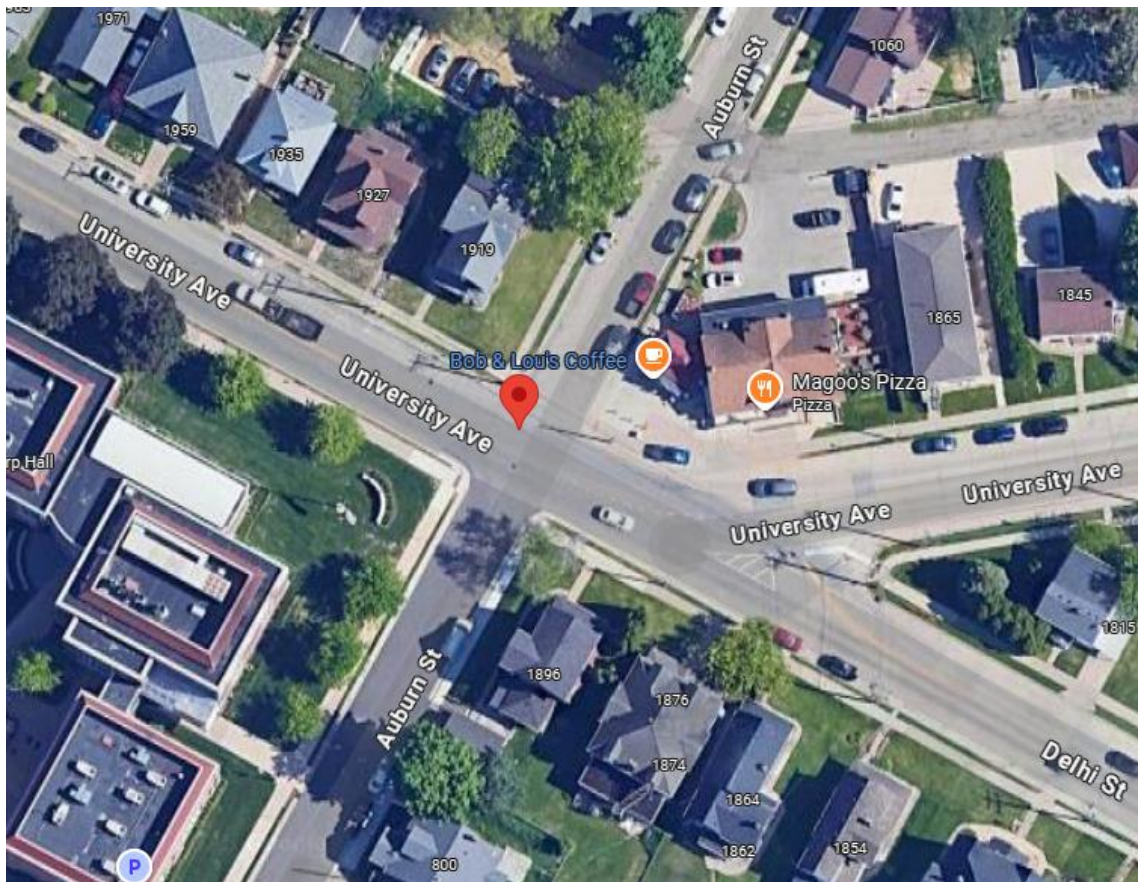


Figure 193: Intersection of University Avenue and Auburn Street

Crash Summary

Crash reports indicate that eight crashes have occurred at this intersection over a five-year period (2018-2022), all of which were CO crashes, with no recorded KAB incidents. The predominant manner of collision is broadside (front-to-side), angle crashes (oncoming left turn), rear-end, and rear-to-side crashes. The primary contributing factor to these crashes is running a stop sign,

failure to yield right-of-way at stop signs and other yielding conditions, improper backing, and loss of control. The KAB Annual PCR for the intersection is -0.047792, indicating no severity level, while the KABCO Annual PCR is 0.294532, which falls in the medium range. Based on statewide rankings, this intersection is ranked 113,260th for KAB crashes and 3,688th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Provide a stop bar on minor road (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide pavement markings with supplementary messages, such as STOP AHEAD (Low)
- Pursue any alternative intersection designs being considered for this location as part of larger University Avenue corridor plans (Moderate/High)

Clark Street, Dorgan Street, Ellis Street and West Locust Street

This site is a five-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks, although there are no marked crosswalks. The intersection is illuminated, and the pavement is in good condition.

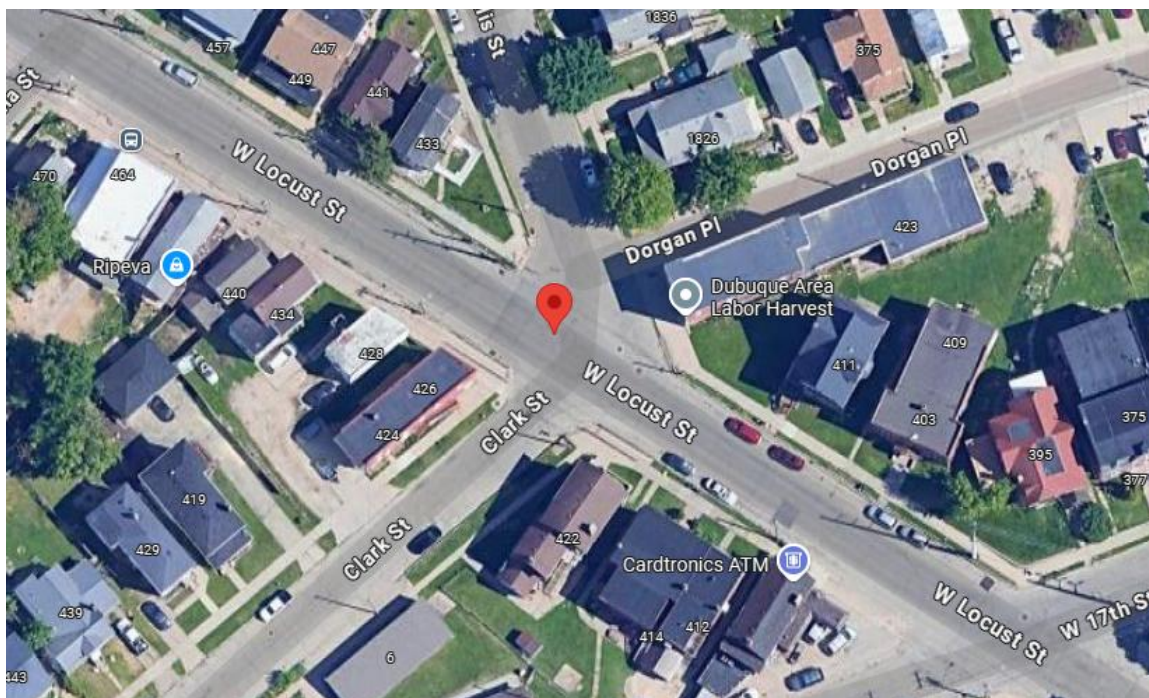


Figure 194: Intersection of Clark Street, Dorgan Street, Ellis Street and West Locust Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), with no KAB crashes and six CO crashes. The predominant manner of collision is rear end (front-to-rear), broadside (front-to-side), rear-to-side, and sideswipe (same direction) crashes, suggesting a variety of driver errors and potential conflicts at the intersection. The primary contributing factor to these crashes is loss of control, driver distraction, failure to yield right-of-way from stop signs, and improper backing. The KAB Annual PCR for the intersection is -0.002581, indicating no significant severity level, while the KABCO Annual PCR is 0.291461, which is considered medium. Based on statewide rankings, this intersection is ranked 101,415th for KAB crashes and 3,719th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Install Be Prepared to Stop warning signs (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide stop bar on minor road (Low)
- Investigate alternative intersection designs or conversion to all way stop control (Moderate/High)

Asbury Road and Crissy Drive

This site is a three-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed commercial and residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. However, there are no marked crosswalks present.

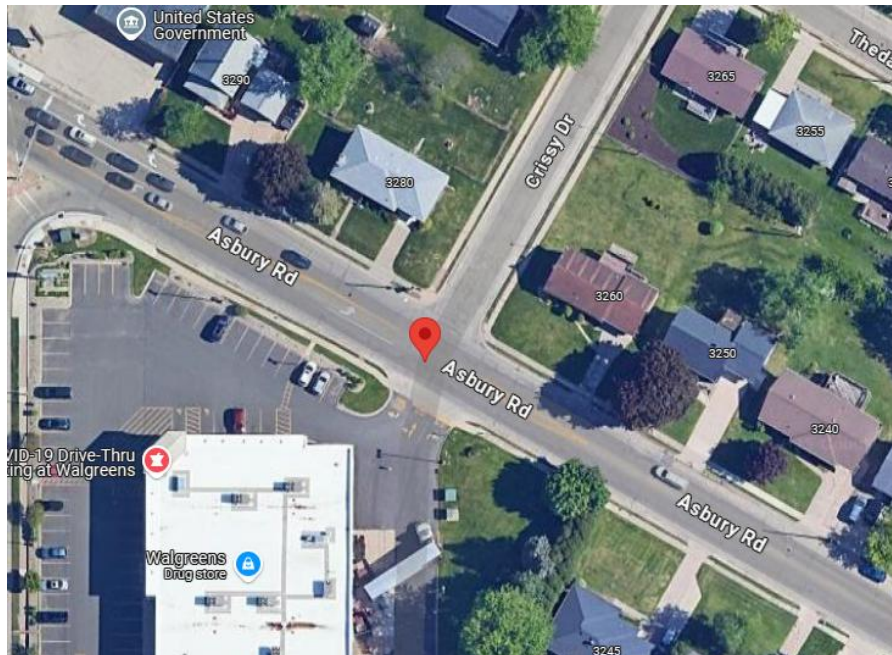


Figure 195: Intersection of Asbury Road and Crissy Drive

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO. The predominant manner of collision is rear end (front-to-rear) and loss of control crashes. Additional contributing factors include driver distraction, following too closely, and running a stop sign. The KAB Annual PCR for the intersection is -0.007877, indicating no severity level, while the KABCO Annual PCR is 0.291141, which is considered medium. Based on statewide rankings, this intersection is ranked 107,752nd for KAB crashes and 3,725th for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Providing enhanced signing and delineation (Low)

Asbury Road and University Avenue

This site is a three-legged, undivided, low speed, all way stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly commercial area. The pavement is in good condition and overhead lighting is present. The intersection features well-defined curbs, curb ramps, sidewalks and marked crosswalks.

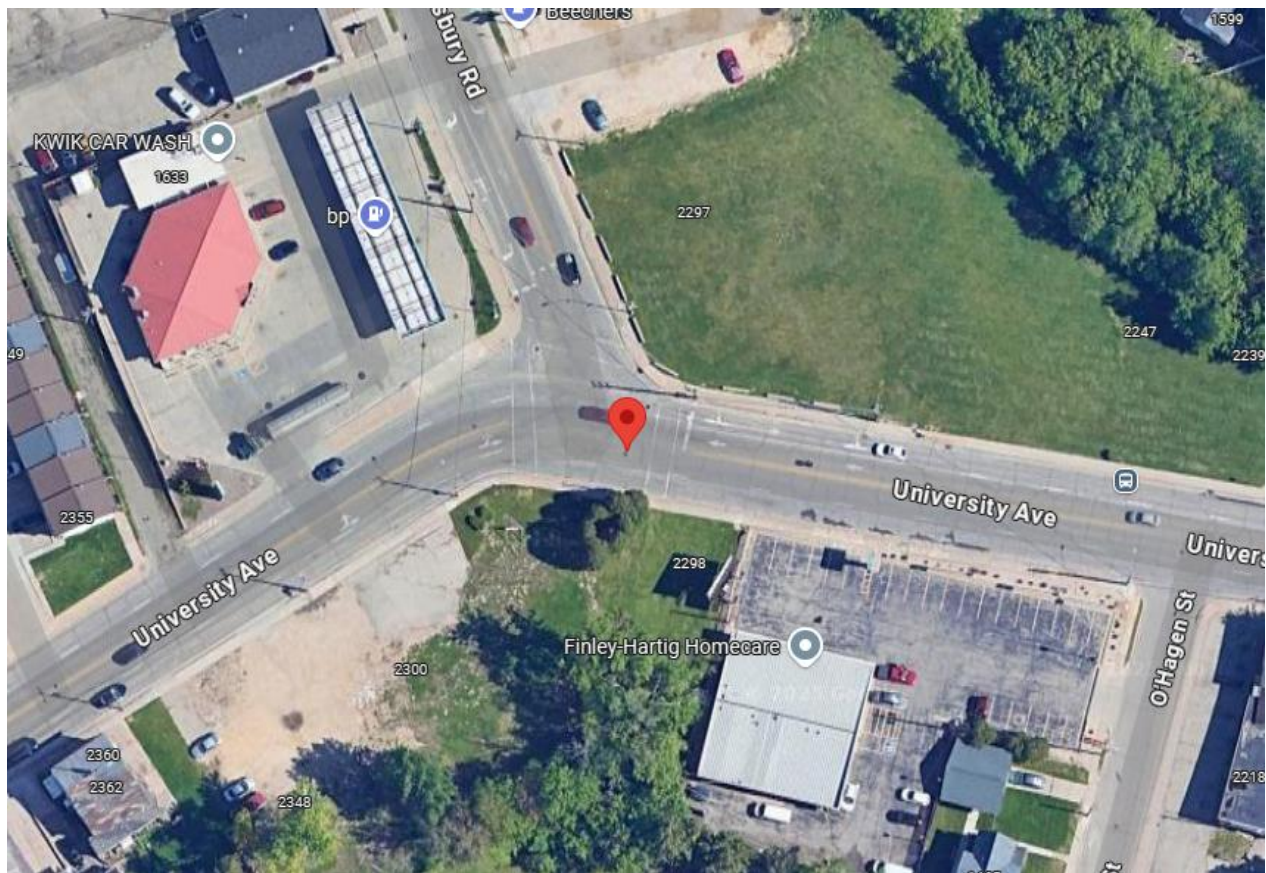


Figure 196: Intersection of Asbury Road and University Avenue

Crash Summary

Crash reports indicate that 23 crashes have occurred at this intersection over a five-year period (2018–2022), all of which were classified as CO crashes. The predominant manner of collision is broadside (front-to-side), followed by sideswipe (same direction), head-on (front to front), rear-end (front-to-rear), angle (oncoming left turn), and non-collisions (single vehicle). These patterns suggest issues related to yielding and driver attentiveness during turning movements and lane changes. The primary contributing factor to these crashes is failure to yield right-of-way while making a left turn, running a stop sign, making improper turns, loss of control, and failing to maintain proper lane positioning. The KAB Annual PCR for the intersection is -0.400453, indicating no recorded severe crashes. However, the KABCO Annual PCR is 0.271397, which falls in the medium range. The statewide rankings for this intersection are 115,220th for KAB crashes and 4,023rd for KABCO crashes out of 115,274 intersections, emphasizing its relative frequency of non-severe crashes.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Cut down the trees on the intersection approach (Moderate)
- Relocate the utility poles; if relocation is not feasible, install retro-reflective tape to poles (Moderate)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Pursue any alternative intersection designs being considered for this location as part of larger University Avenue corridor plans (Moderate/High)

East 13th Street and Jackson Street

This site is a four-legged, undivided, low speed, partial stop controlled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks present.

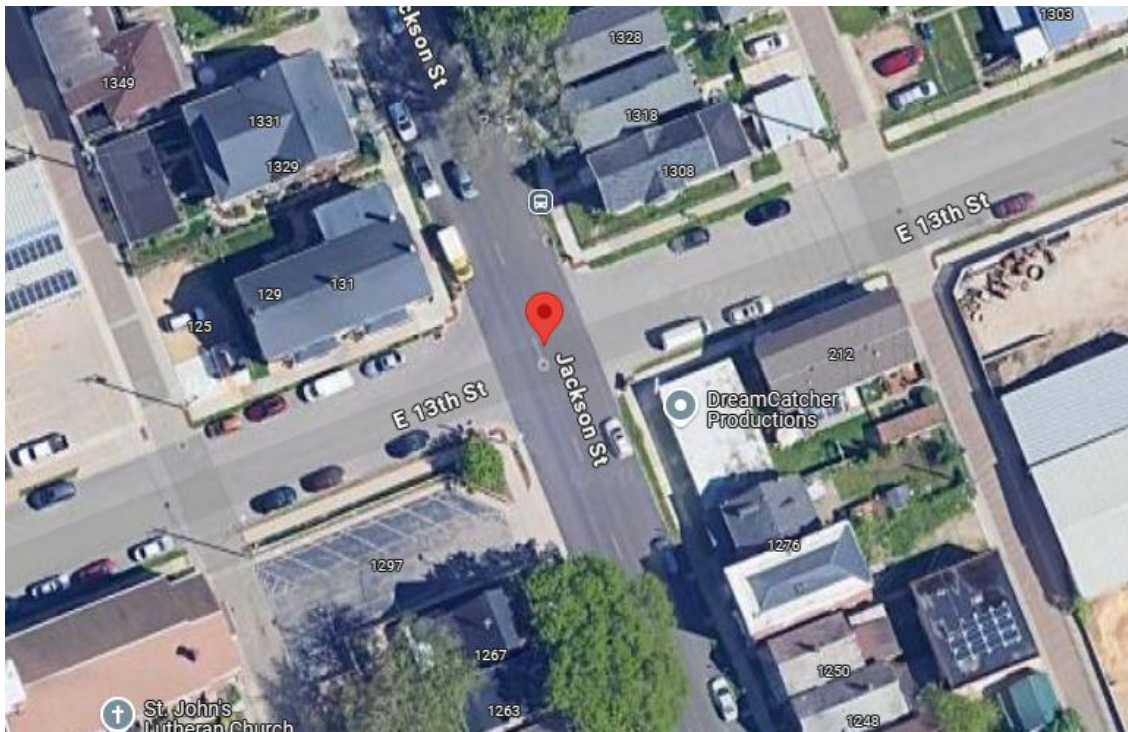


Figure 197: Intersection of East 13th Street and Jackson Street

Crash Summary

Crash reports indicate that six crashes have occurred at this intersection over a five-year period (2018–2022), including one KAB crash and five CO crashes. The predominant manner of collision is broadside (front-to-side) and sideswipe (same direction) crashes, suggesting potential issues with lane discipline and driver attentiveness. The primary contributing factor to the total crashes is running stop sign, failure to yield right-of-way from a stop sign, FTYROW from parking, and loss of control. The KAB Annual PCR for the intersection is 0.033807, indicating a low severity level, while the KABCO Annual PCR is 0.254509, which is considered medium.

Based on statewide rankings, this intersection is ranked 2,192nd for KAB crashes and 4,172nd for KABCO crashes out of 115,274 intersections statewide, identifying it as a location needing attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Cut down the trees at the intersection approach (Moderate)
- Install retro-reflective tape to poles to increase conspicuity (Low)
- Add red pennants or flashing beacons to stop signs to increase conspicuity (Low)
- Provide marked crosswalks if needed (Low)

East 16th Street and Kerper Boulevard

This site is a four-legged, divided, low speed, signalized intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a mixed-use area with commercial development and undeveloped land, and a bike trail is located near the intersection approaches. It features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the pavement is in good condition. There are no marked crosswalks present.

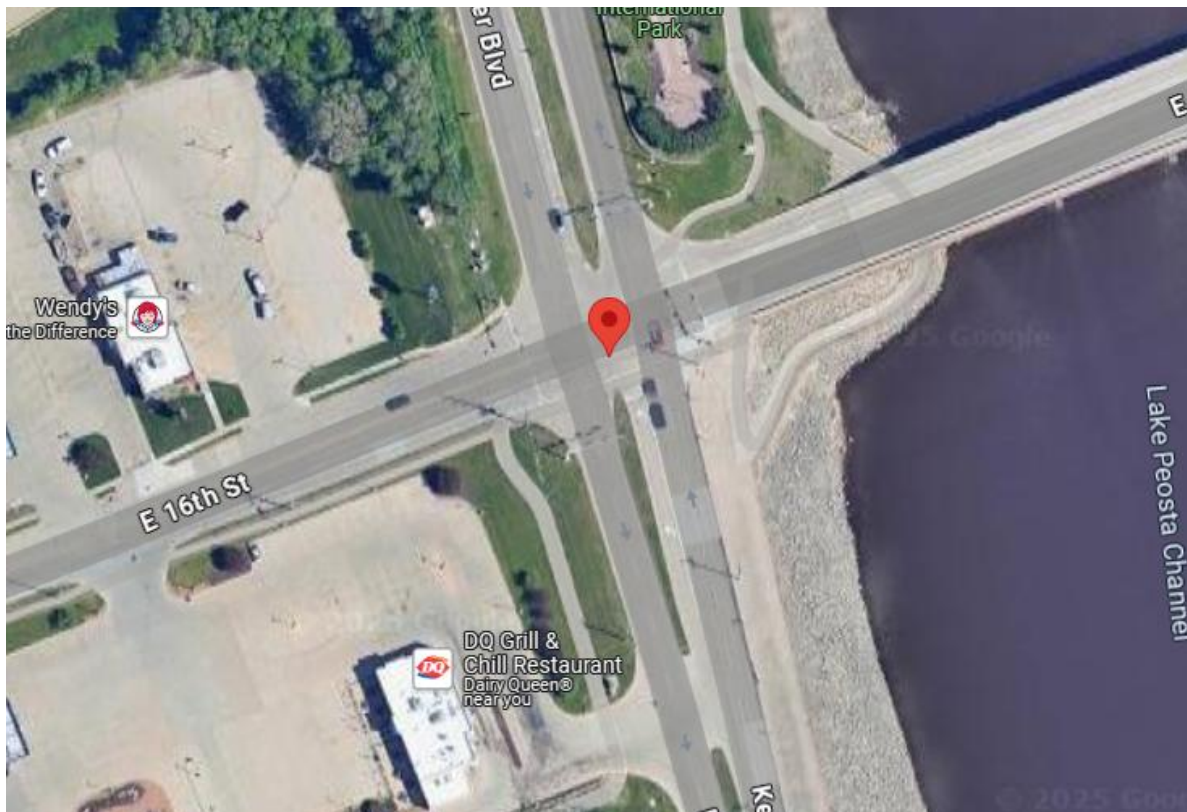


Figure 198: Intersection of East 16th Street and Kerper Boulevard

Crash Summary

Crash reports indicate that 17 crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and fifteen CO crashes. The predominant manner of collision is broadside (front-to-side), rear-end, angle (oncoming left turn), and non-collision (single vehicle) crashes, suggesting issues with right-of-way compliance, turning conflicts, and inattentive driving. The primary contributing factors to KABCO crashes are loss of control and running traffic signal, as well as failure to yield right-of-way while making left-turn, running stop signs, driver distraction, and running off road to the left. The KAB Annual PCR for the intersection is 0.027615, indicating a low severity level, while the KABCO Annual PCR is 0.241418, which is considered medium. Based on statewide rankings, this intersection is ranked 3,273rd for KAB crashes and 4,411th for KABCO crashes out of 115,274 intersections statewide, identifying it as a location that warrants attention.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Determine if changes to the yellow and all-red interval are needed (Low)
- Add pedestrian crossing signals and crosswalks (Moderate)
- Install retro-reflective tape to poles to increase conspicuity (Low)

Farley Street and Lincoln Avenue

This site is a four-legged, undivided, low speed, uncontrolled intersection ([Google Maps Link](#)). It has a medium PCR level for KABCO crashes, indicating the need for attention and potential countermeasures. The intersection is located in a predominantly residential area and features well-defined curbs, curb ramps, and sidewalks. The intersection is illuminated, and the road pavement is in good condition. However, there are no marked crosswalks present.

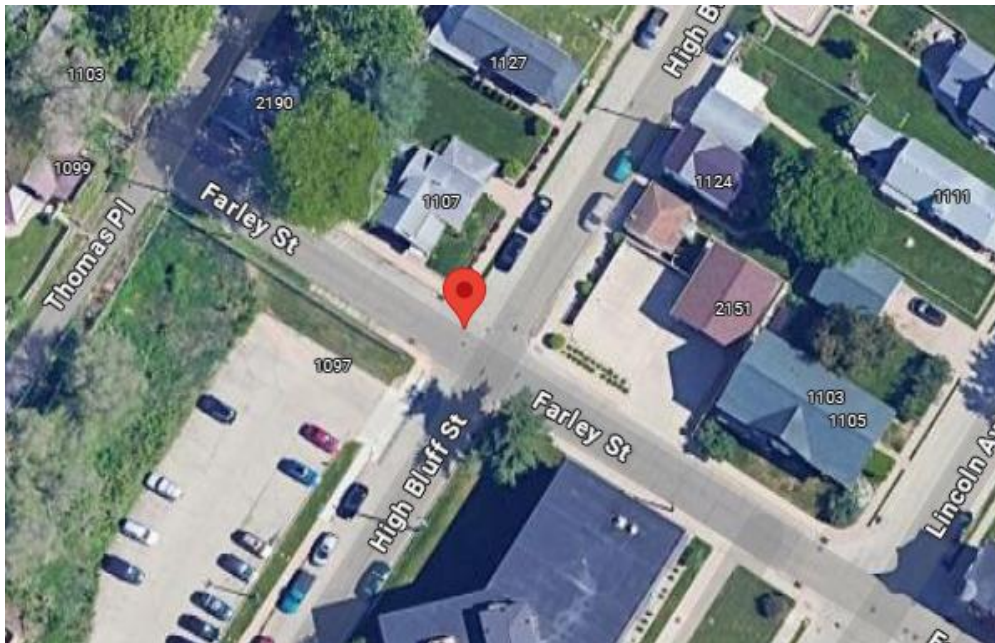


Figure 199: Intersection of Farley Street and Lincoln Avenue

Crash Summary

Crash reports indicate that four crashes have occurred at this intersection over a five-year period (2018–2022), including two KAB crashes and two CO crashes. The predominant manner of collision is broadside (front-to-side), highlighting the risk associated with turning movements or failure to yield at this location. The primary contributing factor to KAB crashes is failure to yield right-of-way at uncontrolled intersections, which led to broadside crashes. The KAB Annual PCR for the intersection is 0.008834, indicating a low severity level, while the KABCO Annual PCR is 0.228186, which is considered medium. Based on statewide rankings, this intersection is ranked 6,205th for KAB crashes and 4,591st for KABCO crashes out of 115,274 intersections statewide.

Potential Safety Improvements

Based on the crash history, contributing factors, and performance data, the following safety improvements are recommended along with their associated cost levels:

- Convert yield to partial stop control if warranted (Low)
- Provide stop bar on minor road approaches (Low)
- Add crosswalks if needed (Low)

Peosta

Enterprise Drive and Peosta Street

This site is classified as a four-leg, undivided, low-speed, partial stop controlled intersection ([Google Map Link](#)). Peosta Street serves as the primary roadway, while Enterprise Drive is the stop-controlled minor street. The intersection has dedicated turn lanes on all approaches, but

parking lot entrances nearby may contribute to traffic conflicts and confusion. The latest available street view images are from 2019, and it is likely that roadway conditions and signage may have changed over time. Sidewalks, curb ramps and crosswalks are provided on the west leg of the intersection. An overhead light is present in the southwest quadrant.



Figure 200: Intersection of Enterprise Drive and Peosta Street (Image: Google Maps)

Crash Summary

This intersection has experienced several crashes in recent years, including one KAB crash and five CO crashes. The primary manner of collision includes sideswipe, broadside, angle, and rear-end crashes. A sideswipe crash occurred under wet roadway conditions on the eastbound (EB) approach, attributed to failure to yield right-of-way (FTYROW) from a stop sign. Two broadside crashes were recorded; one between westbound (WB) and southbound (SB) vehicles, and another between eastbound (EB) and southbound (SB) vehicles. Both of these were due to FTYROW from a stop sign. An angle crash between northbound (NB) and southbound (SB) vehicles resulted from FTYROW while making a left turn. Additionally, a rear-end collision occurred on the westbound approach, caused by following too closely.

The KABCO PCR value for this intersection is 0.402283, indicating a moderate severity level. Speed data shows that 1.4% of vehicles on the southbound and westbound approaches, and 3.2% on the northbound and southbound approaches exceeded the speed limit by at least 10 mph+. This suggests that speeding is not a major issue at this location.

Potential Safety Improvements

Based on the crash history and existing roadway conditions, potential safety improvements that have been identified include:

- Add "Cross Traffic Does Not Stop" plaques on the stop-controlled approaches (Low)
- Install intersection ahead warning signs on the east and west approaches (Low)
- Add flashing beacons to stop signs or use LED border signs (Low)
- Extend turn lane pavement markings on the south approach to better delineate the respective lanes as they enter the intersection [Current markings halt “short” of the intersection] (Low)
- Consider conversion of the intersection to a roundabout (High)

These countermeasures aim to enhance driver awareness, improve traffic control, and reduce the risk of crashes at this intersection.

US 20 and Cox Springs Road

The site is a four-legged, partial stop controlled intersection ([Google Map Link](#)). The roadways meet at a 90-degree angle, with US 20 being a divided highway. The approaches on Cox Springs Road are stop-controlled with Stop signs. The speed limit on U.S. 20 is 65 mph, while the north approach of Cox Springs Road is 35 mph and the south approach is 55 mph. Channelized left turn lanes are present on both legs of U.S. 20, along with a right turn lane on the east leg. Aside from being identified during the screening process, this intersection was cited during a meeting with the city as one of concern.



Figure 201: Intersection of US 20 and Cox Springs Road (Image: Google Maps)

Crash Summary

This intersection has experienced several crashes in recent years, including four KAB crash and 12 CO crashes. The primary manner of collision includes sideswipe, broadside, angle, rear-end, sideswipe, and single vehicle crashes. Nine crashes involved combinations of southbound and westbound vehicles. At least six of these crashes involved failure to yield right of way by a southbound vehicle. In other instances, no crash cause was reported. Single vehicle crash causes involved loss of control while trying to avoid an object on the roadway, and driver distraction.

The KABCO PCR value for this intersection is 0.174879, indicating a high severity level while the KAB PCR value is 0.114571, which is a medium level. Speed data shows that 9.4% of eastbound and 10.2% of westbound vehicles on US 20 exceeded the speed limit by at least 10 mph+. This suggests that speeding is a contributing factor to crashes at this site.

Potential Safety Improvements

Based on the crash history and existing roadway conditions, potential safety improvements that have been identified include:

- A study could be performed to determine whether there is a sight distance problem for stopped traffic on the north approach of the intersection looking to the east (Low)
- If a sight distance issue exists, an intersection warning sign could be installed on the east approach. A similar sign could be added to the west approach also (Low)
- If increased conspicuity is desired, pennants or flashing beacons could be added to these signs (Low)
- Installation of an Intersection Collision Warning System (ICWS) could be considered (Medium)
- Stop or Yield signs could be added to the intersection median at the discretion of the DOT (Low)
- Pennants and/or reflective post strips could be added to the stop signs to increase conspicuity. Alternatively, flashing beacons could be added to the signs (Low)
- A destination light could be added at the intersection to provide approaching traffic a visual cue of the presence of the intersection at night.

These countermeasures aim to enhance driver awareness, improve traffic control, and reduce the risk of crashes at this intersection.

Segments

Overview

The section provides a review of roadway segments identified as candidates for safety improvements in the City of Dubuque. No segments from Asbury or Peosta were identified during the crash data analysis as safety candidates. The segments covered in this section are those classified as having High (≥ 0.25) KAB PCR values. [Note: KABCO is defined as K = fatal, A = Incapacitating injury, B = minor injury, C = possible injury, O = property damage only.] Based on the crash trends and existing features of these segments, potential safety countermeasures have been identified that can serve as a starting point for pursuing improvements. Additional sites throughout the city that have High (≥ 1.0) and Medium ($0.20 < 1.0$) PCR values for KABCO crashes are presented in a supplementary appendix to this plan. The same data sources identified in the Intersections section of this plan were employed to conduct network screening.

Dodge Street/US 20 between Century Drive and Old Highway Road

This is an approximately 1.27-mile corridor that travels east-west from Century Drive in the east to Old Highway Road in the west ([Google Map Link](#)). The roadway consists of a five-lane cross section, with two through lanes in each direction and a center, left turn lane at signalized intersections. There is no curb and gutter or sidewalks present for the entire length of the corridor. The speed limit is 50 mph in this segment. The roadway passes through a commercial area with numerous driveway accesses. There are also four signalized intersections with other roadways within the segment. Traffic volumes within this segment are approximately 29,200 vehicles per day.



Figure 202: US 20 corridor between Century Drive and Old Highway Road

Crash Summary

A total of 319 crashes were recorded along this corridor over a five-year period (2018-2022). Crash severities included 1 suspected serious injury, 20 suspected minor injuries, 53

possible/unknown injuries, and 245 property damage only crashes. The corridor experiences a variety of crash types, including rear-end, sideswipe, broadside, and non-collision single-vehicle crashes. Contributing factors associated with crashes included loss of control, following too closely, running traffic signals and driver distraction. The KAB Annual PCR for this segment is 2.56, which is high, while the KABCO Annual PCR is 0.70, which is considered low. This value was ranked 206 among similar segments statewide. Available speed data for the segment indicates that 18.2 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety improvements are recommended:

- Optimize signal timings to reduce red-light running and prevent rear-end crashes (Moderate)
- Conduct red-light enforcement activities at high-risk intersections to deter violations (Low)
- Add retroreflective backplates to increase conspicuity (Low)
- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Implement dedicated left turn phasing at signalized intersections if needed (Moderate)
- Determine friction levels and apply surfacing as needed (Moderate)

Dodge Street/US 20 between Gandolfo Street and Kennedy Road

This corridor spans approximately 1.02 miles, running east-west from Gandolfo Street to John F. Kennedy Road ([Google Map Link](#)). It was identified as a safety review candidate due to high segment-level KAB PCR values. The roadway features a four-lane cross section, with two through lanes in each direction and left-turn lanes at signalized intersections. However, curb and gutter, as well as sidewalks, are not consistently present along the length of the segment. The speed limit is 45 mph. The corridor passes through a commercial area with numerous driveway accesses, and out of six intersections, three are signalized. Traffic volumes vary throughout the corridor, with an expanded AADT of 16,800 vehicles.



Figure 203: Dodge Street/US 20 between Gandolfo Street and Kennedy Road

Crash Summary

A total of 211 crashes were recorded along this corridor from 2018 to 2024. Crash severities included one suspected serious injury crash, 15 suspected minor injury crashes, 40 possible injuries, and 155 property damage only crashes. The corridor experiences a variety of crash types, including rear-end collisions, sideswipe crashes, broadside crashes, and non-collision single-vehicle incidents. Contributing factors to crashes along this corridor include loss of control, following too closely, running traffic signals, and driver distraction. The segment identified ranks 96 out of 5,032 similar segments based on the KABCO Annual PCR of 1.480602. Additionally, the KAB PCR for this segment is 1.042440. Available speed data for the segment indicates that 18.2 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety improvements are recommended:

- Optimize signal timings (Moderate)
- Add backplates with retroreflective borders to improve signal visibility (Low)
- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Conduct public awareness campaigns targeting driver distraction (Moderate)
- Add dedicated left-turn phases if necessary (Moderate)
- Evaluate pavement conditions and apply friction material if needed (Moderate)
- Increase targeted enforcement efforts for aggressive driving, following too closely, and signal violations (Low)

Kelly Lane Corridor

This is an approximately 1.04-mile corridor that travels east-west from Manson Road in the east to Fremont Ave in the west ([Google Map Link](#)). This corridor was identified as a safety candidate to review based on segment-level High KAB PCR values. The roadway consists of a two-lane cross section, with one through lanes in each direction. Curb and gutter, as well as sidewalks, are present for the entire length of the corridor on both sides of the roadway. The speed limit is 25 mph. The roadway passes through a residential area with numerous driveway accesses. Traffic volumes vary throughout the corridor, with an average daily traffic of 7,522 vehicles.

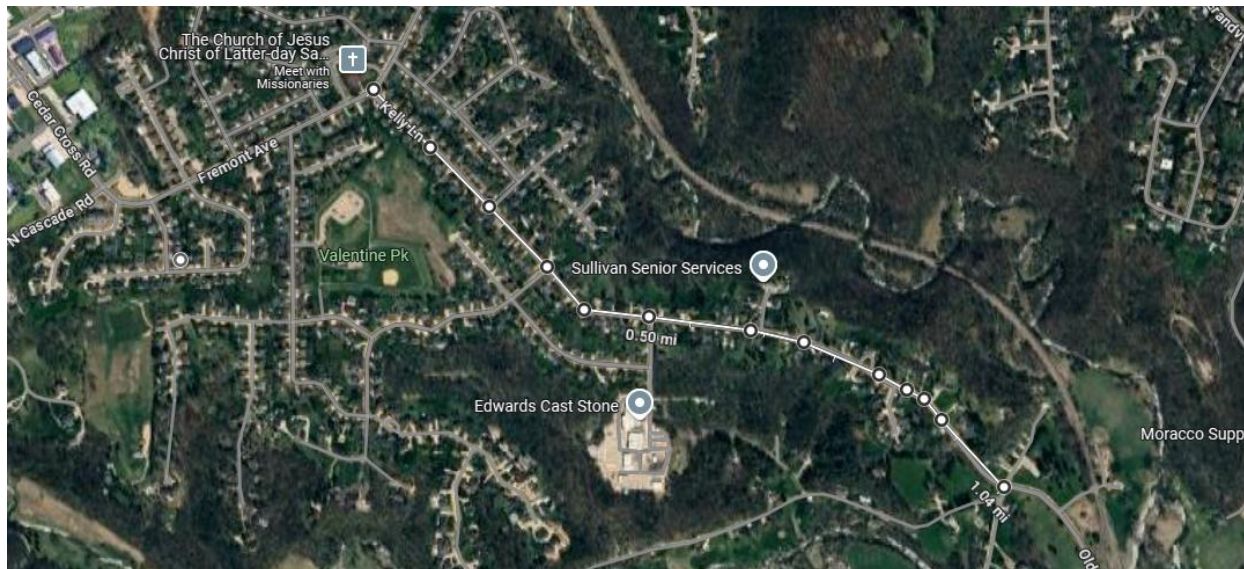


Figure 204: Kelly Lane Corridor (Image: Google Maps)

Crash Summary

A total of 31 crashes were recorded along this corridor from 2018-2024. This included one suspected serious injury, three suspected minor injuries, five possible injuries and 22 property damage only. The corridor experiences a variety of crash types, including non-collision single-vehicle, rear-end, sideswipe (same direction), and broadside. It is interesting to note that 10 of total crashes happened on Monday mostly between evening peak periods. Contributing factors in crashes included loss of control, driver distraction, run off the road to the right, and failure to yield the right-of-way from a driveway. This segment ranks 914th out of 5,032 similar segments based on the KABCO Annual PCR of 0.31, while the KAB PCR for the segment is 0.53. Available speed data for the segment indicates that approximately 35.6 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history, speed trends, and contributing factors, the following safety improvements are recommended:

- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Conduct targeted speed enforcement (Low).
- Evaluate the potential for traffic calming measures, such as raised crosswalks or speed humps (Moderate).
- Consider access management strategies (Moderate/High)

Highway 61 Corridor near Dubuque Regional Airport

This is an approximately 1.0-mile corridor traveling north-south from the Southwest Arterial toward the Dubuque Regional Airport ([Google Map Link](#)). The segment was identified as a safety candidate for review based on segment-level KAB PCR values. The roadway consists of a four-lane divided highway with paved shoulders. The posted speed limit along this corridor is 65 mph. The surrounding land use primarily consists of open rural areas and local farms. Traffic volumes along this corridor average 4,700 vehicles per day.

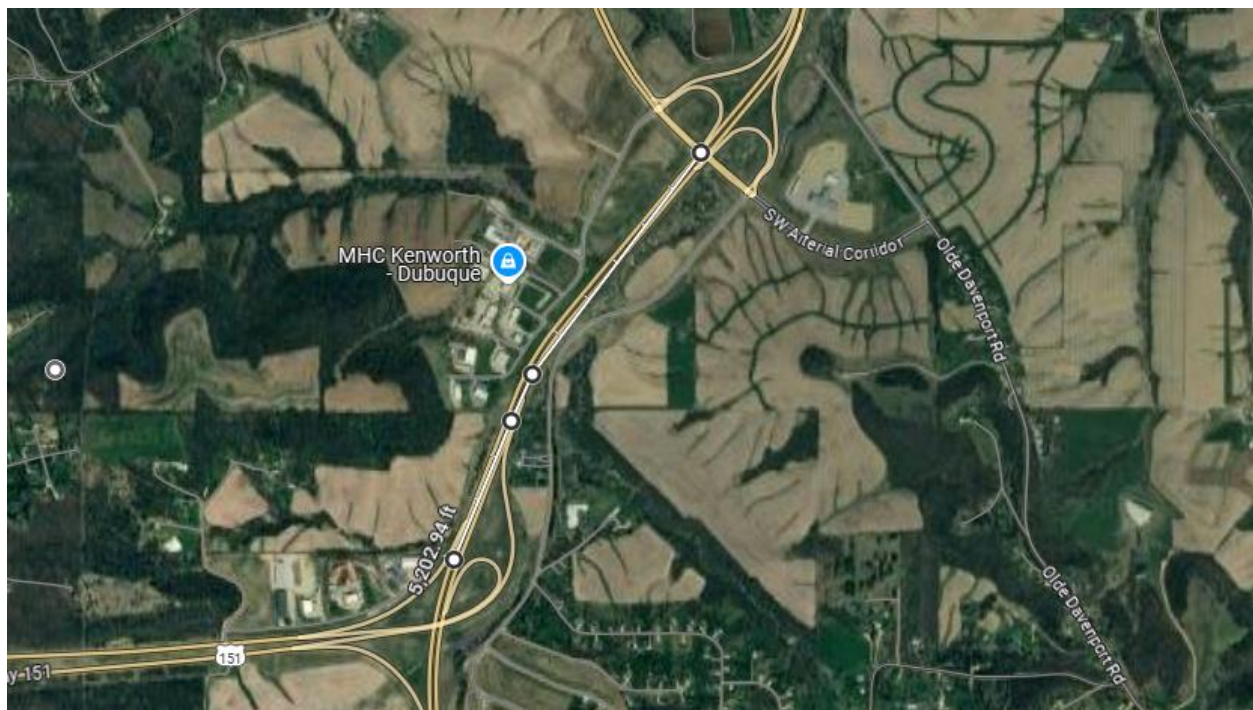


Figure 205: Highway 61 Corridor near Dubuque Regional Airport (Image: Google Maps)

Crash Summary

A total of 57 crashes were recorded along this segment from 2018 to 2024. Crash severities included three suspected serious injury crashes, eight suspected minor injury crashes, seven possible or unknown injury crashes, and 39 property damage only crashes. The majority of crashes were non-collision single-vehicle, along with rear-end and broadside (front-to-side) crashes. Contributing factors in crashes included loss of control, run off the road, and animal-vehicle. This segment ranks 541st out of 5,032 similar segments based on the KABCO Annual

PCR of 0.14, while the KAB PCR for the segment is 0.71. Available speed data for the segment indicates that approximately 3.3 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history, speed trends, and contributing factors, the following safety improvements are recommended:

- Conduct targeted speed enforcement (Low).
- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Install wildlife fencing in high-risk areas (Moderate).
- Consider vegetation management to improve driver visibility (Moderate).
- Measure existing friction levels and apply surface treatments as needed (Moderate)
- Install shoulder rumble strips (Moderate)

Fremont Avenue Corridor

This is an approximately 0.76-mile corridor that travels north-south from Kelly Lane in the south to Simpson Street in the north ([Google Map Link](#)). This corridor was identified as a safety candidate to review based on segment-level High KAB PCR values. The roadway consists of a two-lane cross section, with one through lanes in each direction. Curb and gutter, as well as sidewalks, are present for the entire length of the corridor on both sides of the roadway. The speed limit is 30 mph. The roadway passes through a residential area with numerous driveway accesses. Traffic volumes vary throughout the corridor, with an expanded average daily traffic of 5,041 vehicles.

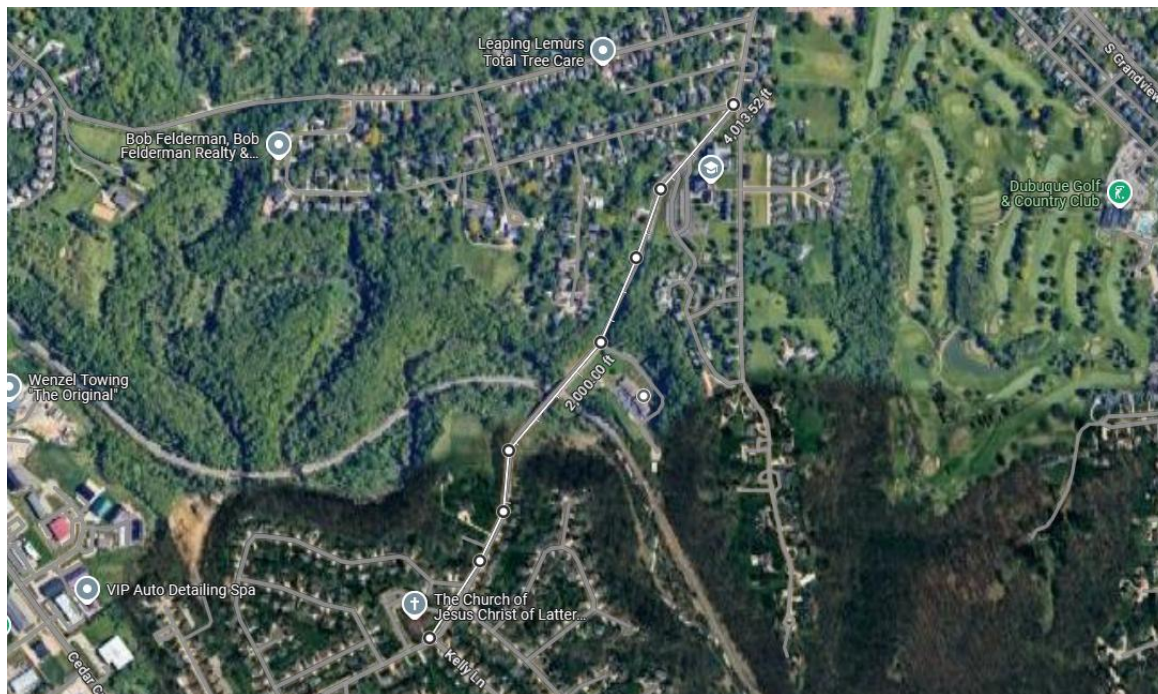


Figure 206: Fremont Avenue Corridor (Image: Google Maps)

Crash Summary

A total of 24 crashes were recorded along this segment from 2018 to 2024. Crash severities included two suspected serious injury crashes, two suspected minor injury crashes, three possible or unknown injury crashes, and 17 property damage only crashes. The predominant crash types included non-collision single-vehicle, rear-end, broadside, and angle (oncoming left turn) crash. It is notable that in two crashes, the first harmful event involved a vehicle striking a building after the driver lost control. Contributing factors in crashes included loss of control, run off the road right, driver distraction, and running stop signs. This segment ranks 914th out of 5,032 similar segments based on the KABCO Annual PCR of 0.31, and the KAB PCR for the segment is 0.53. Available speed data for the segment indicates that approximately 21.5 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history, speed trends, and contributing factors, the following safety improvements are recommended:

- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Conduct targeted speed enforcement during peak hours (Low)
- Evaluate the potential for traffic calming measures, such as raised crosswalks or speed humps (Moderate)

Central Avenue Corridor

This is an approximately 0.72-mile corridor that travels north-south from Kelly Lane in the south to Simpson Street in the north ([Google Map Link](#)). This corridor was identified as a safety candidate to review based on segment-level High KAB PCR values. The roadway consists of a two-lane cross section, with one through lanes in each direction. Curb and gutter, as well as sidewalks, are present for the entire length of the corridor on both sides of the roadway. The speed limit is 30 mph. The roadway passes through a residential area with numerous driveway accesses. Traffic volumes vary throughout the corridor, with an expanded AADT of 10,589 vehicles.

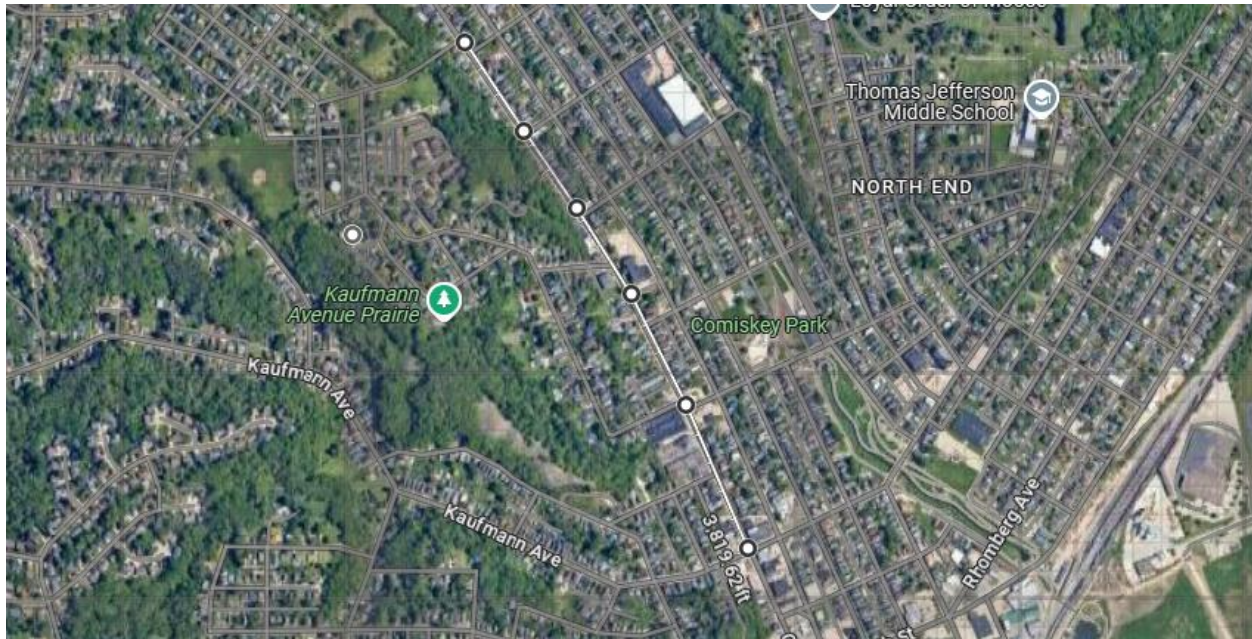


Figure 207: Central Avenue Corridor (Image: Google Maps)

Crash Summary

A total of 139 crashes were recorded along this segment from 2018 to 2024. Crash severities included three suspected serious injury crashes, 12 suspected minor injury crashes, 30 possible or unknown injury crashes, and 94 property damage only crashes. The corridor experiences a variety of crash types, including non-collision single-vehicle, head-on (front-to-front), rear-end, angle (oncoming left-turn), broadside (front-to-side), and same-direction sideswipe. Contributing factors included loss of control, improper or erratic lane changes, improper turns, driver distraction, run off the road right, and running stop signs. This segment ranks 91st out of 5,032 similar segments based on the KABCO Annual PCR of -0.04. The KAB PCR for the segment is 0.53.

Potential Safety Improvements

Based on the crash history, speed trends, and contributing factors, the following safety improvements are recommended:

- Install speed feedback signs (permanent or temporary) to encourage speed compliance in the area (Low)
- Increase law enforcement presence to deter speeding (Low)
- Install additional signage and pavement markings at intersections to improve visibility and compliance (Low)
- Install or enhance roadside barriers to reduce the severity of run-off-road crashes (Moderate)

Chavenelle Road

This corridor spans approximately 1.58 miles, running east-west from Seippel Road to Radford Road ([Google Map link](#)). It was identified as a safety review candidate due to high segment-level KAB PCR values. The roadway features a two-lane cross section, with one through lane in each direction. Curb and gutter, as well as sidewalks, are present along the entire length of the corridor on both sides of the roadway. The speed limit is 30 mph as it approaches the city. Traffic volumes throughout the corridor are moderate, with an annual average daily traffic of 3,011 vehicles. The surrounding land use is primarily commercial and industrial.



Figure 208: Chavenelle Road corridor (Image: Google Maps)

Crash Summary

A total of 211 crashes were recorded along this corridor between 2018-2024. Crashes included one suspected serious injury, 15 suspected minor injuries, 40 possible injuries and 155 property damage only. Primary crash types in this corridor included rear-end, and sideswipe, broadside and non-collision (single vehicle). Contributing factors in crashes included running stop signs, loss of control, running off the road to the left, of failure to yield right of way from driveways, and driver distraction. This segment ranks 2006th out of 5032 similar intersections based on the KABCO Annual PCR of 0.16 and the KAB PCR for this segment is 0.99. Available speed data for the segment indicates that approximately 18.2 percent of vehicles exceed the speed limit by 10 mph.

Potential Safety Improvements

Based on the crash history and contributing factors, the following safety improvements are recommended:

- Optimize signal timing to prevent rear-end crashes and determine if changes to the yellow clearance interval are needed to reduce red-light running (Low/Medium).
- Investigate and implement signal coordination if feasible (Medium).
- Employ high visibility traffic enforcement at high-risk intersections to deter violations (Low)

- Add backplates with retroreflective borders to improve traffic signal visibility (Low).
- Deploy speed feedback signs (temporary or permanent) to encourage speed compliance and reduce higher-speed crashes (Low).
- Employ dedicated left-turn phases where applicable to reduce broadside crashes (Medium).
- Evaluate pavement friction conditions and apply skid-resistant surface treatments in high-risk areas to reduce loss-of-control crashes (Medium).

Vulnerable Road Users

This section describes the factors and the screening process used to identify locations for potential safety improvements for non-motorists (namely bicyclists and pedestrians). Between 2014 to 2023, a total of 351 non-motorist crashes occurred among Iowa cities in the ECIA region, with 170 crashes occurring from 2019 to 2023. The annual frequency of non-motorist crashes is fairly consistent. During both the five and ten-year analysis periods, approximately 76 percent of the non-motorist crashes cited above occurred in the City of Dubuque. In the City of Dubuque, 59 percent of the non-motorists were pedestrians, also representing 80 percent of the fatal and serious injuries between 2019 and 2023.

To best support improvement recommendations, particularly with respect to traditional safety funding opportunities, e.g. Iowa traffic safety improvement program (TSIP), emphasis was placed on site-specific vulnerable road user (VRU) crash experience and outcomes. The network screening performed to identify sites is discussed in the following section. This is then followed by a discussion of the specific sites identified by screening and the prospective countermeasures that could be applied to improve VRU safety.

Network Screening

Iowa DOT Composite Scores

In 2020, the Iowa DOT Systems Planning Bureau released “Statewide Bicycle and Pedestrian Systemic Safety Analysis 2020” (<https://iowadot.gov/iowainmotion/files/Statewide-Bike-and-Pedestrian-Safety-Analysis.pdf>). The purpose of this analysis was to “gain a better understanding of the crash risk of particular roadway and intersection features for pedestrians and bicyclists in Iowa”, with the goal of facilitating more efficient use of resources. Several datasets, including crash data (2009 to 2018), roadway and jurisdictional data and intersection data, were utilized to develop composite risk scores for every intersection and segment in Iowa. Attributes considered in both segment and intersection analyses included: average annual daily traffic (AADT), number of lanes and speed limit. Median type, parking type (urban only), shoulder type, shoulder rumble and shoulder width were also considered in segment analysis, while intersection analysis included intersection angle, intersection type, number of legs and traffic control. Composite scores were segregated by user type (pedestrian, bicyclist), facility type (intersection, segment) and location (urban, rural). Composite scores were presented in an interactive web map (<https://iowadot.maps.arcgis.com/apps/Cascade/index.html?appid=a47f7eacb1f04f21b4116ba1aac80b45>) as well as downloadable GIS datasets.

The following roadway characteristics were associated with the both urban segments and intersections with the highest risk to non-motorists.

- Speed limits between 25 and 35 mph
- Traffic volumes more than 3,000
- More than five lanes

Additional higher risk segmental characteristics included diagonal parking and hard surface medians without barriers. At intersections, five or more entering legs and skew angles of between 45 and 90 degrees also increased risk.

The Iowa DOT is currently (2025) updating the aforementioned analysis, but the results are not yet available. Most recently, the Iowa DOT published “Iowa’s Vulnerable Road User Safety Assessment” (https://iowadot.gov/traffic/pdfs/Iowa-VRU-Safety-Assessment_Final_Report.pdf), which was a requirement of the Bipartisan Infrastructure Law. The assessment reviewed and highlighted statewide safety challenges and identified specific projects. It also leveraged the “Statewide Bicycle and Pedestrian Systemic Safety Analysis 2020”. Several projects in high-risk rural and urban locations were identified; however, no projects were within the ECIA region.

Unfortunately, due to a lack of comprehensive asset inventory, the analysis was unable to take into consideration the presence of absence of various VRU-related safety features, such as dedicated facilities (sidewalks, paths, bike lanes), crosswalks, traffic control devices, signing and markings.

The urban composite risk scores were used to identify the highest risk (top 20 percent) intersections and segments for pedestrians and bicyclists in the system. These locations were then spatially integrated with the 2014 to 2023 non-motorist crashes for network screening.

Crash Proximity

To identify localized areas of high non-motorist crash density, non-motorist crashes (2014 to 2023) were spatially grouped using a 250 feet spatial proximity. A distance of 250 feet was utilized because it is consistent with the general distance used for intersection crash analysis and is also reasonable to apply to segments, as groupings may be extended longitudinally and cumulatively beyond 250 feet. Crashes were then classified based on whether their general area grouping (defined by the ten-year period) was also represented in the most recent years of data.

School Proximity

Public and private school locations obtained from the Iowa Open Data portal were spatially integrated with the 2014 to 2023 non-motorist crashes for network screening. Distances of both 0.25 miles (typical for safe routes to school assessment) and 0.5 miles were employed. School locations and operational status were not verified.

Composite Screening

Screening was prioritized based on how many of the following qualifying criteria were satisfied.

- High urban intersection composite risk – pedestrians
- High urban intersection composite risk – bicyclists
- High urban segment composite risk – pedestrians
- High urban segment composite risk – bicyclists
- Part of crash grouping (ten-year analysis period)
- Part of crash grouping (five-year analysis period)
- Proximity to public school – 0.25 miles

- Proximity to public school – 0.5 miles
- Proximity to private school – 0.25 miles
- Proximity to private school – 0.5 miles

Overlap may exist among criteria, e.g. crashes within 0.25 and 0.5 miles of a school. Screening hierarchy was established based on crash year, crash grouping (more than one crash within five-year analysis period) and the total number of conditions satisfied, with the maximum being ten. In general, locations satisfying at least seven criteria were reviewed.

Given the limited number of fatal crashes, all sites involving a non-motorist fatal crash were included in the review. Some discretion was also used as other potential locations of interest became apparent during the review process or through discussions with local agencies. This section may not address all areas with possible safety concerns or opportunities for improvement.

Some of the sites presented in this section may also be discussed as part of the potential crash reduction (PCR) screening process. However, this section focused only on non-motorist crash experience.

Asbury

Intersection of Asbury Road and Radford Road

The intersection of Asbury Road and Radford Road is three-leg intersection, with Radford Road terminating at Asbury Road. The general area is a mix of commercial and residential. A daycare is located on the southwest corner of the intersection. Radford Road has left and right turn lanes leading to Asbury Road and a single through lane departing Asbury. Edge lines are offset from the curbs in both directions of travel. Sidewalks are also located in both sides of Asbury. A crosswalk with pavement markings is located across Radford Road. The Radford Road traffic volume is approximately 5,500.

Asbury Road has one through lane in each direction of travel and a two way left turn lane. A crosswalk is located across the west approach of Asbury Road only, including pavement markings signing (at the crosswalks and in advance) and an activation button, which activates amber lights. Sidewalks are present on both sides of Asbury. The east approach along Asbury Road has the major AADT of approximately 16,300.

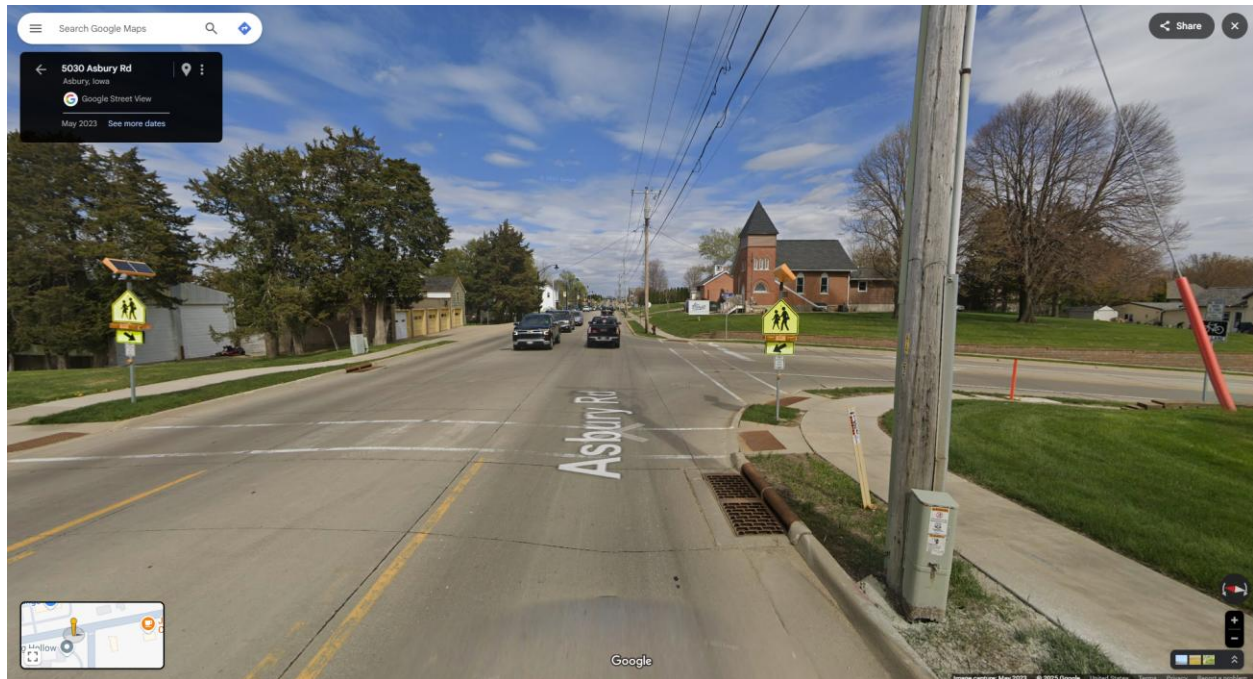


Figure 209: Asbury Road Approach to Radford Road (Image Source: [Google](#))

Several crashes occurred at this intersection during the analysis period. A bicycle crash, involving a northbound vehicle, occurred at/near this intersection in September 2021. A second non-motorist crash happened in August 2021, involving a five-year-old pedestrian (who was seriously injured) and two vehicles (eastbound and westbound). In 2017, multiple pedestrians were struck by a right turning, northbound vehicle that failed to yield to the non-motorists.

While improvements are already planned at this intersection, additional considerations, prior to these improvements may include the following.

- Install a more traditional rectangular rapid flashing beacon (RRFB) at the current Asbury Road crossing.
- Given crash experience involving northbound vehicles, add pedestrian signing along Radford Road in advance of the intersection and at the intersection.

Dubuque

Fatal Crash Locations

Bell Street between E 3rd Street and E 6th Street

Bell Street between E 3rd Street and E 6th Street is located at the Port of Dubuque and has intermittent high pedestrian traffic due to the many attractions in the area, including a casino and resort located on each side of Bell Street. Vehicular traffic at this location is approximately 2,400 vehicles per day and has a speed limit of 25 mph. The road has two through lanes with no on-street parking. Continuous lighting is also present along the roadway. Two major driveways are located on the west side of Bell Street serving the casino and public parking. A directional driveway is located on the east side of Bell Street, serving the resort.



Figure 210: Bell Street at Port of Dubuque (Image Source - [Iowa Geographic Map Server](#))

Two non-motorist crashes occurred along this corridor in recent years – both at driveways. At 11:48, January 21, 2022, a pedestrian was crossing one of the driveways near the parking structure was struck and killed by a right turning vehicle that did not yield right of way. While this crash may have been a random event, the driveways serve high traffic generators. A similar, driveway-related crash happened at 20:02 on October 5, 2021 along Bell Street. Specifically, a left turning vehicle struck a pedestrian crossing a driveway. The figure below shows a pedestrian crossing these driveways.



Figure 211: Bell Street Pedestrian Evidence near Resort Driveway (Image Source: [Google](#))

While the speed limit along Bell Street is generally consistent with safe pedestrian speeds, the high pedestrian and turning vehicle traffic may warrant alerting motorists to pedestrian activity. Potential countermeasures may include the following.

- Install transverse crosswalk pavement markings at driveways, connecting approaching sidewalks to improve conspicuity.
- Improve lighting at the driveways.
- Install W11-2 pedestrian signs in advance of the driveways. While the Manual on Uniform Traffic Control Devices notes that these signs are traditionally used to “alert road users in advance of locations where unexpected entries into the roadway might occur or where shared use of the roadway by pedestrians, animals, or equestrians might occur”, placement near the driveways may increase motorist awareness to possible non-motorist presence in general.
- Consider hardened centerlines at the driveways to reduce left turn speeds.

Intersection of NW Arterial and Holliday Drive

The intersection of NW Arterial and Holliday Drive is three-leg, with Holliday approaching from the west. The intersection is signalized with two through lanes along both NW Arterial approaches, an offset left turn lane on the northbound approach and dedicated right turn lane on the southbound approach. A painted median is present along the northbound approach and becomes a physical median north of the intersection. NW Arterial also has unpaved shoulders. Holliday Drive has one westbound through lane and dedicated right and left turn lanes. The NW Arterial carries approximately 9,000 vpd at this location, while the AADT along Holliday Drive is approximately 4,300.

A shared use trail runs parallel along NW Arterial on the west side of the roadway. The trail crossing on Holliday Drive is approximately 80 feet from the NW Arterial right turn lane edge line. Pedestrian signal heads and activation buttons are located along the west side of NW Arterial, but are more than 60 feet from the shared use trail. Bicycle warning signs are located along the southbound arterial approach. Similar signage is located westbound and eastbound along Holiday Drive in advance of the trail. The crossing is also designated with pavement markings.



Figure 212: Westbound Holliday Drive at NW Arterial (Image Source: [Google](#))

A fatal pedestrian crash occurred at this location at 21:02 on July 28, 2018. The vehicle was northbound on NW Arterial turning left onto Holliday Drive. The pedestrian was reported as crossing improperly. This location satisfied five of the evaluation criteria. While crash experience is limited at this location, non-motorist safety improvements are possible.

- The current signal heads and activation buttons could potentially be relocated closer to the trail crossing to improve ease of use by non-motorists. However, prior to relocating this hardware, possible future development of the land east of NW Arterial should be investigated.
- Another alternative is installation of a rectangular rapid flashing beacon (RRFB) near the trail crossing. An RRFB at this location may better alert drivers of crossing non-motorists, particularly left turning vehicles from NW Arterial to Holiday Dr.
- Consider additional warning signs at/near the northwest quadrant of the intersection, facing south. While such placement would likely be unconventional, possible locations could be the following.
 - The roadside of the northwest quadrant, avoiding impacting southbound, right turning sight lines but within the sight line of left turning vehicles.

- Backing the southbound (north facing) warning signs with the same signing combination (W11-15, W11-15P and W16-9P) but facing south.

Other Screened Locations

Grandview Avenue near George Washington Middle School

Grandview Avenue is a low speed, multilane divided road, carrying approximately 5,800 vpd at this location. A midblock, marked midblock crosswalk is located approximately 250 feet from the north leg crosswalk at the intersection Grandview Avenue and the westbound Dodge Street (US 20) ramp. Sidewalks are located on both sides of the road. A physical median is present that can serve as refuge for crossing non-motorists. As shown in the image below, this crosswalk is not clearly visible from the intersection when traveling north, which is approximately 300 feet away.



Figure 213. Intersection of Grandview Avenue and Dodge Street Ramp, Northbound (Image Source: [Pathweb](#))

Furthermore, the northbound pedestrian crossing sign is obscured by trees until approximately 85 feet prior to the crossing. Even at this distance, the sign is partially obscured. The southbound pedestrian crossing sign is also obscured by trees, but to a lesser extent.

In general, the Grandview Avenue corridor south of the Grace/Delphi intersection has a physical median, one through lane in each direction, intermittent on-street parking on the right and transit stops, such as near W 3rd Street. Sidewalks are present on both sides of the road. A hospital is located at the intersection with Grace/Delphi. With the exception of the midblock crossing at the middle school, there are no other marked crosswalks across Grandview between Grace Street and Dodge Street. Non-motorist crossing may be expected, particularly related to the transit stops.

The cross-section of the Grandview corridor is fairly consistent from the Grace/Delphi intersection to the Southern Avenue intersection, which is approximately 1.5 miles long. A following section will discuss another location, Grandview Avenue at the US 61 interchange, in more detail.

This area near the middle school was identified by a grouping of four non-motorist crashes during 2014 to 2023. Nine of ten screening criteria were satisfied. Three pedestrian crashes occurred immediately adjacent to George Washington Middle School. They involved school age children (11, 12 and 13 years old). Two occurred during the seven o'clock hour, and one occurred at near 3:00 pm. All were during the academic school years of 2018, 2020, 2021. Two

of the pedestrians were “darting/dashing” while the other had was reported as having no improper action (the vehicle disregarded signs/road markings). All crashes involved northbound vehicles.

Although it occurred beyond the general five-year analysis period, in 2015, a westbound vehicle made an improper right turn and struck a bicyclist at the intersection of Grandview Avenue and Dodge Street. The traffic along Dodge Street ranges from 2,900 to 4,800 vpd at the intersection.

Lastly, two additional young non-motorist crashes (11 and 14-year-old) occurred along the Grandview corridor north of George Washington Middle School. One at the intersection of W 3rd Street (January 5, 2023 at 7:15) and the other at the intersection of Bennet Street (October 30, 2018 at 14:35). Both children were struck within crosswalks by southbound turning vehicles that failed to yield right of way – left turning at W 3rd Street and right turning at Bennet Street. The Bennett Street crosswalk is unmarked while the W 3rd Street crosswalk has markings on the pavement. As noted previously, there are no pedestrian crosswalks across Grandview between the Grace/Delhi roundabout crosswalk and midblock crosswalk at the school.

Given the proximity to the middle school and evidence of bicyclist activity along the corridor, possible improvements in this general area may include the following.

- At/near the midblock crosswalk
 - Removal or cutting trees back to make signs more visible, particularly in the northbound direction.
 - Adding pedestrian signs farther north and south of the crossings to improve driver awareness.
 - Install a rectangular rapid flashing beacon (RRFB) at the current crossing.
- Along the corridor
 - Add a leading pedestrian interval at the Grandview Avenue and Dodge Street intersection to separate users in space.
 - Add a continuous marked bike lane along the Grandview Avenue corridor, where pavement width allows, either immediately adjacent to the curb or left of parking. Include appropriate regulatory signing. Adding a bike lane would reduce lane width which may also provide traffic calming.
 - Designate the corridor, or portion, as allowing bicyclists to use full lane, including appropriate periodic sharrows on the pavement and regulatory signs (bicycles may use full lane).
 - Add pavement markings at selected crosswalks along Grandview south of the Grace/Delhi roundabout.
 - Consider additional signing along the Grandview corridor to increase awareness of non-motorist activity.

Grandview Avenue at US 61 Interchange

This location is a low speed, two-lane road at the US 61 interchange, with on street parking allowed on the south side of the road. The west approach to the bridge is intersected by Grandview Heights (which is a dead-end road) from the north, the southbound exit ramp from

US 61 also from the north, and Rockdale Road from the south. Rockdale Road serves as both a two-way municipal street and ramp to southbound US 61. Both the US 61 exit ramp and Rockdale Road are stop controlled. Traffic along Grandview is approximately 7,000 vpd, while traffic along Rockdale Road and US 61 ramp are approximately 4,800 and 1,400 respectively.

The east approach to the bridge also allows parking on the south side and is intersected by Julien Dubuque Drive from the north (dead end) and south, in close proximity to the northbound US 61 entrance and exit ramps. The US 61 exit ramp is stop controlled as well as both Julien Dubuque Drive approaches. Traffic along Grandview ranges from approximately 3,500 to 5,600 vpd. Traffic along Julien Dubuque Drive is approximately 800 vpd, and the US 61 entrance and exit ramp volumes are approximately 2,000 and 1,600 respectively.

The area is predominantly residential. Grandview is signed as bike route at this location, but not using standard MUTCD signing, and sidewalks are located on both sides of the road. There are no marked crossings across Grandview or any of the approaches at this location.

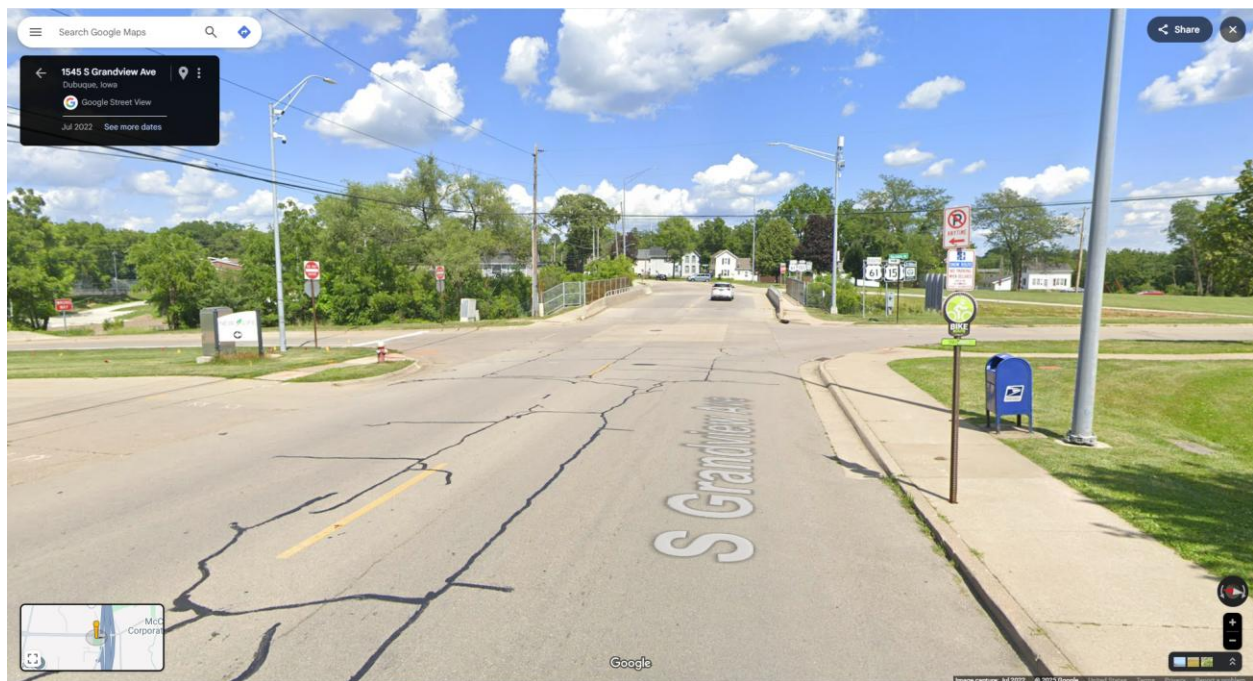


Figure 214: S Grandview Avenue and US 61 Interchange, Eastbound (Image Source: [Google](#))

Three minor injury crashes occurred at the ramp intersections – two west of the bridge and one east of the bridge – from 2022 to 2023. Two of these crashes involved bicyclists struck by right turning vehicles (northbound and eastbound). The bicyclists were in the travel lane or shoulder and were reported as having no improper actions. A 13-year-old pedestrian was struck at the west ramp intersection by a westbound vehicle. They were crossing the road and reported as having no improper action. In 2014, a crash occurred at the east ramp intersection involving a bicyclist. They were struck by a northbound vehicle turning right that did not yield.

Since these intersections are with primary road interchange ramps, any potential improvements should be done in collaboration with the Iowa DOT. Possible safety improvements may include.

- Increasing awareness of the crossings, particularly those across the ramp approaches, via pavement marking and/or pedestrian signage.
- Add a continuous marked bike lane, where pavement width allows, either immediately adjacent to the curb or left of parking. Include appropriate regulatory signing (i.e. bike lane).
- Designate the corridor, or portion, as allowing bicyclists to use full lane, including appropriate periodic sharrows on the pavement and regulatory signs (bicycles may use full lane).
- Consider additional signing along the corridor to increase awareness of non-motorist activity.

Possible longitudinal safety improvements at this location could be considered in conjunction with the northern portion of the Grandview corridor. Limited pedestrian crossings of Grandview exist along the corridor as a whole, such as the midblock crossing between Rider Street and Bryant Street. While limited marked crossings may help, in part, to direct the locations of crossing movements, the distance between marked crossings is such that non-motorist crossing is likely not limited to these locations. The median presence does provide a suitable refuge area, so non-motorists do not have to cross the entire road in one movement.

Intersection of Rhomberg Avenue and Johnson Street

This location is a low speed, predominantly residential neighborhood. A bar/restaurant is also located at this intersection. The traffic volume along Rhomberg is approximately 4,700. The intersection is partial stop control from the Johnson Street approaches, which has an AADT of 200 vpd. No crosswalks are marked at the intersection, either by pavement markings or signage. Audubon Elementary School is located approximately 500 feet from this intersection. Sidewalks are immediately adjacent to the roadway along the east side of Rhomberg Avenue, and have a small offset on the west side. Parking is only allowed on the west side of Rhomberg Avenue. Because of the proximity of the buildings to the roadways, sight lines from the uncontrolled approaches of Rhomberg to Johnson Street are limited, particularly for vehicles traveling northbound on Rhomberg.



Figure 215. Intersection of Rhomberg Avenue and Johnson Street (Image Source: [Google](#))

Most recent crash experience (from 2019-2023) included two pedestrians and bicyclist. One of the pedestrian crashes was reported at the intersection, while the other occurred midblock along Rhomberg south of the intersection. Both of these crashes involved southbound vehicles, and the pedestrians were reported as having no improper actions. The bicyclist crash involved a 10-year-old at approximately 4:00 p.m., who failed to obey the traffic sign and was struck by a westbound vehicle. Another mid-block crash occurred in the same vicinity in 2018, involving an eight-year old crossing improperly at 3:15 p.m. Both of the youth crashes occurred during the month of May. Injury severities included incapacitating, minor (2) and none.

Given the proximity of this location with respect to the elementary school, the residential setting, distance between the sidewalks and roadway and crash experience, the following low-cost safety improvements are recommended.

- Improve the conspicuity of the crosswalks at Rhomberg Avenue and Johnson Street with pavement markings and/or signing.
- Add pedestrian signs along Rhomberg Avenue in the blocks in advance of the intersection to improve driver awareness of pedestrian activity.

Intersection of Central Avenue and 14th Street/Loras Blvd

This site is located in a high traffic volume, low speed commercial area. Approach AADTs ranged from approximately 6,500 to 8,000. A gas station/convenience store is located on the northwest corner of the intersection, with wide driveways extending north and west. Central Avenue is one way southbound. The intersection is signalized with pedestrian signals and activation buttons on all approaches. Pavement markings indicate crosswalk locations. The intersection is approximately 800 feet northwest of Prescott Elementary School.

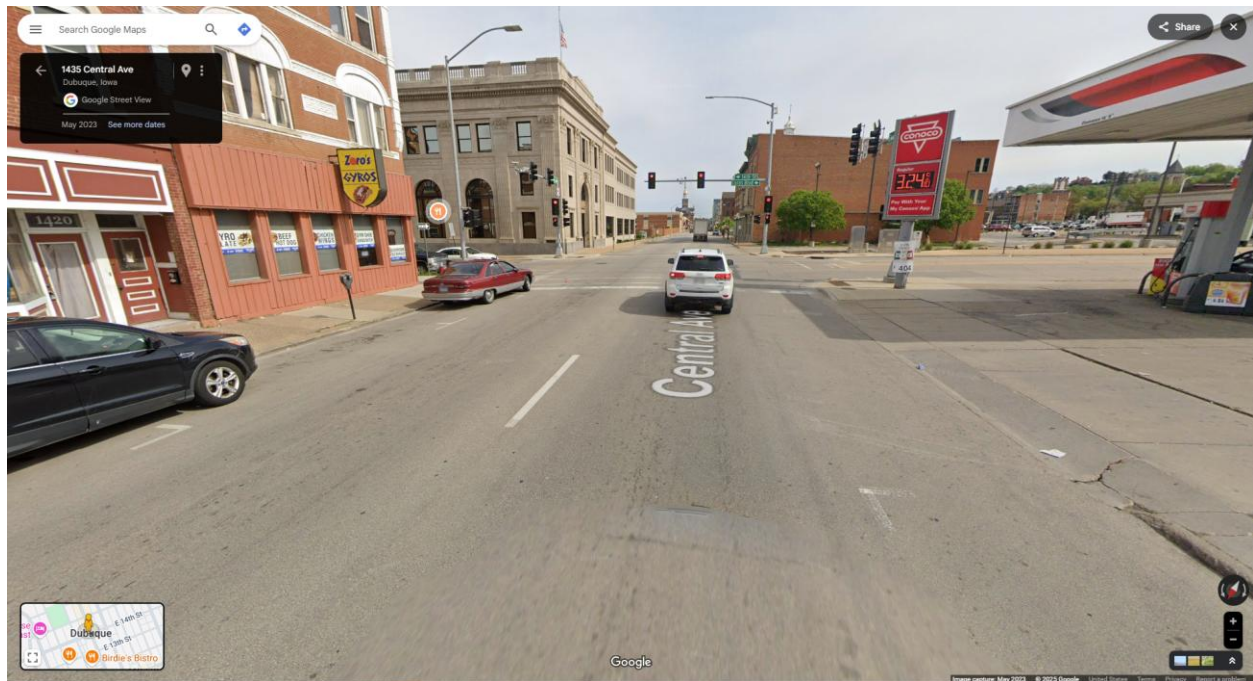


Figure 216. Intersection of Central Avenue and 14th Street/Loras Boulevard (Image Source: [Google](#))

The location was initially identified due to its grouping with eight crashes along Central Avenue between approximately 14th Street and 16th Street. Six of these crashes occurred between 2014 and 2016. However, two crashes occurred in 2019 and 2021 and satisfied all but the private school proximity screening criteria. These crashes involved a ten-year-old (accompanying by 48-year-old), and seven-year-old. Both happened during the school year, January and October at 8:54 a.m. and 4:01 p.m., respectively. The pair were struck by a westbound left turning vehicle that did not yield, while the seven-year-old was struck by a southbound vehicle traveling straight. The seven-year-old did not obey the traffic signal. Injury severities were minor.

Given the traffic volumes at this intersection, lane configurations and gas station driveways, improvements at this intersection may be limited. Possible safety improvement may include.

- Adding a leading pedestrian interval or left turn phase could be considered, if not already utilized.
- Install centerline hardening, such as bollards and rubber curbs, on the north Central Avenue approach and both east/west approaches to force drivers to reduce turning speeds and navigate the intersection more at 90 degrees.

Intersection of Asbury Road and NW Arterial

This site is located in a high traffic volume, low to moderate speed commercial and business area. Approach AADTs ranged from more than 7,500 to 20,000 vpd. The northbound NW Arterial approach and eastbound Asbury approach are positive grades, which could impact sight distance. The intersection is signalized with pedestrian signals and activation buttons on all approaches. Pavement markings indicate crosswalk locations across the west Asbury Road

approach, which consists of six lanes (nearly 100 feet), and the south NW Arterial approach, which consists of seven lanes, raised median and cross-hatched shoulder (more than 130 feet). Pedestrian signals and activation buttons are present at both crossings. Sidewalks are located north and south of Asbury Road on the east approach, north of Asbury on the west approach and west of the NW Arterial on both the south and north approaches.

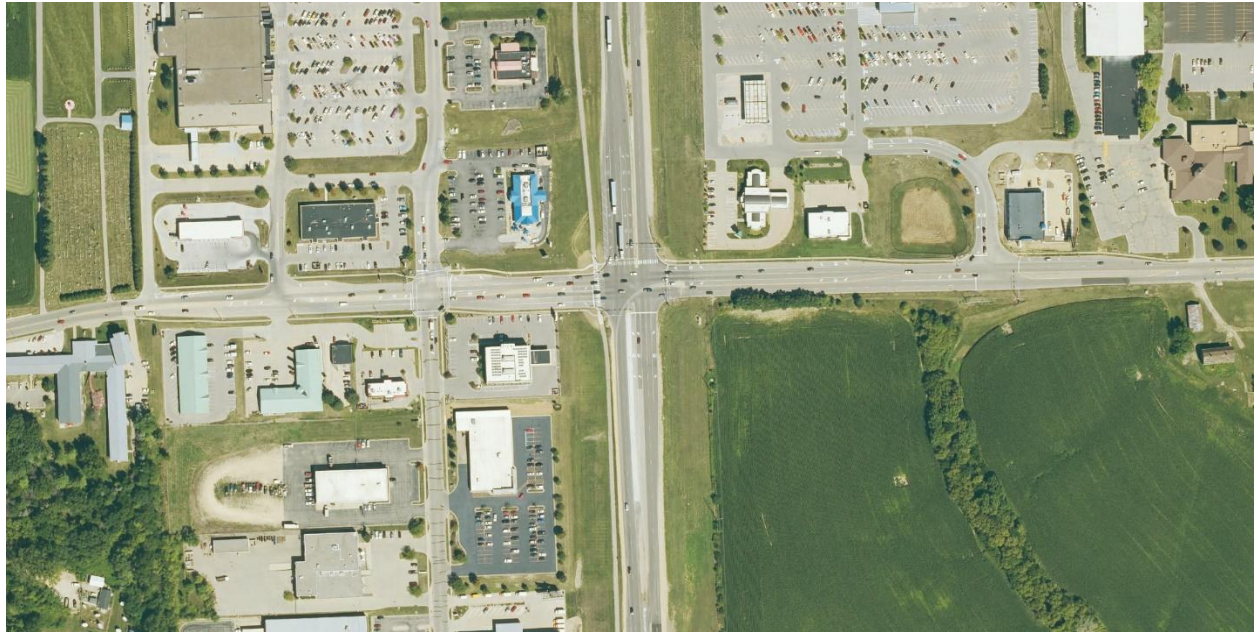


Figure 217. Intersection of Asbury Road and NW Arterial (Image Source: Iowa Geographic Map Server)

This site satisfied eight of the screening criteria, with the exception of school proximity. Two crashes, one involving a pedestrian and one a bicyclist, occurred at this intersection in 2020, resulting in incapacitating and possible injuries. Both non-motorists were struck by vehicles traveling east, one turning left and one turning right, while crossing the road. Improper crossing was reported for both non-motorists (ages 61 and 81). It should be noted that no marked crossing is present. The left turning driver was reported as failing to yield to the non-motorist. Improvements have recently been made to the NW Arterial, and it is unclear whether this may impact crash experience.

Given the traffic volumes at this intersection, it is understood that limiting traffic queueing and congestion may be priority. Potential safety improvements that may be considered at this intersection include the following.

- Given the distance that a non-motorist must travel to cross the roadway, ensure adequate times in pedestrian phasing and consider a leading interval, potentially by time of day.
- The intersection is located in an area that drivers may not expect non-motorist activity. Pedestrians may become impatient at the crossings due to longer cycle lengths. Awareness of the crosswalks could be improved by the addition of pedestrian signs at or in advance of the crosswalks, if not installed after construction was completed.

- A high cost solution may be construction of a grade separated non-motorist crossing facility. A study of possible warrants based on non-motorist traffic volumes should first be conducted.

Intersection of Locust Street and 9th Street

This site is located in a low speed commercial area. The intersection is signalized and has pedestrian signals present. Activation buttons are located on the southwest and northeast corners. Locust Street is one way from south to north and consists of two lanes. Crosshatch pavement markings are present from the curb to the left lane on the westside of the south Locust Street approach.



Figure 218. Intersection of Locust Street and 9th Street, Northbound (Image Source: [Google](https://www.google.com/maps))

The west approach of 9th Street has four lanes, with parking allowed on the south side. A marked bike lane is located adjacent to the south curb and shares an edge line with the through lane. The stop bars are offset from the crosswalk. The east approach of 9th Street has two legs, with parking allowed on the north side and a bike lane adjacent to the south curb. The bike lane is separated from the eastbound through lane by solid lines and crosshatch markings. The bike lanes were recent additions (summer 2024), converted from parking.



Figure 219. Intersection of Locust Street and 9th Street, West Approach (Image Source: [Google](#))

This site satisfied eight screening criteria and experienced three crashes since 2017, specifically in 2017, 2020 and 2023. The most recent crash involved a 13-year-old skater who improperly crossed and was struck by a northbound vehicle. The other two crashes involved left turning vehicles that failed to yield to pedestrians crossing the road in the crossing. One vehicle was traveling east while the other was traveling north prior to making the left turn. All crashes occurred during daylight hours. Sight distance does not appear to be an issue at this intersection, including left turning movements from any approach.

Possible safety improvements for this site include:

- Monitor bicycle activity and possible conflicts at the intersection, particularly related to the bike lane.
- Consider centerline hardening, such as installing bollards and rubber curbs, on the south approach and both east and west approaches, to force drivers to slow down and navigate the intersection more at 90 degrees.
- Separate the users in space by adding a protected left turn phase and/or a leading pedestrian interval.

Intersection of Jackson Street and 20th Street

This site is located in a low speed, residential/commercial area. Approach AADTs ranged from approximately 3,600 to 7,300 vpd. All approaches have dedicated left turn lanes. The 20th Street approaches are approximately 30 feet wide, while the Jackson Street width is approximately 40 feet. A convenience/liquor store is located on the southeast corner of the intersection, with wide driveways extending south and east. The intersection has pedestal mounted signalizes with pedestrian signals. The pedestal signals at this location can be somewhat difficult to see. No

pedestrian activation buttons appear present. Pavement markings indicate crosswalk locations. This location satisfied seven of the screening criteria.



Figure 220. Intersection of Jackson Street and 20th Street (Image Source: [Google](#))

Four crashes occurred at the intersection between 2021 and 2023 (one in 2021, two in 2022 and one in 2023). If the crash experience reflects traffic behavior, there appears to be a high level of bicyclist activity. Three of these crashes involved bicyclists.

- A pedestrian and bicyclist were struck by northbound left turning and westbound right turning vehicles, respectively. Both crashes occurred in the evening hours, and the vehicles did not yield right of way. These crashes involved two eleven-year old children and a twelve-year-old.
- The other two intersection crashes involving bicyclists occurred in the afternoon hours. One bicyclist did not obey the signal and was struck by a vehicle moving straight, while the other was struck by a vehicle that lost control.

Another bicyclist crash occurred in the vicinity in 2023. It was a mid-block pedestrian crash approximately 150 feet north of the intersection on Jackson Street. The crash happened in the early evening hours, and the bicyclist crossed improperly.

Potential safety measures at this location may include the following.

- Consider designating one or both roads as a bicycle routes or shared bicycle lane with corresponding pavement markings and signage -- including appropriate periodic sharrows on the pavement and associated regulatory signs (bicycles may use full lane). If possible, e.g. pavement width is not a limiting factor, add bicycle lanes with bike lane signing. If

bicycle volumes warrant, consider adding a bike box at each intersection approach. Alternatively, consider the aforementioned strategies along parallel routes.

- Add a leading pedestrian interval to signals.
- Consider centerline hardening.

Central Avenue, Including Intersections with E 24th Street

Central Avenue is a low speed, two-way, two lane road located in a mixed commercial and residential area. Traffic volumes are approximately 10,600 vpd. On street parking is allowed in the northbound direction. Sidewalks are located on both sides of the roadway, either immediately adjacent or with a narrow section of grass between the curb and sidewalk. In some locations, specifically the intersection(s) with 24th St, no curb is present to separate the sidewalk from the roadway.

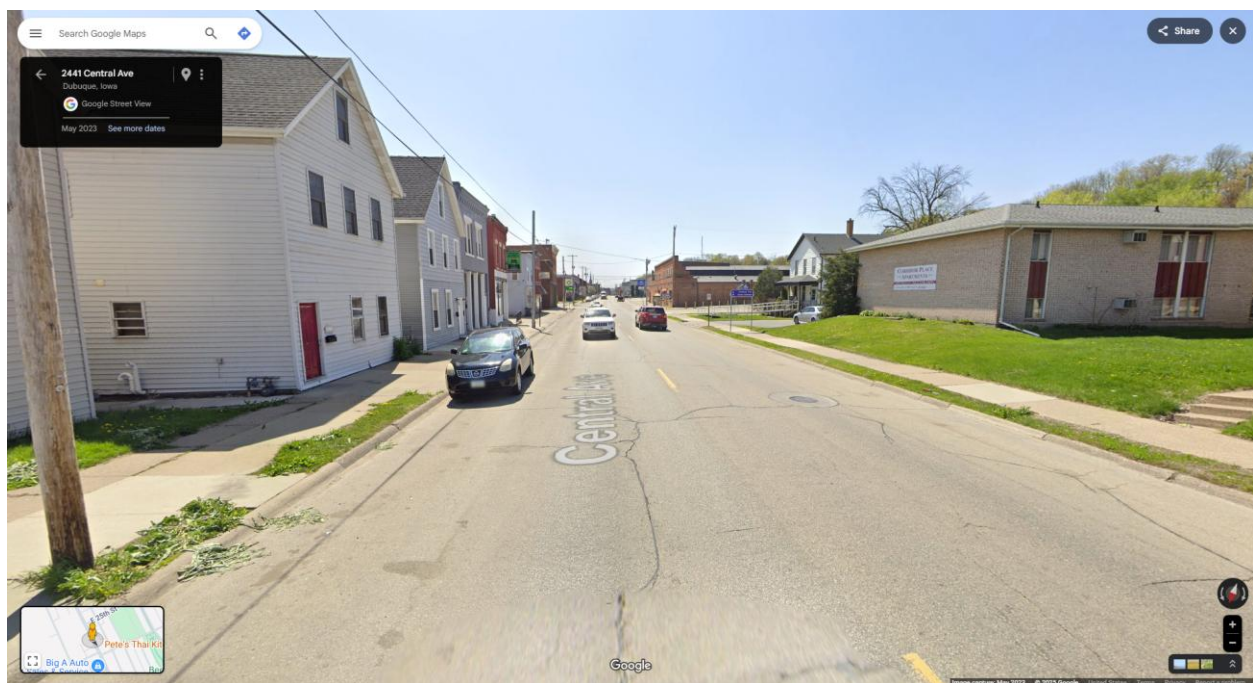


Figure 221. Central Avenue (Image Source: [Google](#))

The intersection(s) of 24th Street with Central Avenue are offset. There are no marked crosswalks at the offset intersections and no signing is present. The approaches from 24th Street are stop controlled, carrying 400 (west approach) and 3,000 vpd (east approach). There is no traffic control along Central Avenue. A bus stop is also located at the intersection. A gas station/convenience store is located at the southeast corner of the intersection. The convenience store certainly generates a large number of both vehicle and non-motorist trips. It also has wide driveways on three sides, increasing conflict points between vehicles and non-motorists.

A midblock crash occurred in between 24th Street and 25th Street during April, 2019. The pedestrian crossed improperly and was seriously injured. Three crashes (two in 2019, one in 2022) occurred at the offset intersections at 24th Street. Two involved bicyclists and one involved a pedestrian. All three were crossing or waiting to cross the road. All three crashes

involved turning vehicles – two southbound left turning vehicles and one westbound right turning vehicle. In one instance, a bicyclist improperly crossed the road. Severities range from possible to minor injury.

Potential safety measures at this location may include the following.

- Consider designating a portion of Central Ave as a bicycle route or shared bicycle lane, with corresponding pavement markings and signage. Alternatively, consider the aforementioned strategies along parallel routes.
- Add pavement markings and signage to provide guidance to pedestrians and increase motorist awareness at the 24th Street intersection(s).
- Add pedestrian signage along both Central Avenue and 24th Street in both directions of travel.
- Consider converting a portion of Central Avenue to a three-lane cross-section, retaining on-street parking in key areas.

White Street, including Intersection with E 24th Street

White Street north of the E 24th Street intersection, is a low speed, two-way, two lane road located in a residential area. On street parking appears to be allowed along both sides of the road. Sidewalks are also located on both sides of the roadway, with a narrow section of grass between the curb and sidewalk.



Figure 222: White Street (Image Source: [Google](#))

The intersection of 24th Street with White Street is stop controlled along White Street. Pedestrian crossings are not marked on the pavement or with signage. Traffic volumes along White Street are 300 to 1,000, while traffic along 24th Street is approximately 3,000. Parking is allowed along the north side of 24th Street. A gas station/convenience store is located on the southwest corner of

the intersection. As noted in the previous section, the convenience store certainly generates a large number of both vehicle and non-motorist trips. It also has wide driveways on three sides, increasing conflict points between vehicles and non-motorists.

Two minor injury pedestrian crashes occurred at/near the intersection of White Street and E 24th Street in 2019 and 2021. The June 2019 crash involved a northbound vehicle backing from a parked position. The April 2021 crash (at 5:41 p.m.) involved a seven-year-old crossing the road (darting/dashing). The child was struck by a westbound vehicle.

In August 2017 (at 3:19 p.m.), a midblock crash occurred along White Street approximately 220 feet north of the intersection. A five-year-old was struck by a southbound vehicle, while “darting/dashing” along the road.

Potential safety measures at this location may include the following.

- Since 24th Street is the higher volume roadway and serving a high traffic convenience store, add marked crossings and pedestrian crossing signs across 24th Street at White Street.
- Add pedestrian signage along 24th Street in both directions of travel, especially due to the activity generated by the convenience store.

Intersection of Jackson St and 25th St

The intersection of Jackson Street and 25th Street is located in low speed, predominantly residential area. A church is located on the northwest corner of the intersection, and a park is located on the southeast corner. The intersection is partial stop control from the E 25th Street approaches. Jackson Street carries approximately 4,400 vehicles per day. The AADT along 25th Street is estimated to be less than 300 vpd. Both roads have two through lanes. On-street lighting is located on the northwest corner of the intersection. Sidewalks are also located on both sides of the roadway, with a narrow section of grass between the curb and sidewalk.

The south approach of Jackson Street has on-street parking on the west side, adjacent to residences. Parking is allowed on both sides of the north approach. Parking is allowed on both sides of both E 25th Street approaches.



Figure 223: Jackson Road Near Comiskey Park (Image Source: [Google](#))

Two non-motorist crashes occurred at this intersection in 2022 and 2019. One pedestrian was seriously injured, and a bicyclist suffered minor injuries. Both crashes occurred in dark conditions. The pedestrian crash involved a southbound vehicle moving straight. The pedestrian was “darting/dashing” and was intoxicated. The bicyclist failed to obey traffic control and was struck by a westbound, left turning vehicle.

Potential safety measures at this location may include the following.

- Add marked crossings and pedestrian crossing signs across both Jackson Street and 25th Street.
- Add pedestrian signs along Jackson Street in both directions of travel in advance of the intersection. This could also be considered along 25th Street, but the traffic volumes are lower.
- Improve lighting at the intersection.
- Consider designating a portion of Jackson Street as a bicycle route or shared bicycle lane, with corresponding pavement markings and signage. If possible, add bicycle lanes. Alternatively, consider the aforementioned strategies along parallel routes.

Intersection of Jackson Street and 24th Street

This location is a low speed, all way stop controlled intersection. The area is predominantly residential with a park on the northeast corner. A convenience store, discussed previously, is located approximately one block to the west.

Each approach has two through lanes in each direction of travel. The traffic along Jackson Street is approximately 4,300, while the traffic along 24th Street is approximately 2,000 vpd. On-street parking is allowed on both sides of Jackson Street. Parking is also allowed the north side of the

west 24th Street approach. Parking is allowed on the south side of the east 24th Street approach. Sidewalks are also located on both sides of the roadway, with a narrow section of grass between the curb and sidewalk. Additional marked crosswalks are located a block east at Washington Street. Rectangular rapid flashing beacons (RRFB) are located between Washington Street and Elm Street.



Figure 224: Intersection of Jackson Street and 24th Street (Image Source: [Google](#))

Three non-motorist crashes occurred in this general vicinity between 2019 and 2023. A total of six non-motorist crashes have occurred since 2017. During the morning of August 11, 2023, a bicycle crash occurred along 24th Street, approximately 130 feet east of the intersection with Jackson Street. The bicyclist was nine-years-old and was struck by an eastbound vehicle. The bicyclist improperly exited/entered the road. Another nine-year-old bicyclist was struck in the area, at the intersection of Jackson Street and 24th Street, on September 2, 2019 at approximately 7:00 p.m. The bicyclist failed to obey the traffic sign and was struck by a northbound vehicle. During an afternoon in June 2019, a pedestrian was struck at the intersection as well. Two vehicles were involved, with one running the stop sign. Injuries in these crashes ranged from possible to minor.

Three of the six crashes at/near the intersection occurred in 2017 (two) and 2018. A three-year-old pedestrian was struck by an eastbound vehicle near the intersection during the morning of April 29, 2018. The pedestrian was darting/dashing in the roadway. In January 2017, a 14-year-old bicyclist was struck by a westbound, left turning vehicle. The bicyclist was reported as having no improper action. The crash happened at 5:17 p.m. The final 2017 crash involved a pedestrian who failed to yield right of way to a northbound vehicle. These three crashes all involved minor injuries.

Given the proximity to the park and involvement of children, potential safety measures at this location may include the following.

- Add pedestrian signs at the marked crossings both Jackson Street and 24th Street.
- Add pedestrian signs along Jackson Street in both directions of travel in advance of the intersection. This could also be considered along 24th Street.
- Increase overhead lighting along the corridor, utilizing existing utility poles.
- Consider designating a portion of Jackson Street as a bicycle route or shared bicycle lane, with corresponding pavement markings and signage. If possible, add bicycle lanes. Alternatively, consider the aforementioned strategies along parallel routes.

Main Street and W 5th Street

This site is located in a low speed commercial area with expected higher pedestrian volumes and likely more non-local vehicle and pedestrian traffic due to the events center. The intersection is partial stop control, with stop signs located along Main Street. Signs is present under the stop signs indicating that cross traffic does not stop. Pedestrian crossings signs are located along the uncontrolled approaches of W 5th Street. W 5th Street is also a marked as a bike route. A bus stop is located on the right side of the east approach, with on-street parking allowed on the left side. The west approach allows on-street parking on both sides but is setback from the intersection. On-street parking is allowed on the right sides of the Main Street approaches, with inset parking along the north approach. Both roadways have two through lanes at the intersection. The pedestrian crossing distance is greater across W 5th Street. Crosswalks are not marked with pavement markings, but the surface type is a different color and material.

The proximity of buildings along the south approach along Main Street can the limit the sight lines of northbound vehicles to the W 5th Street approaches. More open sight lines are present along the other approaches with the exception of west approach of W 5th Street to the south approach of Main Street. Traffic volumes along W 5th Street are approximately 1,500 vpd, compared to approximately 3,500 along Main Street. However, traffic volumes may be impacted by events in the area.



Figure 225: Intersection of Main Street and W 5th Street, Eastbound (Image Source: [Google](#))

This location satisfied seven of the screening criteria. Two pedestrian crashes occurred at this intersection during the five-year analysis period (in 2019, 2023). Both involved southbound vehicles (turning left and turning right), failing to yield to the pedestrians in the crosswalk. A third crash occurred along Main Street, approximately 160 feet north of the intersection. A vehicle lost control and struck pedestrians on the sidewalk. Crash severities for all three crashes ranged from minor injuries to possible injuries. All crashes occurred during daylight hours.

Potential safety measures at this location may include the following.

- Add crosswalk pavement markings adjacent to the surface different surface types.
- Add pedestrian crossing signs along the Main Street approaches, both at the intersection and upstream, similar to W 5th Street.
- Consider adding raised or painted bulb-outs at the intersection corners, focusing on W 5th Street, to reduce crossing distance and forcing drivers to adjust their turning movements.
- Consider conversion of the intersection to all way stop control.

It is understood that some of the suggested countermeasures may impact the general aesthetic of the corridor.

Intersection of NW Arterial and Pennsylvania Avenue

This site is located in a high traffic volume, low to moderate speed commercial, business and residential area. Approach AADTs range from more than 10,700 to 11,700. The intersection is signalized with pedestrian signals and activation buttons on all approaches. Pavement markings and signs indicate crosswalk locations across all approaches. Crosswalk ahead signs are located along each approach, prior to the intersection.

There are six lanes across the Pennsylvania Avenue approaches. Both of the NW Arterial approaches have similar cross-sections with six lanes, median and cross-hatched shoulder. The southbound and northbound NW Arterial approaches and eastbound Pennsylvania approach are positive grades, which could impact site distance. Pedestrians may also become impatient at the crossings due to longer cycle lengths.

Sidewalks are located along both sides of each Pennsylvania approach and along the west side only of the NW Arterial approaches. Hempstead High School is located approximately 0.1 miles to the east of the intersection.



Figure 226: Intersection of NW Arterial and Pennsylvania Avenue (Image Source: Iowa Geographic Map Server)

Two crashes, involving pedestrians, occurred at the intersection on March 18, 2021 (at 1:15 p.m.) and October 14 (at 9:12 p.m.). Both crashes involved southbound vehicles moving straight. One pedestrian failed to obey the traffic signal, while the other (an 18-year-old) was wearing dark clothing. A third crash occurred on January 23, 2018 at 9:09 p.m. involving a 14-year-old who crossed improperly.

A citizen also shared the following safety concern at this intersection: “This area needs an enhanced crossing for pedestrians. A pedestrian bridge would be expensive. Maybe a dedicated phase for pedestrians when the button is pushed?”

As with other intersections along NW Arterial, reducing traffic queueing and congestion may be a priority. Potential safety improvements that may be considered at this intersection include the following.

- Given the distance that a non-motorist must travel to cross the roadway, ensure adequate time in pedestrian phasing and consider a leading interval, potentially by time of day.

This includes investigating whether a leading pedestrian interval type of timing plan would work at this location and implement if feasible.

- A high cost solution may be construction of a grade separated non-motorist facility. A study of possible warrants based on non-motorist traffic volumes should first be conducted.
- Upgrade existing pedestrian signing so that it is more visible to drivers. Options include oversized signing and adding metal pennants for increased conspicuity.

Intersection of Rhomberg Avenue and Dock Street

This intersection is located in a predominantly residential area. Marshall Elementary School is located on the northeast corner of this intersection. The intersection is stop controlled along the Dock Street approaches. There are two through lanes in each direction of travel along each approach. On street parking is allowed the west side of Rhomberg Avenue (with a short no parking zone on the south leg) and on both sides of Dock Street. Sidewalks are present on both sides of all approaches. A pedestrian crossing ahead sign is located along the southwest approach, presumably for the midblock signalized intersection immediately adjacent to the school. Pavement markings indicate a crossing of the east Dock Street approach. Otherwise, there are no other crosswalks marked at the intersection. The school playground is located parallel to Rhomberg Avenue. Primary entrances to the playground are located near the signalized intersection on Rhomberg Avenue and on Dock Street near the Garfield Avenue intersection.

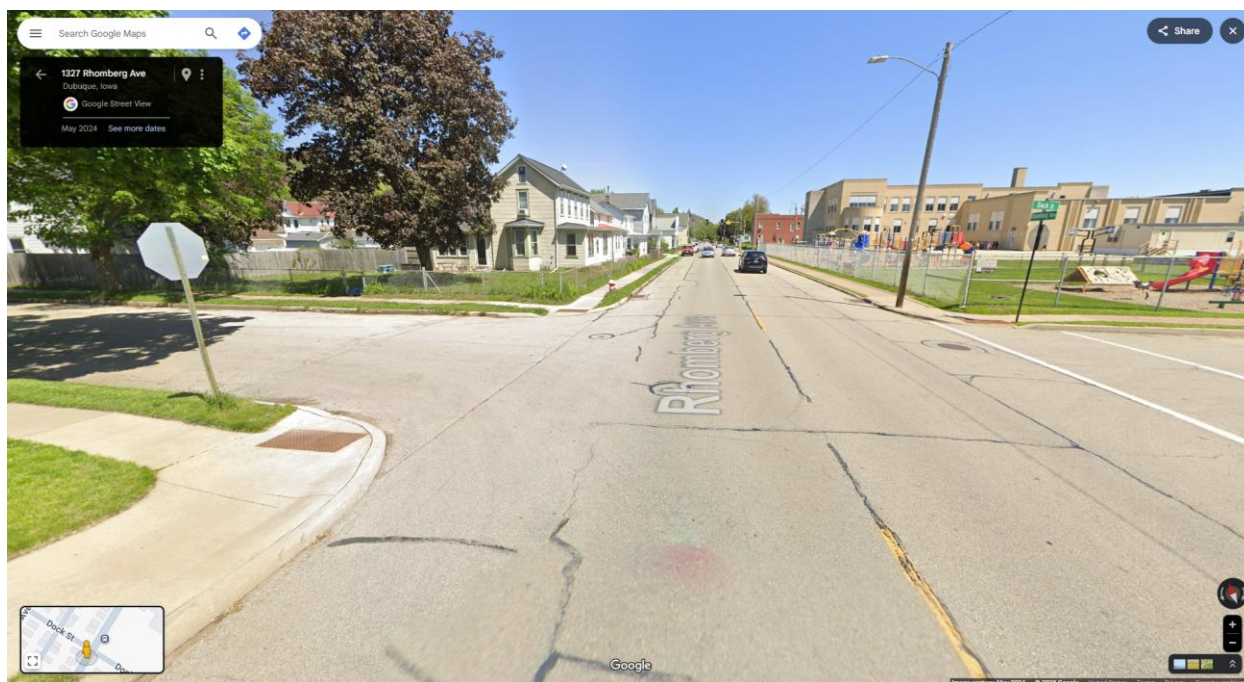


Figure 227: Intersection of Rhomberg Avenue and Dock Street (Image Source: [Google](#))

On July 3, 2021 at 10:48 p.m., a 12-year-old pedestrian was struck at this intersection by a northbound vehicle. The pedestrian was darting/dashing. In June 2014, a nine-year-old pedestrian was also struck at this intersection by a southbound vehicle.

While the crash history is somewhat limited at this intersection, pedestrians crossing Rhomberg Avenue can be expected. Crossing may also not be desired at this location as part of safe routes to school.

Possible improvements may be limited, as to no encourage more activity at this intersection.

- The crossing ahead sign on the northbound (southwest) approach could be moved closer to the intersection, which may draw attention to both this intersection and the signalized crossing to the north.
- A marked crossing of Rhomberg Avenue could be added at the intersection, as non-motorists may be using the Dock Street park entrance, instead of the entrance near the signalized crossing.

Loras Boulevard Near Cornell Street and Montrose Terrace

Loras Boulevard is a two-way, two-lane road located on a notable grade. On-street parking is allowed, intermittently, on both sides. The general location of primary interest is the intersection of Loras Boulevard with Cornell Street and Montrose Terrace, which are parallel roads separated by a block wall. Both Cornell Street and Montrose are stop controlled. There is no traffic control along Loras Boulevard at this location. The major approach traffic volume at this intersection is approximately 9,500 AADT along Loras Boulevard. Bus stops are located on both sides of the street. Sidewalks are also present along each side of the road. The area is predominantly residential with some commercial. The Loras College campus begins approximately one block west of this intersection.

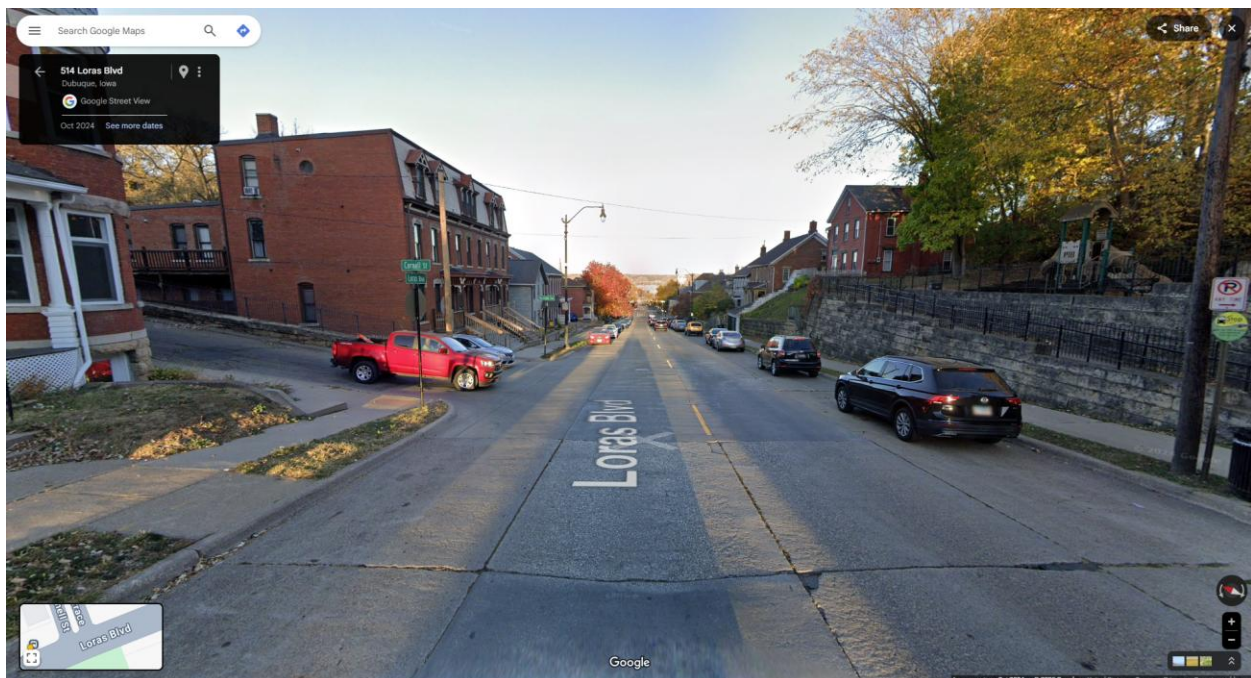


Figure 228: Loras Boulevard Near Cornell Street and Montrose Terrace (Image Source: [Google](#))

In general, there are limited pedestrian facilities across Loras Boulevard. Specifically, there is a midblock, signalized crossing with pedestrian activation buttons located between the

intersections of N Booth Street and Glen Oak Street to the west, and a signalized crossing (with pedestrian signals but no activation buttons) at Bluff Street to the east. The distance between these crossings is approximately, 3,300 feet.

Two minor injury crashes occurred at/near the intersection of Loras Boulevard and Cornell Street in 2019 and 2020. A third possible injury crash occurred in 2018. All crashes involved pedestrians. Limited details were reported about the pedestrian action in the 2020 crash, which occurred at 7:35 a.m. The pedestrian was struck by an eastbound vehicle traveling straight. The other two crashes involved young non-motorists, a 17-year-old and a seven-year-old, who were improperly crossing or darting/dashing at midblock. Both crashes occurred at approximately 6:30 p.m. One involved a westbound vehicle moving straight, while the other involved an eastbound vehicle turning left.

There have been three additional crashes along Loras Boulevard between the marked crosswalks in 2015, 2019 and 2020. Two occurred midblock, while the other was located at the intersection of Loras Boulevard and Alta Vista Street. The two midblock crashes involved an eastbound vehicle, striking a person leaving their parked vehicle, and a westbound vehicle striking a ten-year-old darting/dashing across the road.

A citizen reported a pedestrian safety issue at the intersection of Loras Boulevard and Alta Vista Street, specifically “The visibility at this intersection is challenging as it’s the crest of the hill.”

Potential safety improvements that may be considered at this location include the following.

- Given the distance between pedestrian facilities across Loras Boulevard, a midblock or intersection crossing could be added, either with pavement markings and signing or rectangular rapid flashing beacons (RRFB). The location of bus stops may be taken into consideration in crossing placement.
- Add pedestrian signing along the corridor to alert motorists. Focus could be at/near transit stops.

Locust Street and W 3rd Street

Locust Street is a one-way street in the northbound direction. On-street parking is allowed on the east side of the street from the south approach, and both sides of the street on the north approach. The traffic along Locust Street is approximately 8,300. Traffic from W 3rd St is controlled by stop signs. W 3rd St is a two-way street with on-street parking allowed on both sides, at varying distances. On the east approach, parking is allowed adjacent to the stop sign. The traffic along W 3rd ranges from 3,500 to 5,000 vpd.

The area is primarily commercial with some apartments in the general vicinity. A restaurant/bar is located at the northeast corner of the intersection. Sidewalks are located along both directions of travel. All crossings are unmarked.



Figure 229. Locust Street and W 3rd Street (Image Source: [Google](#))

Two possible injury, non-motorist crashes occurred at this intersection between 2019 and 2023 (2021 and 2023). The 2023 crash involved a bicyclist at 14:00. They were struck by an eastbound vehicle that failed to yield to the bicyclist in the crosswalk. The 2021 crash involved an impaired pedestrian at approximately 2:00, who was struck by a westbound vehicle.

Two other non-motorists (pedestrian and bicyclist) were involved in crashes at this intersection in 2014 and 2016. The pedestrian was struck by westbound vehicle that did not yield. The bicyclist was struck by an eastbound vehicle turning left that also did not yield. Both of these crashes occurred during daylight hours.

Possible low-cost safety improvements may include.

- Increase awareness of existing crossings, particularly those across Locust Street, by maintaining and enhancing pavement markings and/or pedestrian signage.
- Consider marking a shared bicycle lane, with corresponding pavement markings and signage along Locust Street or a parallel route.

Peru Road

E 32nd Street transitions to Peru Road near the Heritage Trail. From Heritage Trail north to approximately Tanzanite Drive, Peru Road is a two-lane cross-section with curbs and no on-street parking. The corridor includes several signed, sharp curves and intermittent W-beam guardrail immediately adjacent to the road. Speed limits along the segment range from 30 to 35 mph. There are no sidewalks or marked crosswalks, with the exception of the Heritage Trail crossing. There is evidence of non-motorist activity on and adjacent to Peru Road throughout the corridor, which is predominantly residential.

Near the Heritage Trail crossing, Peru Road carries approximately 5,400 vpd and has a speed limit of 30 mph. The following images, from different years, provide evidence of pedestrian and bicyclist activity along the road at this location.



Figure 230: Bicyclist Activity Near Peru Road and Near Heritage Trail Crossing (Image Source: [Google](#))

W-beam guardrail is located along the west side of Peru Road from approximately Louella Lane to Sheridan Road. The traffic volume is approximately 8,200 at the intersection with Sheridan, which is stop controlled from Sheridan Road. Sheridan Road has an AADT of approximately 3,500. The speed limit along Peru Road increases to 35 mph after the intersection. There is also evidence of pedestrian activity on the road near the Aerostar Drive intersection. There are also curb cuts on both sides of Aerostar Drive.

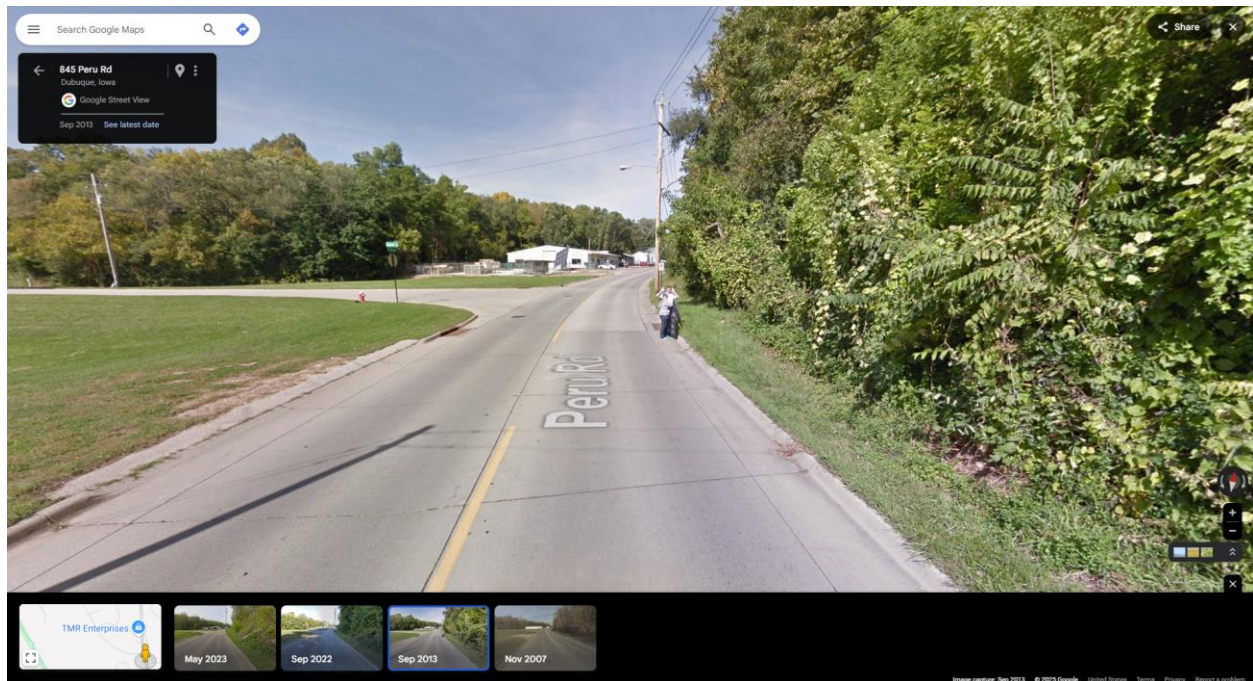


Figure 231: Pedestrian Activity Near Peru Road and Aerostar Drive Intersection (Image Source: [Google](#))

W-beam guardrail begins on the east side of the road at a water crossing north of Liberty Street. The crossing is designed to accommodate pedestrians, with a sidewalk separated from the road with a concrete barrier, topped with additional metal rails. Fencing is also present on the other side of the crossing sidewalk (no sidewalks are present on either side of the road in advance of this location). Guardrail continues on the east traveling north past Hawkeye Drive before it ends on the east side of the road and is then located on the west side of the road until Salem Street. The traffic volume along Peru Road between Liberty Avenue and Hawkeye Drive is approximately 8,200.



Figure 232: W-Beam Guardrail and Pedestrian Water Crossing along Peru Road (Image Source: [Pathweb](#))

Non-motorist activity is evident near the Peru Road intersections with Hawkeye Drive and Walker Street. There are also curb cuts and sidewalks on both sides of Hawkeye Drive approaching Peru Road.

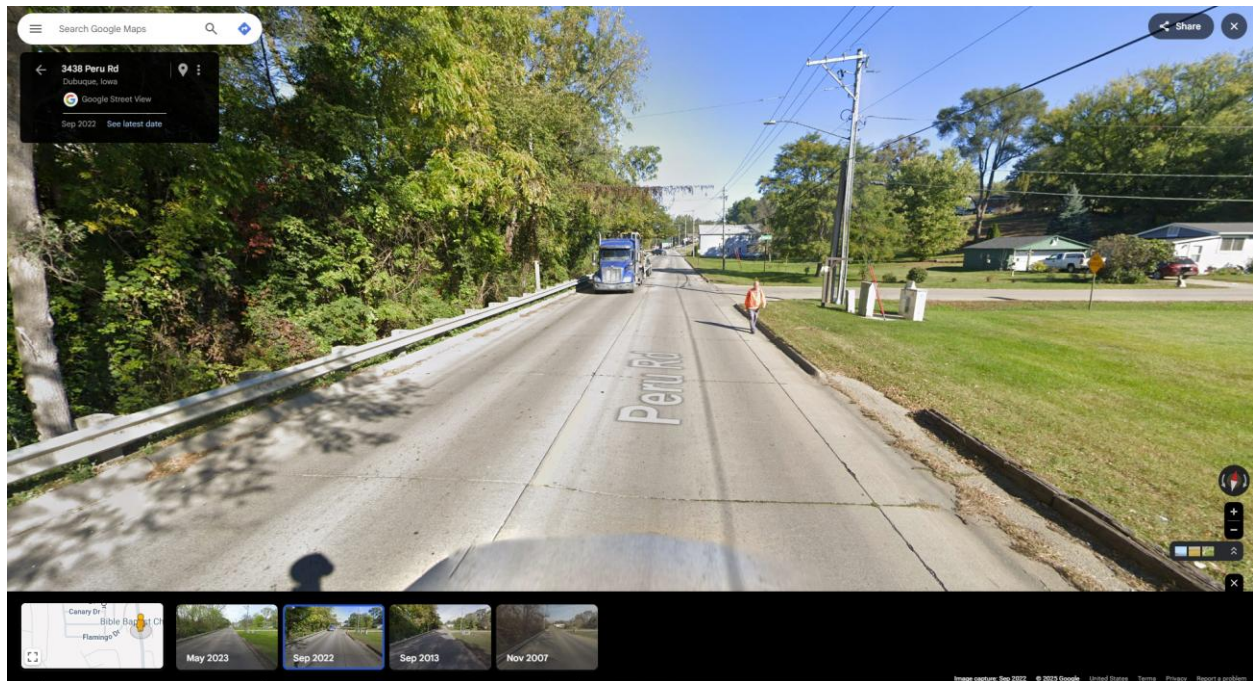


Figure 233: Pedestrian Activity Near Peru Road and Hawkeye Drive Intersection (Image Source: [Google](#))

A worn path adjacent to the roadway also appears visible between Walker Street and Toledo Street; other non-motorist activity is also evident. A gas station/convenience store is located on the northwest corner of the intersection of Peru Road and Toledo Street. A large manufactured home development is located west of Peru in this general vicinity.



Figure 234: Pedestrian Activity and Worn Path Along Peru Road Between Walker Street and Toledo Street (Image Source: [Google](#))

Two non-motorist crashes occurred along this corridor in 2021 and 2022. On October 18, 2022 at 5:05 p.m., a 14-year-old bicyclist traveling along the road was struck by a westbound vehicle failing to yield during a right turn. This crash occurred near the Hawkeye Drive intersection. Another non-motorist crash was reported at the Tanzanite Drive intersection during the afternoon of July 17, 2021. Multiple vehicles were involved in this crash. In 2016, a pedestrian was seriously injured by a northbound vehicle near the Roosevelt/Salem Street intersection. The pedestrian improperly crossed the road.

During the community outreach effort, the following two safety concerns along Peru were shared.

- Trail Crossing: “Could use one of those bicyclist activated flashing yellow lights to stop traffic on Peru Road when using the bike trail.”
- Intersection of Peru and Sheridan: “There are no sidewalks along Peru and Sheridan Roads in Dubuque causing pedestrians to walk in the right-of-way of these two busy roads. Children wait for busses with no protection from traffic. This is very unsafe.”

This corridor presents some unique challenges due to presence of W-beam barriers and several sharp turns. Possible safety improvements may include the following:

- Investigate possibilities of adding a sidewalk to one side of Peru Road, perhaps north of Sheridan Road to the vicinity of Salem Street/Roosevelt Street (transition to 45 mph) or Tanzanite Diver. This extent represents the dense residential development. Due to the presence of roadside barriers, a sidewalk will likely need to change sides of the road, therefore also warranting a marked crosswalk.

- Consider adding a marked bike lane along the corridor, separated from the traffic lane by flexible posts, as pedestrians may also choose to use the lane.
- Apply pedestrian pavement markings and signage as needed.
- Install Rectangular Rapid Reflecting Beacon signs at the Heritage Trail crossing.
- Realign one of the two portions of the Heritage Trail at the crossing so that they form a continuous crossing over the roadway.
- Install pedestrian crossing markings.

Roadway Conversion Candidate Sites

Overview

This summary provides an overview of candidate corridors identified for potential 4-to-3 lane conversions across various communities in the ECIA region. The identification process followed the Iowa Department of Transportation's (Iowa DOT) statewide Road Diet Screening Guidance for Potential Lane Reconfiguration¹, which outlines strategies for enhancing safety and operations on four-lane undivided roadways. Converting such corridors to three lanes, two through lanes with a center two-way left-turn lane (TWLTL), has been shown to reduce crashes, calm traffic, and improve access control. For 4-to-3 lane conversions, emphasis was placed on corridors with moderate to high crash rates, multiple access points, and mid-block turning activity, where the addition of a center two-way left-turn lane could enhance safety and mobility.

Corridors were initially filtered using data from the Roadway Asset Management System (RAMS) based on the following Iowa DOT thresholds:

- Existing four-lane undivided roadway geometry,
- A minimum corridor length of 0.3 miles,
- Average annual daily traffic (AADT) volumes generally under 15,000 vehicles and not less than 6,000, and
- Documented history of rear-end, angle, or turning-related crashes.

Further analysis was conducted using ArcGIS Pro, incorporating statewide crash data (2018–2024), functional classification, access point density, and land use patterns. Candidate corridors with frequent commercial driveways, recurring turning conflicts, or constrained intersection spacing were prioritized. Google Street View and local imagery were also reviewed to verify geometric features and the presence or absence of on-street parking, which can influence the feasibility of lane reallocation.

This screening process serves as a replicable framework for evaluating 4-to-3 lane conversions, balancing traffic operations with opportunities for safety improvement in mid-volume corridors.

Dubuque

University Avenue

This segment of University Avenue spans approximately 1,000 feet, running east-west between Pennsylvania Avenue and O'Hagan Street in a commercial section of Dubuque ([Google Maps Link](#)). The corridor features a four-lane undivided cross section, with two travel lanes in each direction. It is surrounded by retail establishments and driveways, with on-street activity and turning movements contributing to traffic complexity.

¹ Office of Systems Planning and Office of Traffic and Safety. Statewide Screening for Potential Lane Reconfiguration. Ames, Iowa Department of Transportation, May, 2017.

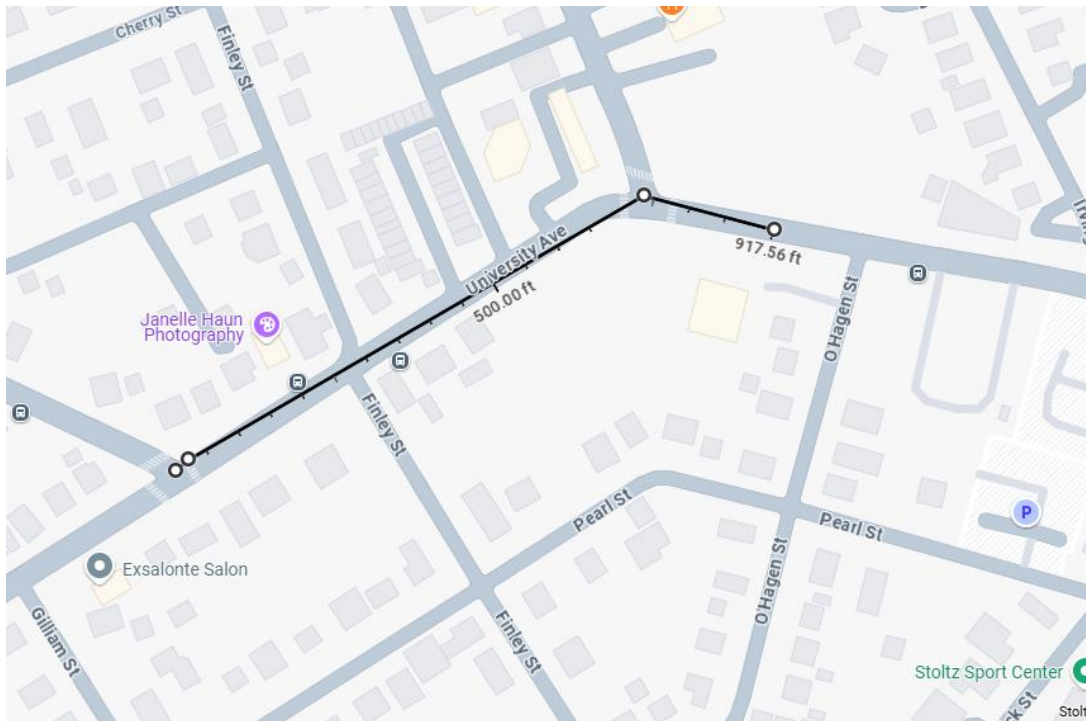


Figure 235: University Avenue corridor, Dubuque (Google Maps)



Figure 236: University Avenue corridor StreetView (Google Maps)

The corridor has an Average Annual Daily Traffic (AADT) of 14,300, placing it in the medium to high AADT category as defined by the Iowa DOT's Road Diet screening guidance. Crash activity is most prevalent during the evening peak period, particularly around 5:00 PM, which may correspond with higher traffic volumes, driveway use, and signal delays.

Between 2018 and 2024, a total of 68 crashes were reported along this short corridor. The majority - 56 crashes - resulted in property damage only, while 10 crashes involved possible or

unknown injuries, and two crashes resulted in suspected minor injuries. The crash profile is characterized by a high proportion of turning and merging conflicts. Notably, 17 broadside collisions, 11 angle crashes involving oncoming left turns, and 15 sideswipe crashes in the same direction suggest significant issues with lane changes and cross-traffic. There were also 12 rear-end crashes, which are common on corridors with inconsistent speeds and abrupt stops due to frequent turning vehicles. Additionally, five head-on crashes were recorded, which, though relatively rare, point to either lane discipline concerns or turning errors.

Several contributing factors emerged from the crash data. There were 13 loss-of-control crashes, some of which occurred in wet conditions, indicating a possible issue with speed management or roadway surface quality. Failure to yield the right-of-way (FTYROW) was cited in multiple contexts, including at stop signs (eight cases), while making left turns (seven cases), from uncontrolled intersections (one case), and from driveways (five cases). There were also eight crashes resulting from drivers running stop signs, further highlighting the intersection control and visibility challenges on this corridor.

Based on the characteristics discussed above, the following conclusions and recommendations can be drawn for this corridor:

- **Feasibility within Commercial Segments** - Given the segment's AADT of 14,300, University Avenue fits within the range where a three-lane road diet with a center turn lane may be appropriate, especially in corridors with high volumes of turning traffic. The crash patterns, particularly broadside, angle, and rear-end crashes, indicate potential for safety improvements with a reconfiguration that provides a dedicated two-way left-turn lane (TWLTL) and reduces conflict points.
- **Crash Density and Access Conflicts** - Despite its short length, the crash frequency is relatively high, making this a notable candidate for intervention.
- **Residential Constraints to the East** - While the commercial portion of the corridor could benefit from a lane reduction, the road transitions into a residential area where the outer lanes are used for parking. In these segments, a reconfiguration may not be feasible without eliminating on-street parking, which would likely face public opposition. Any proposed changes should therefore focus on the commercial portion of the corridor only.

A lane conversion strategy should be considered for the commercial section of University Avenue, potentially reducing the roadway from four to three lanes and incorporating a center TWLTL. This change could help reduce turning and merging crashes, while improving traffic flow consistency. The feasibility of extending this treatment into residential areas should be evaluated carefully, given the need to preserve on-street parking. Community engagement and detailed traffic operations modeling will be critical next steps in evaluating the corridor's full potential for reconfiguration.

Chavenelle Road

Chavenelle Road extends approximately 3,776 feet in a north-south direction from Radford Road to Northwest Arterial ([Google Maps Link](#)). The corridor features a four-lane cross section, with two through lanes in each direction. Both curb and gutter infrastructure and sidewalks are present

on both sides of the corridor, indicating good pedestrian connectivity. The speed limit drops to 30 mph as the corridor approaches more developed areas of the city. The land use in the surrounding area is predominantly commercial and industrial, contributing to both regular freight movement and driveway traffic. The recorded Average Annual Daily Traffic (AADT) is 4,550, placing it in the low-to-medium volume tier per Iowa DOT's Road Diet screening framework.



Figure 237: Chavenelle Road corridor, Dubuque (Google Maps)

Over the six-year analysis period, a total of 62 crashes were reported along Chavenelle Road. These crashes resulted in one suspected serious injury, five suspected minor injuries, 12 crashes involving possible or unknown injuries, and 44 property damage only incidents. The nature and severity of these crashes suggest a mix of both low-speed conflicts and more serious vehicular control issues.

Rear-end collisions were the most frequent crash type, accounting for 31 out of the 62 total crashes, signaling recurring issues related to unexpected stops, driver inattention, or a lack of sufficient buffer space. In addition, the corridor experienced 14 broadside crashes, often linked to turning conflicts or failures to yield, particularly at access points or unsignalized intersections. Ten non-collision single-vehicle crashes were also recorded, which commonly stem from loss of

control, road conditions, or driver behavior. The remaining crashes included three sideswipe (same direction) incidents, which may be linked to improper lane changes or narrow lane widths.

Contributing circumstances further highlight operational concerns: 26 crashes involved drivers losing control, while three crashes occurred due to drivers running stop signs. Additional causes included two failure-to-yield incidents from driveways, two failure-to-yield incidents involving left turns, and one case of a vehicle running off the road to the left. These patterns point toward a combination of speed management challenges, limited turning accommodations, and aggressive or inattentive driving behaviors.

Based on the characteristics discussed above, the following conclusions and recommendations can be drawn for this corridor:

- **Crash Patterns Suggest Strong Justification** - The dominance of rear-end and broadside crashes, as well as several loss-of-control incidents, suggests that this corridor may benefit from a reduction in the number of through lanes. These crash types are frequently mitigated by converting four-lane roadways into three-lane configurations that include a center two-way left-turn lane (TWLTL). This configuration not only separates turning vehicles from through traffic but also helps to calm vehicle speeds and reduce conflict points.
- **Traffic Volumes Support Conversion** - With an AADT of 4,550 vehicles per day, Chavenelle Road falls well within the ideal volume threshold for road diet feasibility. According to the Iowa DOT's guidance, corridors under 10,000 vehicles per day typically show no significant reduction in operational efficiency following conversion.
- **Design Environment Favors Implementation** - The presence of adequate lane width, curb and gutter infrastructure, and consistent sidewalks make this corridor physically suitable for reconfiguration. The adjacent commercial and industrial uses mean there are likely turning volumes that would benefit from a dedicated center lane, reducing the likelihood of rear-end and angle crashes at access points.

Based on current crash trends, roadway design, and traffic volume, Chavenelle Road appears to be a strong candidate for a road diet conversion. The corridor could benefit from a shift to a three-lane configuration with a dedicated center turn lane to reduce crashes and improve traffic flow. Further assessment through microsimulation, field review, and community input is recommended to confirm operational performance post-conversion.

Central Avenue

This segment of Central Avenue spans a four-lane east–west corridor from NW Arterial to Olympic Heights Road ([Google Maps Link](#)). The corridor supports a daily traffic volume of approximately 9,700 vehicles, placing it within the mid-range of Iowa DOT's Road diet screening thresholds. The adjacent land use is predominantly commercial, particularly along the west and central portions, with a gradual transition into scattered residential areas toward the eastern end. Side vegetation and moderate driveway density are also present throughout the segment. The corridor serves both local and through traffic, including a notable volume of truck movements due to the presence of several commercial driveways along the segment.



Figure 238: Central Avenue corridor, Dubuque (Google Maps)

Between 2018 and 2024, a total of 80 crashes were reported along this corridor. Although there were no fatal or serious injury crashes, there were six suspected minor injury crashes and 18 possible or unknown injury crashes, with the remaining 60 involving property damage only. Rear-end collisions were the most common, with 22 reported incidents, followed by 19 broadside crashes, 14 non-collision single-vehicle incidents, six angle crashes involving oncoming left turns, seven same-direction sideswipes, and four head-on crashes. The key contributing factors included 17 animal-related crashes, 11 instances of vehicles following too closely, 11 cases of running traffic signals, 10 crashes involving loss of control, four improper turns, and three incidents related to failure to yield from driveways.

Based on the characteristics discussed above, the following conclusions and recommendations can be drawn for this corridor:

- **Feasibility Supported by AADT and Crash Conditions** -With an AADT just under 10,000, the corridor falls within the volume range for conversion consideration. The lack of fatal or severe injuries is positive, but the frequency of rear-end, broadside, and loss-of-control crashes suggests room for operational and safety improvements.
- **Potential Safety Benefits Near Driveways and Commercial Access Points** - The numerous commercial driveways, some of which serve trucks, represent high-conflict zones. A lane reduction with a dedicated two-way left-turn lane (TWLTL) may help reduce conflicts at these points, particularly for turning movements and deceleration, potentially reducing rear-end and sideswipe incidents.
- **Animal and Single-Vehicle Crashes Signal Speed or Visibility Issues** - The notable number of animal-related and single-vehicle crashes, likely near areas with dense vegetation, may point to excessive speeds or limited sight distance. A road diet could help calm traffic and improve driver reaction times in these areas.

Based on the volume, crash patterns, and roadway context, Central Avenue shows promise for a road diet reconfiguration. A 3-lane conversion with a center turn lane could help address driveway conflicts and improve safety for turning vehicles. Further analysis of truck traffic patterns and signal spacing would be necessary before implementation, but preliminary screening indicates that the corridor meets key criteria for feasibility and could benefit from targeted improvements.

Asbury Road

This segment of Asbury Road runs in a west-to-east direction from the Northwest Arterial to Chaney Road in Dubuque ([Google Map Link](#)). It was selected for review based on the Roadway Asset Management System (RAMS) database, meeting the minimum traffic volume threshold (5,000) for consideration, with an AADT of approximately 11,700. The corridor shows characteristics suitable for potential two-to-three lane conversion analysis. Between the Northwest Arterial and John F. Kennedy Road, the corridor already features a three-lane configuration with a continuous two-way left-turn lane (TWLTL), serving the needs of surrounding commercial developments. East of John F. Kennedy Road toward Chaney Road, the roadway transitions into a two-lane cross-section, with single lanes in each direction and designated left-turn lanes at some intersections.

The surrounding land use shifts from predominantly commercial to residential. The corridor is generally about 40 feet wide, which is sufficient to accommodate a continuous three-lane cross-section throughout, especially east of John F. Kennedy Road where numerous residential driveways exist. This would offer operational and safety benefits similar to those already seen west of Kennedy Road.



Figure 239: Asbury Road corridor view (Iowa DOT Pathweb)

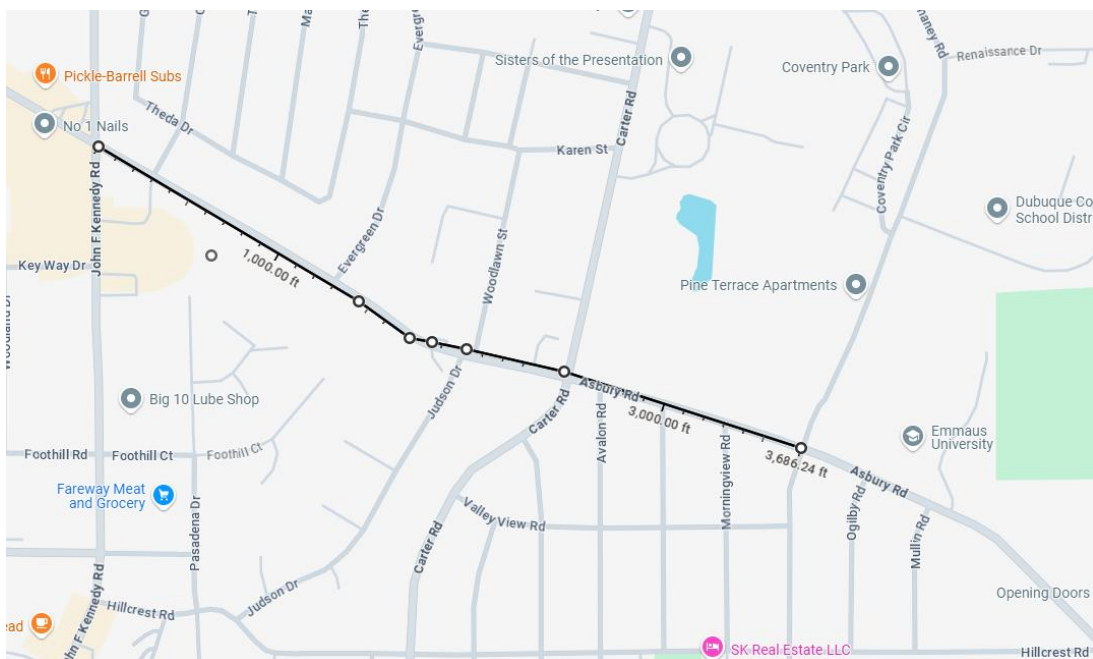


Figure 240: Asbury Road corridor, Dubuque, (Google Maps)

A total of 181 crashes were recorded along this corridor during the study period. These included one suspected serious injury crash, 13 suspected minor injuries, 45 possible or unknown injury crashes, and 122 property damage only incidents. Rear-end collisions were the most common crash type, accounting for 96 of the total crashes. Broadside (front-to-side) collisions were also notable with 32 instances, followed by 18 angle crashes involving oncoming left turns. There were 13 sideswipe crashes and nine head-on collisions. Single-vehicle non-collision crashes were relatively few, with only six recorded.

Several key contributing factors in crashes were evident. A significant number of crashes (62) involved loss of control, often during adverse conditions or high-speed maneuvers. There were also 19 crashes attributed to failure to yield while making a left turn, and 18 resulting from vehicles running traffic signals. Other contributing causes included following too closely (14 crashes), failure to yield from driveways (five), and improper or erratic lane changes (four). There were also eight crashes involving improper turns and two crashes where drivers failed to yield to pedestrians.

Given the high frequency of rear-end and left-turn related crashes, a two-to-three lane conversion east of John F. Kennedy Road could offer safety benefits by introducing a continuous TWLTL. This would help mitigate conflicts arising from turning movements into residential driveways and improve traffic operations for midblock access. The existing width of approximately 40 feet appears adequate to support this realignment without requiring major reconstruction or right-of-way acquisition.

Moreover, since a three-lane segment already exists west of Kennedy Road, extending the configuration eastward would ensure design consistency and potentially simplify driver expectations along the corridor. Based on these findings, further evaluation of this corridor for a

full three-lane conversion is recommended, including stakeholder engagement to understand potential concerns and detailed engineering feasibility assessments.

Rockdale Road Corridor

Rockdale Road extends from Old Mill Road to Maquoketa Drive in a north-to-south alignment through Dubuque ([Google Maps Link](#)). The reviewed segment is approximately 4,000 feet (roughly 0.76 miles) in length, with an existing roadway width of about 20 feet and an Average Annual Daily Traffic (AADT) of 6,300 vehicles—placing it within the medium AADT as defined in the Iowa DOT’s road diet screening methodology.

Though the road's current cross-section is narrow; field conditions along the southern portion of the corridor from Twin Valley Drive to Maquoketa Drive suggest there may be available lateral space within the right-of-way or roadway buffer zones to accommodate modest roadway widening if a conversion were considered. This portion of the corridor is primarily commercial, with multiple driveway access points serving businesses, which introduces turning conflicts that can benefit from a center two-way left-turn lane.

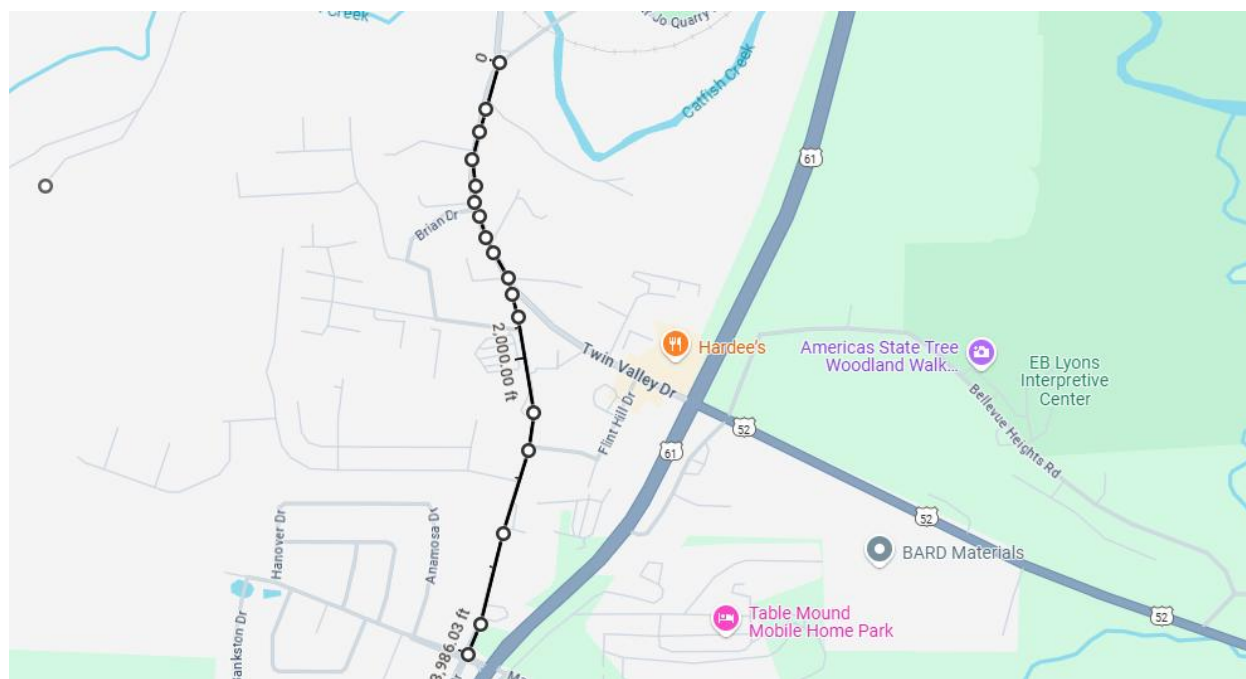


Figure 241: Rockdale Road, corridor Dubuque (Google Maps)



Figure 242: Rockdale Road, Dubuque (Google Maps)

A total of 42 crashes were recorded over the six-year period. While there were no fatal crashes, the crash breakdown includes one suspected serious injury crash, four suspected minor injury crashes, nine possible or unknown injury crashes, and 28 property damage only crashes. The dominant crash type was rear-end collisions, accounting for 23 of the 42 total crashes, which is more than half of all reported incidents. This is often indicative of stop-and-go traffic conditions and turning movements at unsignalized access points, conditions that may be improved by implementing a dedicated TWLTL.

Contributing crash factors included ran stop sign (nine), followed too close (five), loss of control (12 crashes), and other turning-related factors such as failure to yield when making a left turn or at a stop sign. These crash patterns suggest a combination of visibility or control issues, poor stopping distance management, and frequent access-related friction, supporting the case for corridor-level operational changes.

Given the crash profile and roadway context, the southern segment of Rockdale Road from Twin Valley Drive to Maquoketa Drive presents a feasible candidate for a two-to-three lane conversion. Despite the narrow existing pavement width (20 feet), the apparent availability of lateral space may allow for modest widening to accommodate a center turn lane without fully reconstructing the corridor.

This conversion would directly address the corridor's recurring rear-end crash pattern, particularly those associated with vehicles decelerating for left turns into commercial driveways. A TWLTL would also provide refuge space for left-turning vehicles, improving traffic flow and potentially reducing crash rates.

It is recommended that a feasibility study and cross-section analysis be conducted to verify available right-of-way and confirm whether parking, shoulders, or buffer zones could be reconfigured to support a 3-lane layout. If space constraints cannot be resolved, targeted safety improvements such as driveway access consolidation or added turn bays at key points may serve as partial countermeasures.

Cedar Cross Road Corridor

Cedar Cross Road runs east-west from Cedar Cross Court to Fremont Avenue, spanning approximately 0.54 miles ([Google Maps Link](#)). The roadway serves both residential and commercial land uses, with numerous driveway access points along the corridor. With an Average Annual Daily Traffic (AADT) of 8,400 vehicles, the segment meets the criteria for consideration under Iowa DOT's road diet screening process.

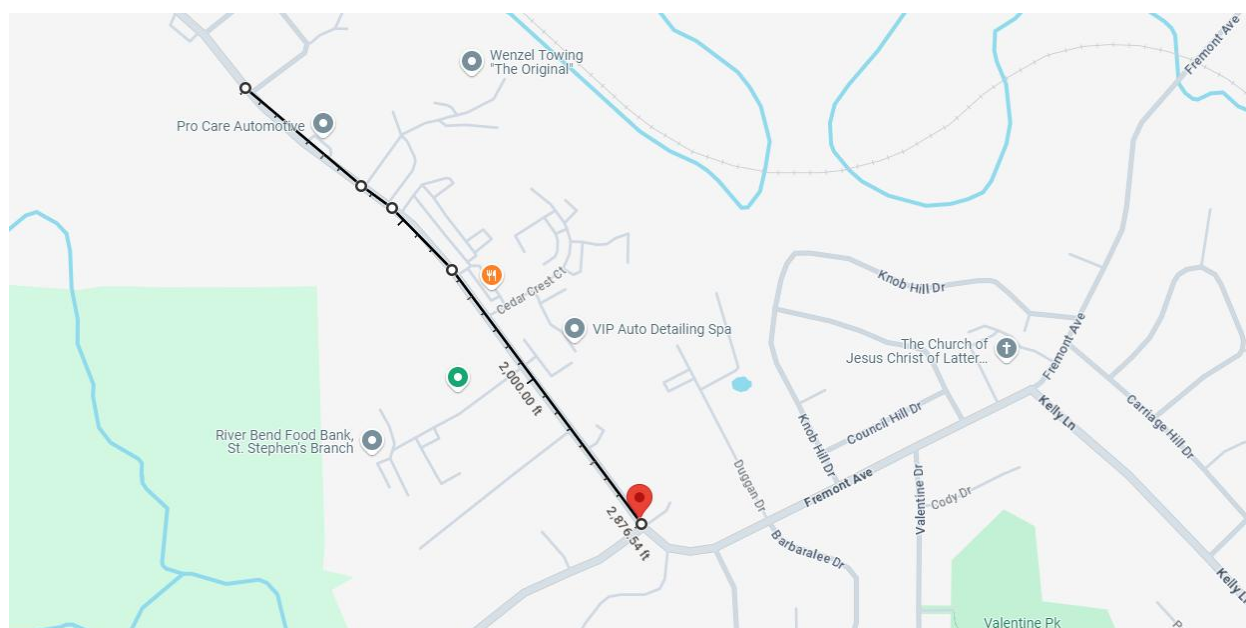


Figure 243: Cedar Cross Road, Dubuque (Google Maps)

The existing roadway is 36 feet wide, which provides enough space to consider a reconfiguration from four or undivided two-lane operation into a three-lane cross-section, consisting of one travel lane in each direction and a center two-way left-turn lane. There is no on-street parking observed along the corridor, which reduces design impacts and opens the opportunity for lane reallocation. Although certain areas appear to be constricted, there looks to be adequate room for the design cross section, especially when viewed in combination with the absence of parking and flexible shoulder zones.

Over the six-year review period, a total of 26 crashes were recorded along this segment. Although no fatal or serious injury crashes occurred, there were three minor injury crashes, six possible injury crashes, and 17 property damage only incidents. The predominant crash type was rear-end collisions, which accounted for 13 of the 26 total crashes - representing half of all crashes along this corridor. These collisions typically reflect delays and sudden stops caused by

vehicles turning left into driveways or minor intersections without the protection of a dedicated turn lane.

In addition to the rear-end crashes, the corridor also experienced seven broadside collisions, often indicative of conflicts at unsignalized intersections or driveways where sight lines or gaps may be insufficient. Only one angle crash involving an oncoming left turn was recorded, and no head-on or sideswipe crashes were reported.

The primary contributing circumstances further underscore the opportunity for improvement through access management and lane reconfiguration. Loss of control was cited in 11 crashes, which could be related to winter conditions, driver behavior, or narrow lanes. Five crashes were due to failure to yield from stop signs, suggesting potential visibility or judgment issues at intersecting side streets. Animal-related crashes also made up a small but notable share of incidents (4), likely linked to the surrounding semi-urban landscape.

Based on the combination of high AADT, frequent driveways, and a crash history dominated by rear-end collisions, Cedar Cross Road presents a promising case for a two-to-three lane conversion. A TWLTL could reduce stop-and-go traffic caused by unprotected turning vehicles, improving safety and flow for through movements. The crash data points to this potential, with nearly all injury crashes involving turning or following-distance related factors.

The existing cross-section is just wide enough to accommodate the new configuration, although some localized widening or shoulder adjustments may be needed to ensure consistent lane widths. It is recommended that a detailed design assessment follow, including evaluation of sight distances, turn volumes, and operational impacts at key driveways and side streets. If implemented, this conversion would be beneficial for the corridor's mixed residential and commercial users.

Public Survey Concerns

Overview

In addition to the sites identified through crash data analysis as potential improvement locations, a survey of city officials and residents throughout the region was conducted to identify locations of concern. In this respect, input from city officials and residents represents another data source for consideration in identifying sites where crashes may not have occurred historically, but existing conditions and operations are such that those most familiar with the roadways in the area have reason for concern. The following sections provide a discussion of the locations identified as being of concern to residents and city officials of the region. Note that some of the concerns voiced by the surveys have been addressed in prior sections of this plan and are not discussed here. A map of the overall responses received throughout the city is presented in Figure 1.

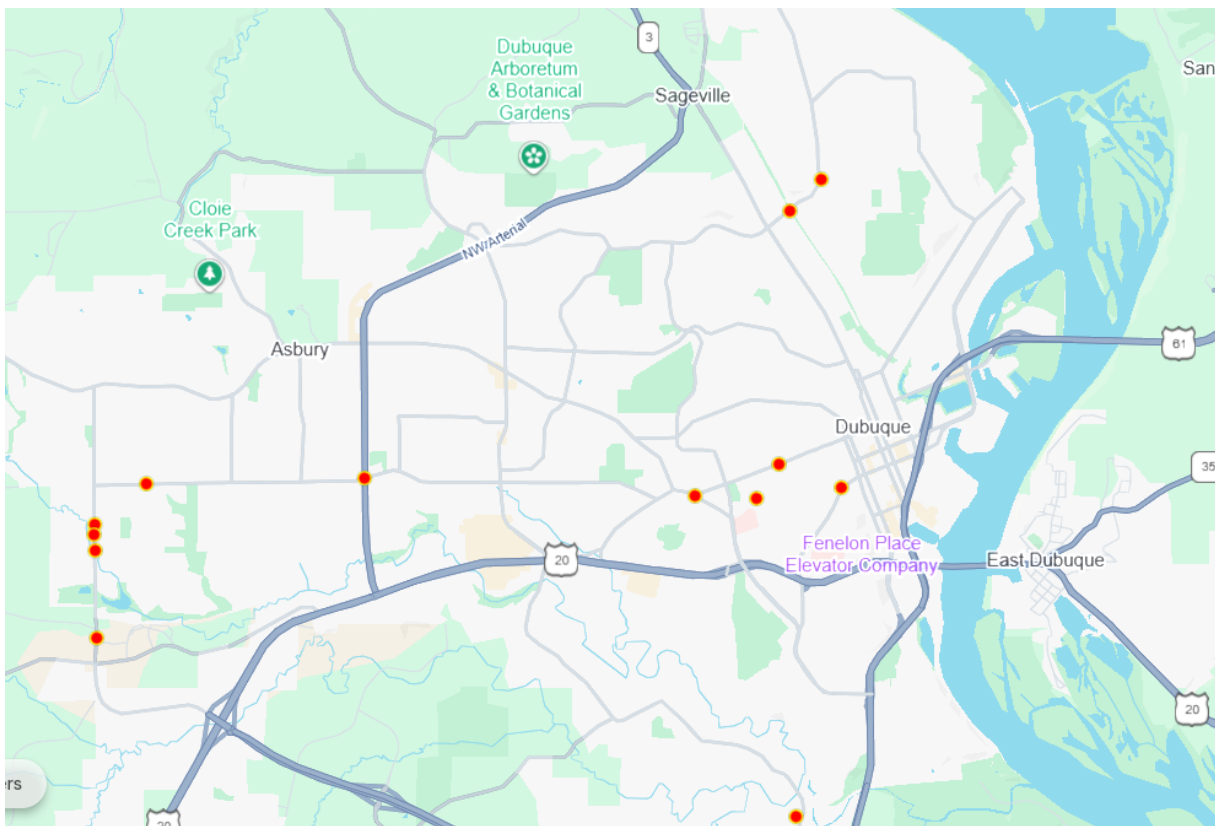


Figure 244: Dubuque area resident safety concern location survey responses

Roadway Issues

University Avenue and Loras Boulevard / University Avenue and Asbury Road intersections

A comment was received that both of these intersections need to be converted to roundabouts. Potential safety countermeasures may include:

- The city has plans in development that are considering the construction of roundabouts along the University Avenue corridor. These efforts should continue (High)

Rockdale Road corridor between Catfish Creek and Maquoketa Drive

A comment was received about this corridor that indicated that this two lane roadway, which was originally Highway 151 and taken over by the city decades ago, has seen little or no improvements made other than patching over the years. The lanes are very narrow, the roadbed is poor, and the shoulders, if they exist at all are gravel with asphalt patchwork. During the winter, snow melts onto roadway and freezes at night. There are no sidewalks along the route, even in the vicinity of Table Mound elementary school (one block away on Tower Drive). The intersection with Maquoketa Dr. and Highway 61/151 is a nightmare, with turning traffic not knowing who has right of way. Heavy trucks use Military Road and go through Key West instead of staying on Highway 61/151, creating congestion at intersection. Currently many commercial lots are for sale for development on or very near Rockdale Road. The roadway is also used in emergencies when Highway 61/151 is blocked. Something should have been done years ago.

The intersection area of Highway 61/151, Maquoketa Drive and Rockdale Road is discussed elsewhere in this plan. Potential safety countermeasures for the corridor may include:

- Implement winter maintenance strategies as needed to treat the roadway surface and address refreezing during nighttime hours (Low)
- Determine if heavy vehicle restrictions are needed and implement/enforce (Low)
- Perform a study of the corridor to determine whether reconstruction (aside from repaving) is needed and feasible. Such a study would consider the addition of sidewalks/trails, improved drainage, etc. (Medium)
- Reconstruct the roadway cross section (High)

10th Street and Bluff Street intersection

A comment was received that indicated that this site is a death trap. The respondent had personally witnessed numerous car wrecks, bike versus car collisions, and even someone racing a red [light] that hit a cop car that then slammed into another car which was totaled. Potential safety countermeasures may include:

- Add retroreflective borders to the signal back plates to increase conspicuity (Low)

Pedestrian Issues

Seippel Road Corridor between Pennsylvania Avenue and Chavenelle Road

Three comments were received regarding this corridor, with two being related to pedestrian safety. The first comment indicated that those living adjacent subdivision do not have a safe path to walk in either direction on Seippel Road. Vehicles travel at speeds above speed limit on Seippel Road, the lighting along street at night is poor, and the roadway has a drop off on one side. This makes it challenging to walk or bike along the road in order to get to Chavenelle Road and the Bergfeld recreation area.

The other comment pointed out that Seippel Road traffic has increased considerably with the opening of the Southwest Arterial. It is unsafe to walk the shoulders along Seippel Rd from Chavenelle Road to Middle Road. There is no safe way for pedestrians to walk from the Westbrook Subdivision up to Asbury or down to the Bergfeld recreation area, other than walking alongside Seippel Road. The traffic is moving at high speeds, and the lack of lighting and shoulders make it even more dangerous to walk this stretch. Potential safety countermeasures may include:

- Investigate the feasibility of a bike/pedestrian trail along the Seippel Road Corridor (preferably on the east side of the roadway)(High)
- Add lighting in conjunction with the construction of any pedestrian facilities (High)
- Determine if speed limits on Seippel Road need to be changed based on changes to traffic volumes and implement changes as needed (Low)

Middle Road corridor

A comment was received that indicated that Middle Road has no shoulders in some spots and there are no safe places for pedestrians or bicycles along the road between Radford Road to Seippel Road. The commenter went on to explain that they had found pedestrians walking along the road, riding bikes and even skating/roller blading. The visibility can be very poor in areas given the hilly character of the area and the roadway. With the increase in traffic along this stretch in recent years, there is the fear that someone is going to get hurt. A bike/pedestrian path along this stretch would really open up connecting the neighborhood residents to Bergfeld recreational area and trails and provide safety for all users. Potential safety countermeasures may include:

- Investigate the feasibility of a bike/pedestrian trail along the Middle Road Corridor (High)
- Add lighting in conjunction with the construction of any pedestrian facilities (High)

University Avenue and Delhi Street intersection

A comment was received that indicated that this intersection is challenging to cross and is very wide. Potential safety countermeasures may include:

- Apply pedestrian pavement markings and signage as needed (Low)
- Determine the best location for pedestrian traffic on the south side of University Avenue to cross in order to minimize crossing distance and place crosswalk accordingly (Low)

University Avenue, Hill Street and West 8th Street intersection

A comment was received that this intersection is difficult for people in mobility devices to cross and is confusing in general. This location was flagged as a site of concern based on the screening of crash data, and prospective safety strategies that could be implemented are discussed in that respective section of the plan.

Loras Boulevard and Alta Vista Street intersection

A comment was received that the visibility at this intersection is challenging as it is located at the crest of the hill. Potential safety countermeasures may include:

- Apply pedestrian pavement markings (possibly enhanced markings) and signage as needed (Low)
- Install Rectangular Rapid Reflecting Beacon signs at the intersection along Loras Boulevard to facilitate pedestrian crossings and alert drivers to pedestrian presence (Medium)

Seippel Road bridge over railroad

A comment received for this location indicated that the bridge over the railroad tracks does not allow bicyclists to safely cross. Putting in a curb [cut] to access the walkway would help, or a wide sidewalk to connect to the bike trails in the industrial park. In examining the site in Google StreetView, it appears that there is a walkway portion include on the east side of the bridge, although it may be narrow. Potential safety countermeasures may include:

- If the existing walkway is usable, extend existing sidewalks/trails to the bridge to connect to this infrastructure(Medium/High)
- If the existing walkway is too narrow, investigate the feasibility of constructing a separate trail bridge across the railroad and construct (High)