

Chapter 8

Transportation



INTRODUCTION

The City of Maquoketa's transportation system is vital to everyday life in the community. The system facilitates the movement of people and goods within the City allowing residents to get from their homes to employment, education, medical care, and shopping. Maquoketa's local system connects to regional and national networks providing access to surrounding communities and the rest of the world. Businesses import products and raw materials from outside the region, and export goods and commodities to other regions. Connections to regional transportation networks allow businesses to conduct these transactions quickly and efficiently, and allow the region to compete in the global marketplace. The goal of this chapter is to facilitate efficient and affordable transportation to residents and businesses in the City of Maquoketa.

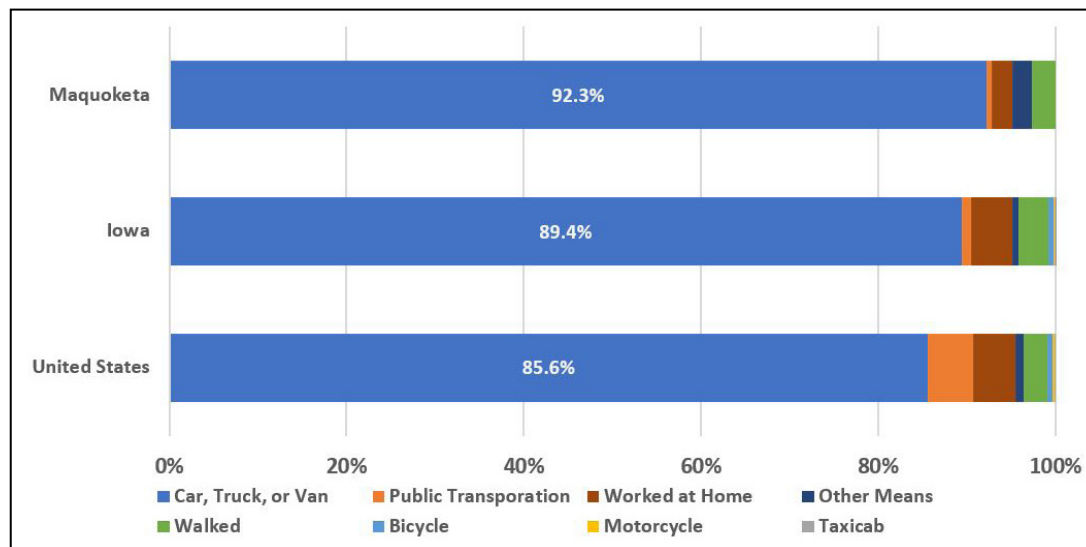
AUTOMOBILE TRAVEL

Automobile travel is by far the most used mode of transportation in the United States, and is relied on even more in smaller communities like Maquoketa where the area's population is more spread out. Figure 16 shows a Census estimate of how people get to work in the United States, Iowa, and Maquoketa. In Maquoketa, more than 92 percent of people use a personal car, truck or van to get to work. These numbers illustrate the level of reliance on personal vehicles and the importance of maintaining the infrastructure needed for personal vehicle travel. For the City of Maquoketa this means maintaining its system of local streets and bridges that allow people to access their property and travel across town. For counties, the Iowa Department of Transportation (Iowa DOT), and the Federal Highway Administration (FHWA), this means maintaining the highways and bridges that connect communities within the region and across the country.

Local City Streets

Maquoketa's network of streets allows people to get around within the community. The City of Maquoketa has approximately 54 lane miles of local streets within its city limits. During the input process for this plan, Maquoketa residents listed local streets as a high priority for the community. Street maintenance, traffic speed, and safety were all issues mentioned in the public meetings and through the Maquoketa Community Survey.

Streets are also vital for future economic growth in Maquoketa. Streets provide a framework for creating value in the community. The City builds streets as an investment. The money invested in streets allows people to access property. Once a piece of property is accessible, it becomes more valuable because the property owner can build on the land and people can get to the building. Accessible buildings can be used for businesses and housing.



Source: US Census Bureau, American Community Survey Estimates 2013-2017.

Figure 16. Means of Transportation to Work

Highways

US Highway 61

US Highway 61 is the City of Maquoketa's primary connection to the national highway system. US Highway 61 is a north-south highway that runs from Minneapolis to New Orleans. In Iowa, much of the route has been upgraded to four lanes. US Highway 61 provides Maquoketa with four-lane connection north to Dubuque and south to the Quad Cities and Interstate 80. The highway allows residents looking for a small town lifestyle to live in Maquoketa, but still be close to shopping, medical care, and employment opportunities in these larger cities. US Highway 61 is also important for economic growth in Maquoketa. Businesses in Maquoketa can import raw materials and export products to world markets on US Highway 61. US Highway 61 is maintained by the Iowa Department of Transportation. The City of Maquoketa should continue to communicate the importance of US Highway 61 to the Iowa DOT.

Iowa Highways

In addition to US Highway 61, the City of Maquoketa is connected to surrounding communities by a system of regional highways that include state highways, farm-to-market routes, and federal aid routes. Iowa Highway 64 is a two-lane state highway that serves as Maquoketa's primary east-west commercial corridor within the City and connects to US Highway 151 to the west and to the Mississippi River Bridge at Sabula to the east.

Farm to Market Routes

A farm-to-market route is a road that is used to connect agricultural areas to distribution centers in nearby towns. Many residents of Maquoketa and the surrounding unincorporated areas work in the agricultural industry or supporting industries, making a good quality farm-to-market system important for future economic growth in Maquoketa. Jackson and Clinton Counties maintain the farm-to market roads that connect to Maquoketa.

Federal-Aid Routes

Federal-aid routes are regional roadways that are eligible for federal funding. Federal-aid routes can be maintained by cities, counties, or the Iowa DOT. Federal aid eligibility is determined by the roadway's functional classification. The functional classification for a given roadway is determined based on its setting (urban or rural) and whether its main role is providing connectivity, mobility, or accessibility. The number of vehicle miles traveled (VMT), average annual daily traffic (AADT), and adjoining land uses of a roadway are also considered.

Traditionally, the roadway functional classification system has been used to describe how travel flows through the regional roadway network and to determine project eligibility for inclusion in different transportation planning projects and grants. The arterial streets form the backbone of the network. Local roads feed the collectors, which in turn feed the arterials.



US Highway 61 on the southwest side of Maquoketa

Maquoketa Functional Classification

The functional classification categories found in the Maquoketa area include: Principal Arterial, Minor Arterials, Major Collectors, Minor Collectors, and local streets. Table 11 summarizes roadways within the Maquoketa city limits by functional classification. Figure 17 maps Maquoketa roadways by functional classification and by farm-to-market status.

Table 11. Roadway Lane Miles by Functional Classification

Functional Classification	Lane Miles
Principal Arterials	24.4
Minor Arterials	10.5
Major Collectors	8.0
Local Streets	54.6
Total	97.6

BRIDGES

As with streets and highways, a good network of bridges is essential for a thriving local economy. Figure 17 includes Maquoketa area bridge locations. There are nine existing bridges within the Maquoketa city limits. Eight of the nine are on US Highway 61 or are overpasses over US 61. The City of Maquoketa maintains one bridge on East Summit Street and shares maintenance responsibility with Jackson County for a bridge on South Main Street near Horseshoe Pond. Several Iowa DOT and Jackson County maintained bridges are located in the immediate area around the City.

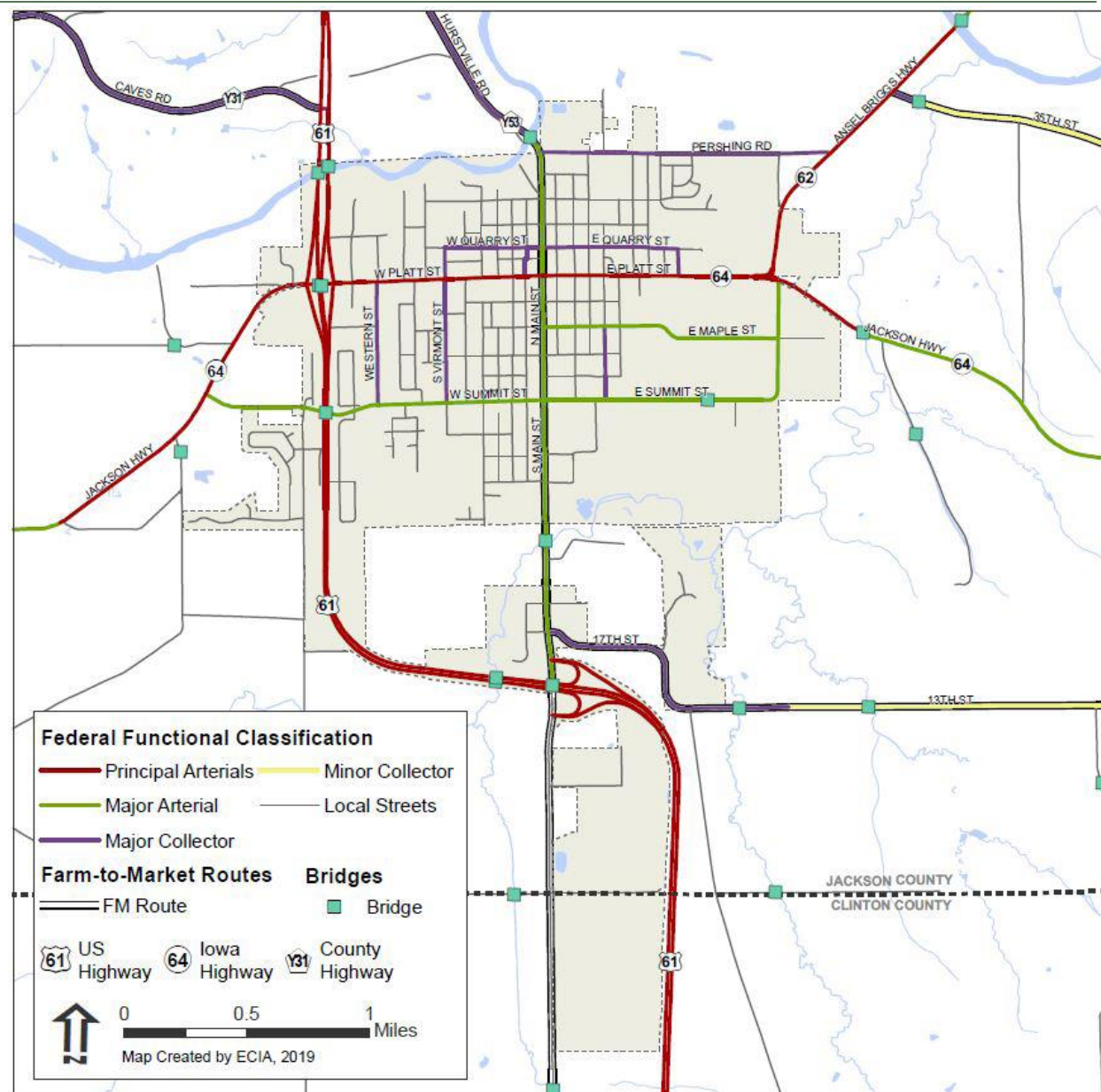


Figure 17. Maquoketa Roads and Bridges

RIDE SHARING

The concept of two or more people riding in a car together to keep transportation costs down or conserve fuel is not a new idea. Carpools became a popular way to conserve fuel in the United States during World War II and again during the 1970s oil crisis. What's new is that ride sharing has become more prevalent in recent years because of smartphone apps that allow people to coordinate shared rides on very short notice.

Smartphone app-based ride sharing services are becoming increasingly popular ways to get around. Two popular ridesharing services, Uber and Lyft, launched in large metropolitan areas between 2009 and 2012 and have continued to expand service into smaller communities. In Iowa, Uber and Lyft began providing service in Iowa's metropolitan areas in 2016 and 2017. In January 2019 Uber announced expansion of their service to the entire state of Iowa. In a press release Uber stated that it may take longer to get a ride in more rural areas but they expect the wait time to come down in the future.¹

As of mid-2019, Uber and Lyft service were not available in Maquoketa due to lack of registered drivers. But, these and other technology-based transportation services continue to expand into smaller communities and will create new opportunities in the future.

PUBLIC TRANSPORTATION

Regional Transit Authority 8 (RTA) provides public transit service to the City of Maquoketa. The RTA is one of sixteen regional transit systems in the state of Iowa and is a non-profit service organization. The RTA serves the public transportation needs of residents in Delaware, Dubuque, and Jackson Counties, and provides rides to Iowa City, Coralville, Cedar Rapids, Waterloo, and the Quad Cities. RTA operates a fleet of buses and standard vans, and contracts with privately owned automobiles operated by volunteers. RTA vehicles are equipped to accommodate all people, including children, the elderly, and people with disabilities. All RTA routes are open to the general public. Riders must request service 24 hours in advance. The cost of rides varies by destination. RTA service is open to people of all income levels, but fee assistance is available for those who qualify.

The RTA's main dispatch office and garage are located in Dubuque. The RTA also operates three other garages across the region including a location at 1000 E. Quarry Street in Maquoketa. The RTA's Maquoketa in Town service costs three dollars one way and operates from 8:00 a.m. to 3:00 p.m. on Monday, Wednesday, and Friday and from 9:00 a.m. to 3:30 p.m. on Tuesday and Thursdays. RTA also provides service between Maquoketa and Miles, Preston, Bellevue, and Baldwin. Out of town services cost \$6.75 one way and depart at 6:30 a.m. and return at 2:00 p.m.



RTA bus



RTA Maquoketa Garage 1000 E. Quarry St, Maquoketa

BICYCLES AND PEDESTRIANS

Walking and biking are important modes of transportation for Maquoketa. Walking and biking can provide transportation for those who are unable to drive or don't have access to a car. Choosing to walk or bike instead of driving can reduce traffic congestion, improve air quality, and improve physical health. Increasingly, people are listing bike and pedestrian amenities among the features that they consider when choosing where to live. Existing bicycle and pedestrian facilities in Maquoketa can be classified into three categories: trails, on-street bicycle routes, and sidewalks. The following section provides a description of each.

Trails

Maquoketa and the surrounding area have several off-street trails. Most trails in the area are classified as multi-use trails. These trails typically are concrete, asphalt, or packed crushed rock and are usually between 8 feet and 10 feet wide. Multi-use trails are physically separated from motorized traffic by an open space or barrier and can be in an independent right of way or within a roadway right-of-way. Multi-use trails usually accommodate both bicyclists and pedestrians and are suitable for most age groups and abilities.

In addition to multi-use trails, the Maquoketa area also has several trails that are geared to more specific types of uses including hiking and mountain biking. These specific-use trails are almost always used for recreation and are usually unpaved, steeper, and narrower than a multi-use trail, and as a result, may require a relatively higher level of physical ability. Several miles of hiking trails are located in Maquoketa area parks like Maquoketa Caves State Park and Prairie Creek Park.

On-Street Bicycle Routes

In addition to trails, Maquoketa bicyclists also have the option to ride on the streets. With an on-street route, bicyclists share the roadway with motor vehicle traffic. Many of Maquoketa's local residential streets are ideal on-street bicycle routes. These streets have low vehicle traffic volume and 25 mile-per hour speed limits or less. Streets with higher speeds and more traffic can include specific design improvements to direct bicycles and vehicles and improve safety for all users. Design improvements include signage, shared lane markings (sharrows), bicycle lanes, separated bicycle lanes, and protected bikeways.

The design strategy used depends on vehicle speed, vehicle traffic volume, and space available in the right-of-way. Streets with higher vehicle speeds and volumes will usually call for elements like buffered bicycle lanes or separated bikeways that offer more protection to bicyclists. Streets with slower speeds and lower traffic volumes are generally safer for bicyclists and are good candidates for less protective elements such as bicycle signage or shared lane markings. In many cases, local streets are suitable for biking without any additional design elements.

To help smaller communities like Maquoketa select bicycle design elements, the Federal Highway Administration has published a design guidance document called The Small Town and Rural Multimodal Network Guide. Figure 18, Figure 19, and Figure 20 provide examples of possible on-street improvements from the guide.²

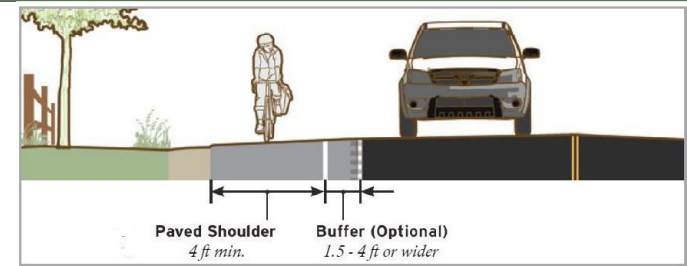


Figure 18. Paved Shoulder

Roadway shoulders can be enhanced to serve as space for pedestrians and bicyclists. Paved shoulders are appropriate on roads with moderate to high traffic volumes and speeds.

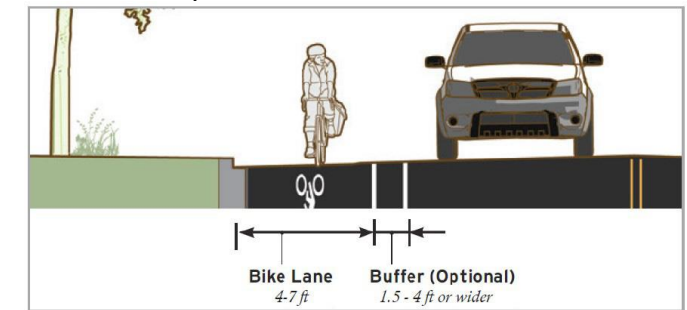


Figure 19. Bike Lane

Bike lanes provide a dedicated space for bicyclists on the edge of a moderate to high traffic speed and volume roadway. Bike lanes are similar to paved shoulders but are intended for more urban applications and have additional pavement markings and signage.

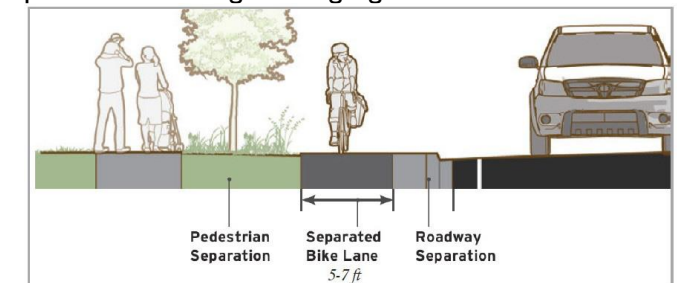


Figure 20. Separated Bike Lane

Sometimes referred to as protected bike lanes, separated bike lanes offer additional separation from vehicle traffic. Typically, the bike lane is separated by a vertical element such a curb, parked cars, decorative planting, or flex post.

Sidewalks

Sidewalks are an important part of the pedestrian network. Sidewalks provide necessary walking connections to homes, businesses, transit services, and other activities. Many streets in Maquoketa have sidewalks, but gaps exist in the sidewalk network. In some cases, sidewalks do not exist, in others the sidewalks are there but pedestrians are deterred by an unsafe crossing of a busy street. Sidewalk maintenance can also be an issue. Unlike trails or city streets, private property owners usually maintain sidewalks, and owners can vary greatly in their ability or desire to maintain sidewalks. The City of Maquoketa has a sidewalk concrete program that can help commercial or residential property owners with the cost of repairing or reconstructing existing sidewalks.

Private ownership somewhat limits the City's ability to address gaps in the sidewalk network. But the City does have options available to improve the sidewalk network.

- Inventory the sidewalk network and identify critical gaps and safety issues.
- Work with property owners through the City's Sidewalk Concrete Program.
- Install safety improvements at crossings.

PARKING

For Maquoketa, parking is primarily an issue in the downtown area. Higher building density and a mix of residential, office, and retail uses in the downtown means that demand for parking is high, while space for parking is limited. Parking is an important element within a downtown that supports shopping, working, living, and entertainment. Maquoketa's recent investments in its downtown and plans for future development have been great for the community, but have also caused concerns regarding parking.

Because of its importance, Maquoketa should take a proactive approach to downtown parking that includes developing an inventory of existing parking spaces and studying their usage. A downtown parking inventory should set out to answer the following questions: How many public parking spaces are available and where are they located? How many on-street spaces? How many paid reserved spaces? Is there sufficient legal parking for extended or overnight parking? Following the inventory, the City can focus on how and when available parking is used. Periodic surveys of parking usage can help the City understand parking demand during a typical day and during special events.

Maquoketa can use the information collected to better manage its existing parking supply and plan for possible future parking space additions. Potential parking solutions include:

- Add signage to direct people to available public parking.
- Provide a map of all downtown parking areas.
- Improve aesthetics of off-street lots.
- Make safety improvements to off-street lots including lighting.
- Improve pedestrian routes, sidewalks, and street crossings between parking areas and destinations.
- Provide parking for bicycles as a way to reduce demand for vehicle parking.

FREIGHT

Regional freight transportation connections are very important for Maquoketa's economic competitiveness. According to Iowa Workforce Development, half of the 75,945 workers in the Maquoketa laborshed area are employed in freight related industries.³

In 2018, the City of Maquoketa participated in the *Eight County Freight Study*.⁴ The study looked at freight transportation in a region that included four counties in eastern Iowa and four counties in western Illinois. According to the study, the region has good access to freight but is very dependent on connections to points outside the eight counties to distribute goods within the Midwest and beyond. Local companies that ship goods outside the region may need to first send goods to regional freight facilities in Davenport, Cedar Rapids, Rochelle, Rockford, and Chicago.

The study stresses the importance of regional coordination. Communities within the region, like Maquoketa, need to work together to establish key partnerships to better understand freight system needs and work toward advancing strategies to improve the Eight-County Regional freight system and its connections. The study includes several recommended projects and programs including:

- Highway improvements to address congestion and safety.
- Pavement improvements.
- Bridge improvements.
- New/improved intermodal, transload and/or port facilities.
- Lock and dam improvements.

REGIONAL COORDINATION

Building a transportation system that effectively connects communities requires local governments to work together. The Federal Highway Administration (FHWA) administers transportation activities on a national level and the Iowa Department of Transportation (Iowa DOT) manages transportation within the state. At the regional level, Iowa has nine Metropolitan Planning Organizations (MPOs) and eighteen Regional Planning Affiliations (RPAs) that conduct transportation planning activities and facilitate coordination between local governments. MPOs operate in urban areas with more than 50,000 residents and RPAs cover non-metropolitan areas of the state.

Maquoketa is a member of Regional Planning Affiliation 8 (RPA 8). RPA 8 is a four-county region that covers Clinton, Delaware, Dubuque, and Jackson counties. RPA 8 is governed by a policy board made up of representatives of its member cities, counties, and regional transportation agencies. As a City with a population over 5,000, Maquoketa has a representative on the policy board. Participation on the RPA 8 policy board gives Maquoketa access to federal transportation funding and allows Maquoketa to have a seat at the table for discussions of regionally significant transportation projects.

MAINTENANCE

Ongoing maintenance of transportation infrastructure is one of Maquoketa's most important transportation priorities. Regular maintenance protects the community's investment in its infrastructure by preventing deterioration and extending its useful life. Well maintained transportation infrastructure also supports economic development and public safety. Local residents and businesses depend on quality streets and bridges to get to their destination safely and efficiently.

The City of Maquoketa plans transportation infrastructure maintenance primarily through its Capital Improvements Program (CIP). Development of the CIP includes a systematic evaluation process that allows the City to compare all potential projects and develop a maintenance plan that ensures efficient use of funding.

Maintenance planning efforts can be aided by technology. Iowa State University's Iowa Pavement Management Program (IPMP) offers automated data collection on the condition of roads including information on cracks and the quality of the ride. IPMP information is available for free to communities through a web portal. The IPMP also offers access to pavement management software that allows the user to develop an inventory of streets by location and to perform a life cycle cost analysis to determine the best maintenance action for each street.

SAFETY

Transportation safety is an important issue that affects millions of people across the United States every year. US Centers for Disease Control reports that more than 32,000 people are killed and 2 million are injured each year from motor vehicle crashes.⁵ In Iowa over the last ten years, 3,584 people have been killed and 15,755 people have been seriously injured in motor vehicle crashes.⁶

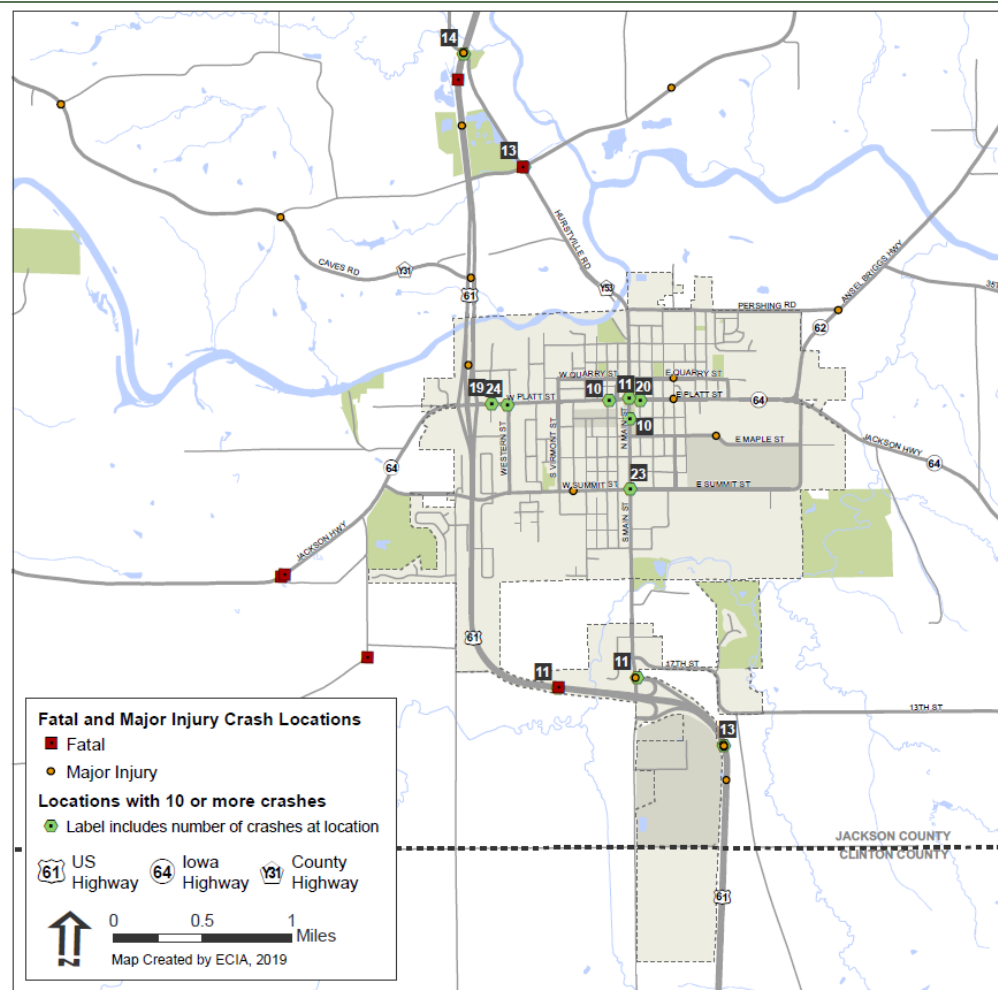
According to the Iowa DOT, 617 vehicle crashes occurred in the City of Maquoketa between January 2008 and February 2019. Of these crashes, one resulted in a fatality, seven crashes included a major injury, and 37 included a minor injury. Table 12 summarizes the crashes by severity.

With limited funding available for safety improvements, the City of Maquoketa will need to target safety improvements to locations where they can have the most impact. To help identify priority safety locations, ECIA developed the map in Figure 21 that identifies the locations of fatal and major injury crashes that have occurred in Maquoketa and surrounding area between January 2008 and February 2019. The map also identifies the locations that have had ten or more crashes during the same period. Key findings from the analysis include:

- All locations in Maquoketa with 10 or more crashes were located along Platt Street and Main Street.
- Only a handful of fatal and major injury crashes occurred within the City. Several more occurred just outside city limits on state and county highways. This highlights the importance of working with the Jackson County and the Iowa DOT on safety issues.

With priority locations identified, the City can conduct further studies to help identify contributing factors and identify specific improvements. One of the priority locations has already been studied. The Iowa DOT conducted a safety audit of the intersection of Summit Street and Main Street in 2017.⁷ Recommendations for the intersection include:

- Improve sight distance.
- Additional signage and pavement striping.
- Relocation of utility poles.
- Repaint crosswalks and add a “school crossing” sign.



Source: ECIA analysis of Iowa DOT Crash Data January 2008 – February 2019.

Figure 21. Maquoketa Area Priority Safety Locations January 2008 – February 2019

Table 12. Maquoketa Vehicle Crash Severity Jan. 2008 – Feb. 2019

Crash Severity	Number of Crashes
Fatal	1
Major Injury	7
Minor Injury	37
Possible/Unknown	94
Property Damage Only	478
Total	617

Source: Iowa DOT
SAVER January
2008 – February
2019.

FUTURE PROJECTS

Maintaining Maquoketa's transportation network is a continuous process of maintaining existing infrastructure and building new infrastructure to facilitate the growth of the City. Through the development of this comprehensive plan, the City of Maquoketa has identified key transportation projects that will affect the City's future development.

Platt Street Project

The Iowa 64/Platt Street Corridor Project will be one of the largest transportation infrastructure projects in the City's history. The project includes new street pavement and resurfacing, replacement of curb and gutter, replacement of pedestrian curb ramps and sidewalks for ADA compliance, repair and replacement of storm sewer, repair and replacement of sanitary sewer, repair and replacement of water main, installation of new broadband fiber-optic network, and traffic signal upgrades. All sidewalk, crossing, and traffic signal improvements will be ADA compliant. Figure 22 includes a conceptual illustration of part of the Platt Street project.⁸

South Main Street Bridge Project

The City of Maquoketa is currently developing plans for a new bridge on South Main Street over Prairie Creek near Horseshoe Pond. The existing bridge has no sidewalks, is in poor condition, and needs to be replaced. This roadway provides an important connection between downtown Maquoketa and US Highway 61, the site of the future hospital, and the commercial and industrial development on the City's south side. Pedestrian traffic on South Main has increased as more development has occurred south of the bridge. The north and south sides of the bridge are divided by Maquoketa's city limits, so the project would be conducted in partnership with Jackson County.

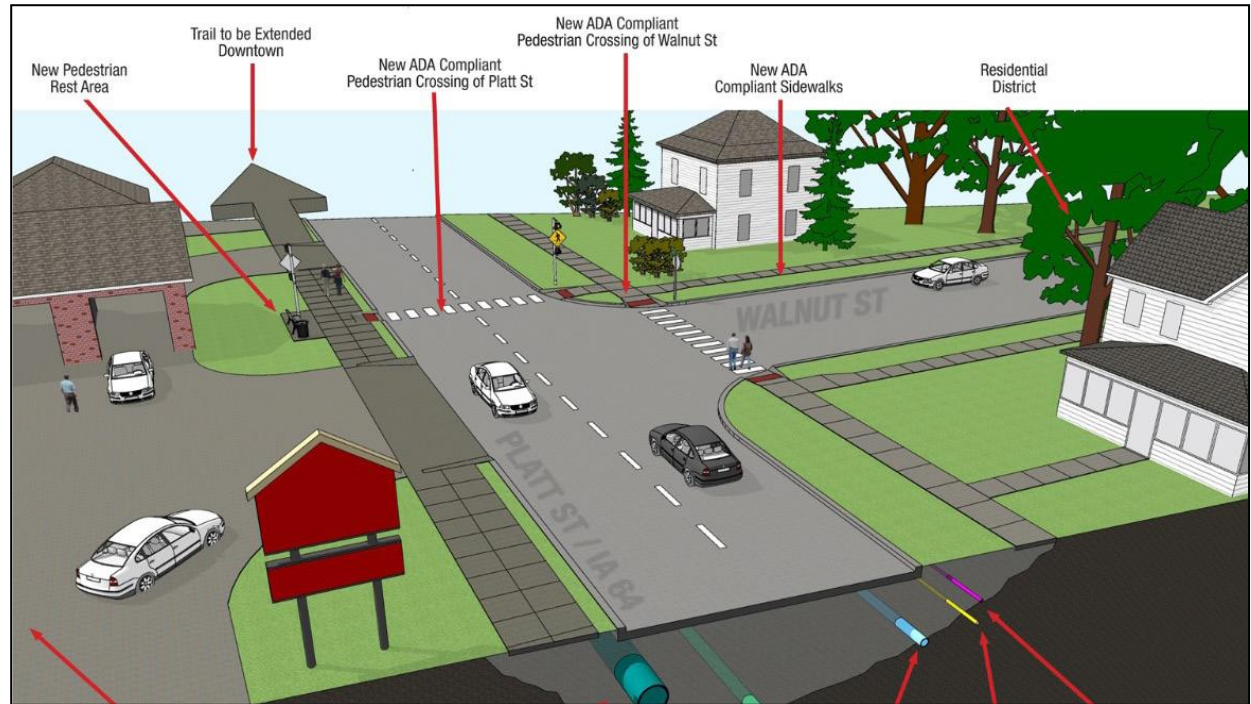


Figure 22. Illustration of Planned Platt Street Improvements

TRANSPORTATION RECOMMENDATIONS

The following recommendations are intended to guide the City of Maquoketa in providing safe high quality transportation for all residents of the City.

Overall Transportation Planning Process

- Continue to work with outside agencies such as Jackson County, the Iowa Department of Transportation, and Regional Planning Affiliation 8 to maintain regional highway connections.
- Follow a performance-based planning process that ensures that resources are used effectively.
- Continue to look for opportunities to fund transportation infrastructure projects through state and federal programs.

Roads and Bridges

- Evaluate the City's street system and plan future street maintenance projects through the City of Maquoketa's Capital Improvement Program (CIP).
- Complete the Platt Street Corridor Project.
- Complete the South Main Street Bridge Project.
- Reduce the number of major injuries and deaths from vehicle crashes by identifying problem locations and making safety improvements at those locations.

Public Transportation

- Coordinate with the Regional Transit Authority to improve public transit service in the Maquoketa area.

Bicycle and Pedestrian

- Create a more complete bicycle and pedestrian network through the development of trails, on-street bicycle routes, and sidewalks.
- Improve safety for bicyclists and pedestrians by adding improvements to on-street bicycle routes and improving street crossings.

Parking

- Manage downtown parking to complement business and residential uses.

Notes

1. See “Uber Services Available Across Iowa.”
2. See “Small Town and Rural Multimodal Networks” 3-5, 3-13, & 4-27.
3. The Maquoketa laborshed area includes all of Jackson County and portions of Clinton County and Dubuque County including the cities of Dubuque, Clinton, Bellevue, and DeWitt. See “Maquoketa, IA Laborshed Area Analysis.”
4. See “Eight County Freight Study”
5. See “Iowa Strategic Highway Safety Plan, 2019 – 2023.” The plan provides additional information on statewide efforts to improve traffic safety.
6. See “Motor Vehicle Crash Deaths.”
7. See “Intersection Site Assessment.”
 8. The illustration highlights the improvements at the intersection of Platt St and Walnut St. See “Platt Street Corridor.”