



DEVELOPING CONNECTION: ISETT AVENUE AND CYPRESS STREET RECONSTRUCTION

U.S. Department of Transportation
RAISE Grant Application
Muscatine, Iowa | April 14, 2022



Submitted by the
City of Muscatine, Iowa

Table of Contents

PROJECT DESCRIPTION	2
Transportation Challenges	3
Addressing the Challenges	5
Project History and Context	5
Statement of Work.....	7
PROJECT LOCATION.....	10
SOURCES AND USES OF PROJECT FUNDS.....	12
MERIT CRITERIA.....	13
Safety	13
Environmental Sustainability.....	19
Quality of Life	22
Improves Mobility and Community Connectivity	24
Economic Competitiveness and Opportunity.....	27
State of Good Repair	29
Partnership and Collaboration.....	30
Innovation.....	31

Project Description

The City of Muscatine, Iowa requests \$2,002,000 in US DOT FY 2022 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) funding to support planning for [Developing Connection: Isett Avenue and Cypress Street Reconstruction](#).

The *Developing Connection: Isett Avenue and Cypress Street Reconstruction* project will plan for the rebuilding of approximately 1.7 miles of a highly populated thoroughfare with extensive private and industrial traffic in Muscatine, Iowa. The corridor identified for revitalization encompasses Isett Avenue, which turns into Cypress Street, and is bounded by U.S. Highway 61 to the north and 5th Street to the south. The City of Muscatine recognizes reconstruction of the corridor as a priority because of its importance to the region's transportation network but lacks the funds to execute the appropriate level of preparation to ensure the project is completed in ways that protect and uplift the surrounding neighborhoods, businesses, and environment.

Currently, there is evidence of decaying infrastructure that will not sustain the residential and commercial growth that is possible for this area of town. Portions of sidewalks are nonexistent or in disrepair, the bridge and levy are ineffective to protect the roadway and travelers, the roadway itself is deteriorating, and it does not effectively manage an average annual daily traffic volume of up to 12,000 vehicles. The project seeks to mitigate the effects of flooding, reduce dependence on cars for travel through the corridor, and efficiently connect various residential, commercial, and industrial areas of Muscatine. Creating a sense of place and highlighting the unique character of the area will increase economic opportunity and quality of life along the corridor. The City aspires to come alongside current goals and efforts happening in the area to implement the neighborhood's vision of a safe, reliable, attractive corridor that enhances the quality of life, opportunities, and connectivity of all who interact with it.

Proposed planning activities include a full traffic study, environmental assessment, comprehensive public engagement and input process, topographical survey, right-of-way determination, project design, and full construction plans. It is anticipated that potential

improvements to the Isett/Cypress Corridor could include: four-lane to three-lane conversion, construction of three new roundabouts, sanitary sewer and water main replacement, raising an aging bridge, additional pedestrian-friendly sidewalks, multi-use trail extension, and landscaping. Receiving funding for the planning and design phase of the project will enable the City to identify optimal improvements to unite the residential and commercial/industrial communities in this area, now and into the future. This initiative will enable safe travel for cars, trucks, and pedestrians, as well as



Figure 1: An award-winning roundabout constructed by the City of Muscatine in 2020.

transforming this corridor into one that is aesthetically pleasing and efficient to travel along, rather than one that is full of hazards and frustrations.

Isett Avenue/Cypress Street is a designated truck route and carries a large load of industrial and commercial traffic to companies such as Kraft Heinz, HNI Manufacturing, and Daufeldt Transport, among several other manufacturing and logistics businesses. This type of 24-hour traffic, while essential for Muscatine's economy, makes the current configuration of Isett Avenue/Cypress Street unsafe, unsustainable, and inefficient for residential and industrial movement. This project seeks to address the challenges currently facing the corridor and the surrounding neighborhoods and businesses, which include a dangerous environment for pedestrians, decaying infrastructure, and intersections and lane configurations that no longer meet the corridor's needs.

While the City is diligently working to address infrastructure problems through incremental improvements, the award of a RAISE grant would enable a more substantial redesign to implement the comprehensive corridor vision on a scale the City cannot accomplish on its own. Muscatine cannot afford to wait any longer to fully rebuild and revive this major connector. Critical safety issues, lack of accessibility, and the corridor's role as an access point for good-paying jobs and economic activity for the area serve as urgent drivers of change.

Transportation Challenges

This stretch of Isett Avenue/Cypress Street presents several safety and connectivity challenges for the community of Muscatine.

Challenge 1: Decaying infrastructure that creates unsafe conditions for all types of travelers.

- The roadway is deteriorating as a result of poor drainage and heavy traffic.
- Intersections and lane configurations necessitate dangerous turning angles and unnecessary lane changes.
- Sidewalks are not ADA compliant or missing entirely.



Challenge 2: Congestion and inefficiencies with commercial traffic.

- Industry along the corridor creates semi-trailer traffic that overwhelms the current roadway, which is already difficult to navigate for trucks and other large vehicles such as school buses.
- Because the existing configuration was designed for smaller vehicles and a semi-trailer is wider than one lane, both lanes cannot currently be used while a semi-trailer is going through.



Challenge 3: Lack of connectivity for travelers of all kinds, especially pedestrians.

- Safety issues for pedestrians discourage walking and biking, including lack of sidewalks and poor lighting in certain stretches.
- Many Muscatine residents travel along this corridor to get to work, school, stores, and essential services, both on foot and by vehicle.
- High levels of stopping, starting, waiting, and lane changing make it inefficient and hazardous to drive down this corridor that connects much of Muscatine.



Addressing the Challenges

The City of Muscatine seeks to address these challenges in a way that is beneficial for the surrounding residents, neighborhoods, and businesses, as well as the community as a whole. Reconfigurations including a three-lane corridor with a bidirectional left turn lane in the center will reduce crashes and improve efficiency. Sidewalk on one side of the roadway and a separated multi-use path on the other will increase access and walkability. Modern roundabouts at Bidwell Road and Clay Street and a mini-roundabout at 11th Street will alleviate much of the congestion experienced at these three intersections. By raising the roadway through the section that passes over Geneva Creek, the flash flooding issues that are experienced there can be addressed. The City envisions structural improvements that will:



Transform the Isett/Cypress Corridor from a road that's hazardous for both vehicles and people into a safe, pedestrian-friendly street that serves the neighborhoods and businesses around it.



Enable residents of Muscatine to have ease of access to their workplaces and other facilities, whether they travel by car or not.



Strengthen the corridor as a major connector for commercial and industrial transportation.

Project History and Context

Isett Avenue was last paved almost thirty years ago in sections, and since then has only been updated with hot mix asphalt overlay. The least recently updated section of Isett Avenue, which also bears the heaviest traffic load, was concrete paved thirty-five years ago in 1987. In a 2017 statewide screening for potential lane reconfigurations, the Iowa Department of Transportation identified Isett Avenue from Lake Park Boulevard to Woodlawn Avenue as a candidate for four-lane to three-lane conversion. This recommendation was based on factors such as traffic volume, turning patterns, crash patterns, and pedestrian activity. A Traffic Engineering Assistance Program Study was performed on this corridor in 2021 and identified potential roundabout and four-to-three lane conversion sites, affirming the results of the Iowa DOT screening.

The *Developing Connection: Isett Avenue and Cypress Street Reconstruction* project aligns with the City of Muscatine's broader focus on corridor revitalizations and will build on adjacent work that has been completed by the City in the past several years. For the past decade, the City has been investing in transportation infrastructure by identifying and working on targeted corridors and their surroundings that significantly impact the community, from improving the driving

experience to making the corridors more appealing and safer for pedestrians and bikers. The Park Avenue Corridor in eastern Muscatine and the Mississippi Drive Corridor downtown have both been reconfigured in the past five years to increase connectivity, quality of life, and ease of access, accompanied by several targeted smaller projects that have reconstructed and improved sections of roads around town.

This project serves as an extension of three major roadway sector improvements, including:

- A current City effort to revive and develop the Mulberry Corridor, a mixed residential and commercial neighborhood that lies north of downtown Muscatine and west of the identified Isett/Cypress Corridor. Cypress Street from 11th to 5th Streets is part of the same neighborhood as the [Mulberry Neighborhood Revitalization Project](#) area. The goals of the project include improving walkability and safety, increasing connectivity, and promoting commercial development, goals that the *Developing Connection* project shares and will support.
- A City project completed in 2021 on the [Park Avenue Corridor](#) that included a four-lane to three-lane conversion and greatly improved connectivity and accessibility along the corridor. Figure 2 shows the proximity of the three projects, illustrating how they build on each other and contribute to revitalizing the broader area.
- The City is in the final phase of the Grandview Avenue Revitalization Project, which includes roadway improvements, green infrastructure upgrades, and increased pedestrian safety and comfort, on a 2.2-mile stretch of the main thoroughfare in the South End of town (census tract 510).

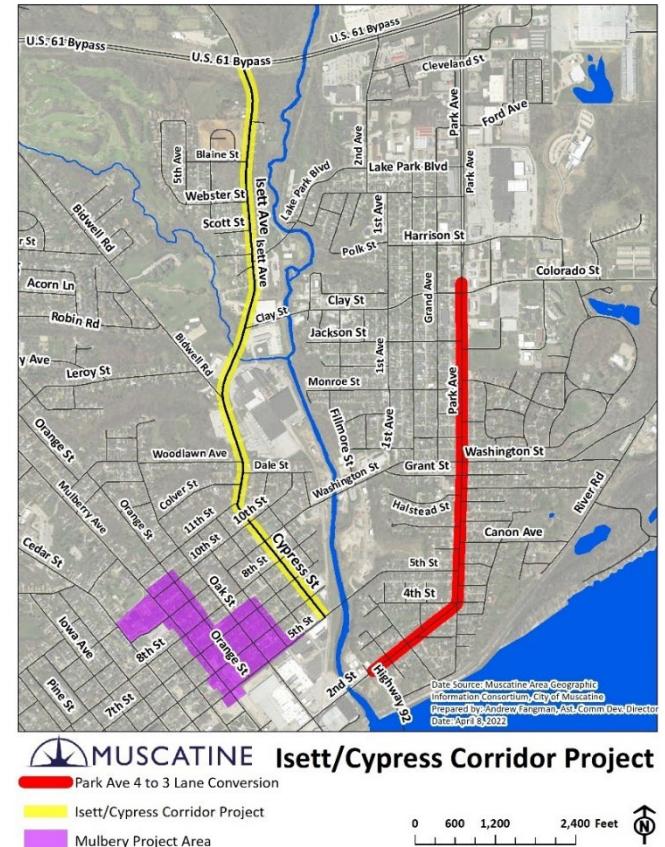


Figure 2: The Isett/Cypress Corridor project will complement recent and upcoming City efforts.

Muscatine's City Strategic Plan, County Strategic Goals, County Trails Plan, and Bike & Pedestrian Master Plan all identify objectives and priorities that this project serves. The [City Strategic Plan](#), created in 2021, focuses on creating vibrant communities that are also healthy, safe, and have reliable public infrastructure. The *Developing Connection* project contributes to many of the strategies identified within those focus areas:

- Develop wayfinding throughout the community to enable residents and visitors to locate assets and businesses.

DEVELOPING CONNECTION: ISETT AVENUE AND CYPRESS STREET RECONSTRUCTION

- Create quality places that people want to work, live, and play in and that contribute to community health, happiness, and well-being.
- Invest in critical public safety infrastructure and equipment to maintain the expected level of service while managing capital costs.
- Maintain and replace aging assets while maintaining service levels.
- Integrate placemaking into capital projects to create quality community spaces that are safe, attractive, and support community connectivity.

Muscatine County's identified target areas of economic development, infrastructure, quality of life, and safety will be furthered by improvements to the Isett/Cypress Corridor. The Bi-State Regional Commission, encompassing communities in eastern Iowa and western Illinois, has named aging infrastructure as a challenge facing local governments. This project will advance city, county, and regional goals in a way that values sustainability, access to opportunities and resources, cost-effectiveness, and residents' quality of life.

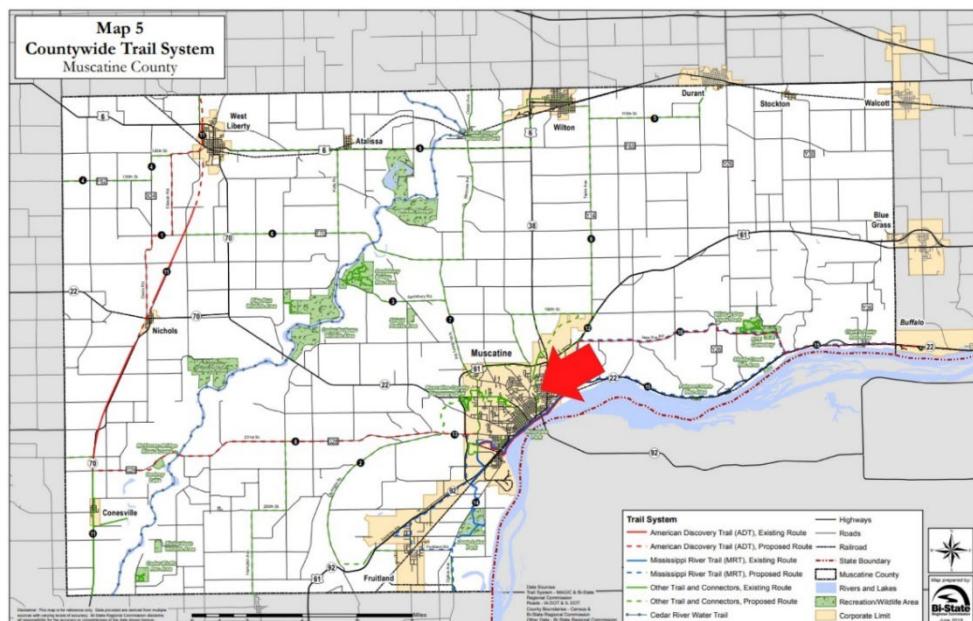


Figure 3: Extension of the multi-use trail along Isett Avenue will connect it into a broader network of trails, increasing access and transportation options for residents of the corridor.

The extension of the multi-use trail that runs to the east of Isett Avenue has been identified several times as a needed component of the Muscatine County trail system. Once completed, this connector piece of the trail will create over thirteen continuous miles of trails and sidewalks that stretches from outside City limits east of Muscatine, through town and along the river, to the South End and back around to the west side of Muscatine.

This trail connects

residential areas to the riverfront/downtown to parks to schools to commercial areas, including food access, reducing dependence on motorized vehicles and giving Muscatine residents more choices for how to travel around town and access the things they need. This trail extension (denoted by the red arrow in Figure 3) would also connect into the county-wide system of multi-use trails.

Statement of Work

The City of Muscatine has identified the Isett/Cypress Corridor as a place in need of renewal and repair, but the project is still in its conceptual phase. This RAISE grant request will encompass Phase 1 of the *Developing Connection: Isett Avenue and Cypress Street*

DEVELOPING CONNECTION: ISETT AVENUE AND CYPRESS STREET RECONSTRUCTION

Reconstruction project, which will include an environmental assessment, time to seek input from residents and businesses, engineering design, and development of construction plans. The targeted area includes 1.7 miles of essential Muscatine roadway: Cypress Street from 5th Street to 11th Street and Isett Avenue from 11th Street to Highway 61.

Isett Avenue/Cypress Street is currently an undivided roadway with two lanes from Highway 61 to Lake Park Boulevard, four lanes between Lake Park Boulevard and Bidwell Road, and two lanes between Bidwell Road and 5th Street with additional left turn lanes at two of the intersections. The corridor is primarily a north/south minor arterial facility that is also a designated semi-trailer truck route. The posted speed limit along this section of Isett Avenue/Cypress Street is 25 mph. Street lighting is provided along the roadway. Pedestrian sidewalk accommodations are provided along the east and west sides of the roadway south of Clay Street but are not present north of Clay Street.

Proposed planning activities will include:

- Full traffic study (a partial traffic study was completed in 2021), in which every intersection will be analyzed for the best improvement options.
- Environmental assessment.
- Public engagement, including events and meetings at 30%, 60%, and 90% design, dialog with business owners and residents, receiving feedback, and the Muscatine Heart and Soul initiative.
- Topographical survey and right of way determination.
- Design.
- Full construction plans.

It is anticipated that potential improvements to the Isett/Cypress Corridor could include four-lane to three-lane conversion, construction of three new roundabouts, raising an aging bridge, addition of pedestrian-friendly sidewalks, extension of a multi-use trail, improved stormwater management, sanitary sewer and water main replacement, and landscaping. Figure 4 shows the extent of the *Developing Connection* project and potential major construction activities.

The seven major intersections along this corridor affect safety, efficiency, and connectivity in the area. These intersections will be studied, with the goal of reducing crashes, increasing efficiency, and creating pedestrian accessibility.

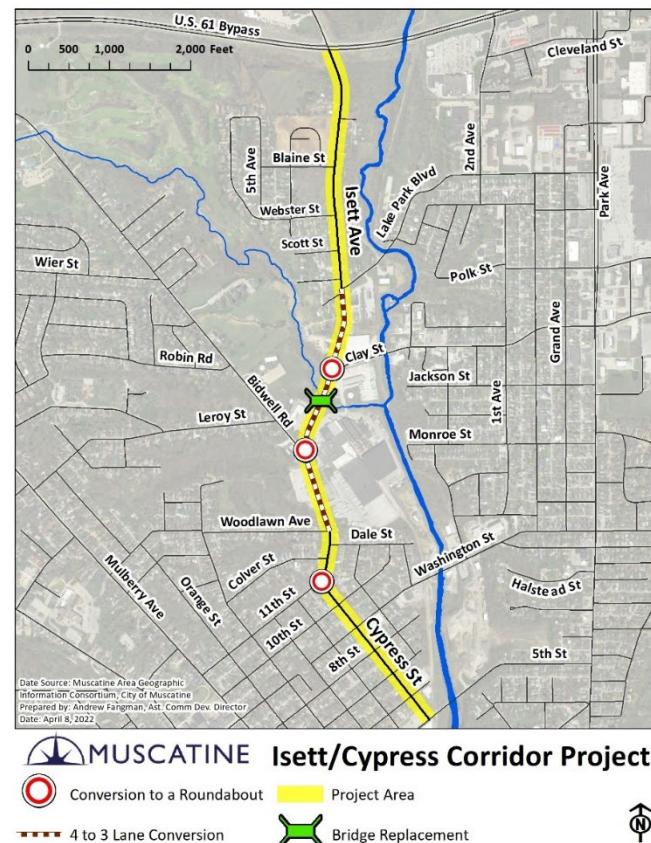


Figure 4: Potential improvements to the corridor include construction of roundabouts, 4-to-3 lane conversion, and bridge upgrades.

DEVELOPING CONNECTION: ISETT AVENUE AND CYPRESS STREET RECONSTRUCTION

Figure 5 highlights the current intersection types contributing to issues.

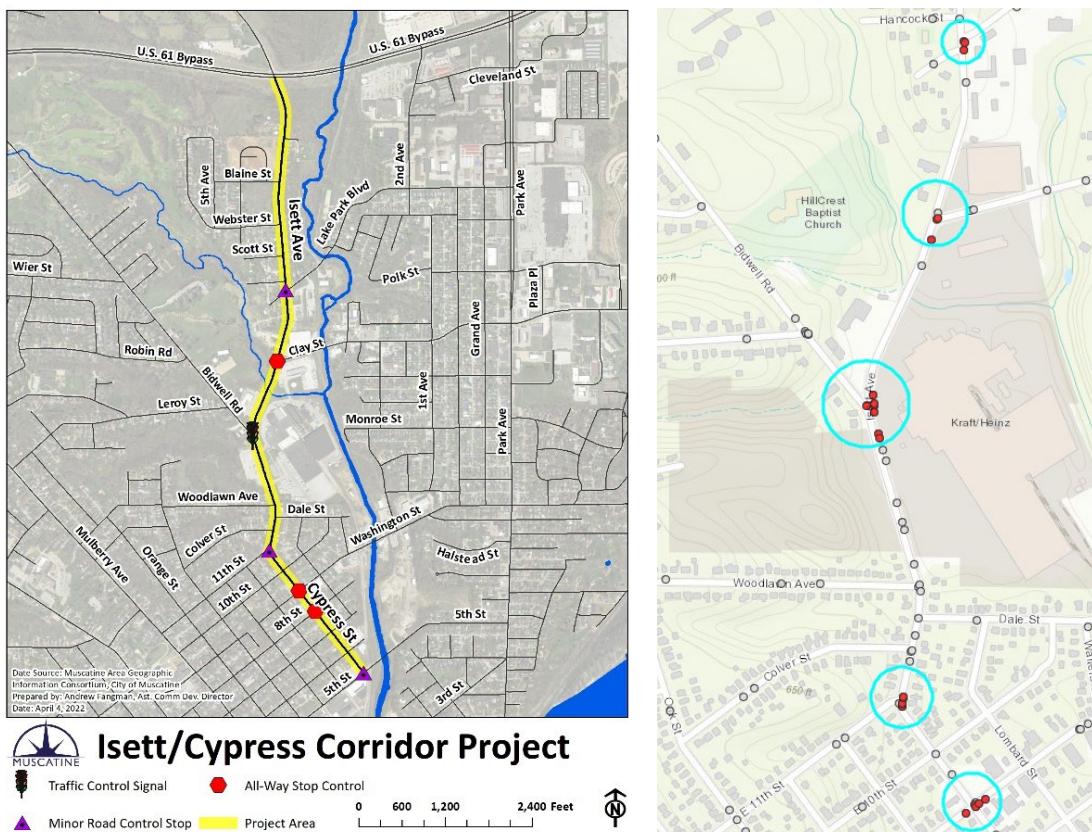


Figure 5: Current intersection types in the corridor do not serve the needs of the area and have a history of crashes.

The City commits to engage in a comprehensive planning process for Isett Avenue/Cypress Street utilizing best practices, including community input and thorough analysis of impacts, so the end result is a corridor that serves the public by respecting and protecting all residents, visitors, and passers-through far into the future. The corridor will prioritize safety and comfort, welcome more travel choices, encourage connection between neighborhoods, and limit harmful emissions, while allowing increased commercial traffic to continue moving seamlessly to their destinations.

The City of Muscatine is well-positioned to meet the schedule requirements of RAISE grant funding, as shown in the Project Schedule in Figure 6. Cost and time contingencies are included in the project schedule and proposed budget.

DEVELOPING CONNECTION: ISETT AVENUE AND CYPRESS STREET RECONSTRUCTION

DEVELOPING CONNECTION PROJECT SCHEDULE																								
TASK #	TASK DESCRIPTION	2022						2023						2024										
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
1	GRANT AWARD																							
2	PREPARE RFQ																							
3	ISSUE RFQ																							
4	RECEIVE SOQ'S																							
5	REVIEW AND SCORE SOQ'S																							
6	INTERVIEW AND SELECT CONSULTANT																							
7	NEGOTIATE CONTRACT																							
8	REQUEST CONTRACT APPROVAL FROM COUNCIL																							
9	STUDY AND PLANNING PHASE																							
9A	TRAFFIC STUDY																							
9B	ENVIRONMENTAL ASSESSMENT																							
9C	CORRIDOR PLANNING																							
10	DESIGN PHASE																							
10A	PRELIMINARY PLAN DESIGN																							
10B	CHECK PLAN DESIGN																							
10C	FINAL PLAN DESIGN																							

Figure 6: Proposed Project Timeline

Project Location

The City of Muscatine is located along U.S. Highway 61 and adjacent to the Mississippi River in southeastern Iowa. It is the county seat of Muscatine County and is approximately 25 miles southwest of Davenport and 35 miles southeast of Iowa City. As of the 2020 census, the population of the City of Muscatine is 23,797.

Muscatine is a vibrant river community where a rich tradition of community pride and entrepreneurial spirit has created an outstanding environment to live and work. Muscatine values its history, has a strong sense of community, is rich in cultural and economic diversity, and has strong global connections through Fortune 500 companies

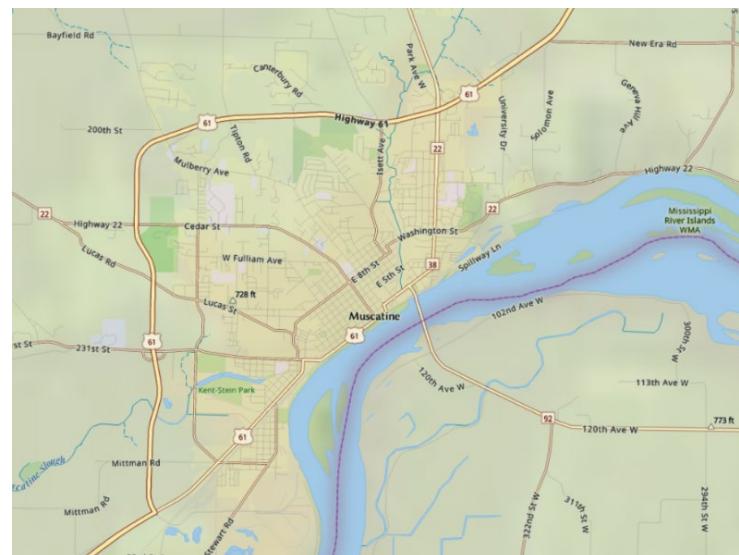


Figure 7: Muscatine's location between U.S. Highway 61 and the Mississippi River, with Isett Avenue in the eastern half of town.

and foundations with international reach, among others. The residents, businesses, and local government are engaged and achieve goals through valued partnerships.

The project encompasses the entirety of Isett Avenue, which becomes Cypress Street at the 11th Street intersection, about 1.7 miles of roadway in total. This corridor runs to the heart of Muscatine, linking the commercial-heavy Park Avenue on the east side of Muscatine to the downtown and more residential areas around Mulberry Avenue. Isett Avenue is one of the main routes connecting U.S. Highway 61 to the downtown area and carries a heavy load of semi-trailer traffic to companies such as Kraft Heinz, HNI Manufacturing, and Daufeldt Transport, among other industrial and commercial businesses located along this corridor. Highway 61 is the most heavily traveled road in Muscatine County, carrying up to 20,000 vehicles per day. It is vital for commercial transport; semi-trailers regularly drive between Keokuk, 88 miles south of Muscatine, to Dubuque, 92 miles north, and beyond Iowa state lines.

The project is located in two of the six census tracts that make up the City of Muscatine. Tracts 506 and 508, in which the project is located, are not Areas of Persistent Poverty, Historically Disadvantaged Communities, or community development zones. The adjacent Tract 507 is a federally designated Opportunity Zone and Tract 509 is an Area of Persistent Poverty. Tract 510 in Muscatine is not adjacent to the project but has been identified as an Area of Persistent Poverty, a Historically Disadvantaged Community, and an Opportunity Zone. This project is classified as rural by Section 3.C.ii of the RAISE Grant Notice of Funding Opportunity.

In [Census Tract 508](#), in which half of the project is located:

- The poverty rate is 18.8%, compared to 12.8% in the United States as a whole.
 - Among children, the poverty rate is 21%, which is 1.5x the county rate and higher than the national rate of 17%.
 - Among seniors (65+) the poverty rate is 21%, more than double the city, county, and national rates.
- 26% of residents are Hispanic, compared to 18% of the United States.
- The median household income is \$42,584, compared to \$53,768 for Muscatine, \$60,435 for Muscatine County, and \$64,994 for the United States.
- 41% of housing units are renter-occupied, compared to 34% in Muscatine and 36% in the nation.

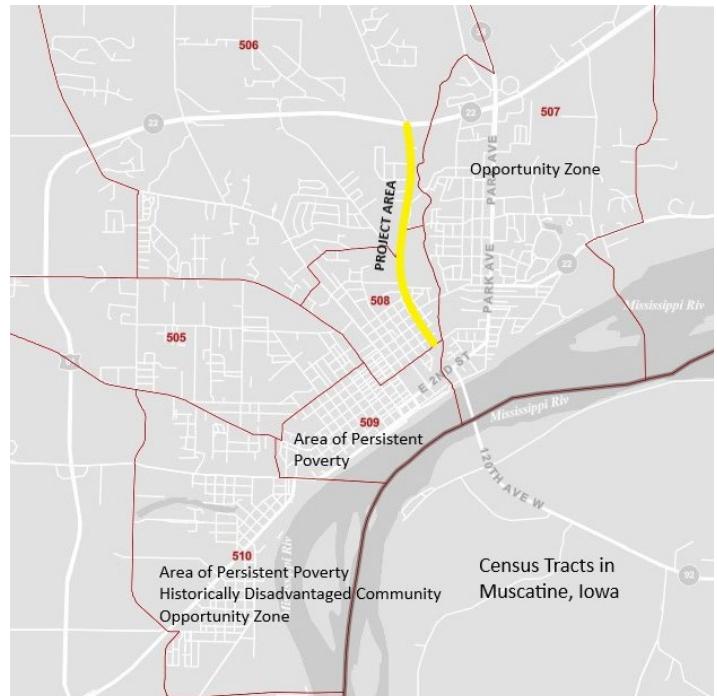


Figure 8: The project area in Census Tracts 506 and 508 borders an Opportunity Zone and an Area of Persistent Poverty, and will have far-reaching effects on the rest of Muscatine.

- Only 10.7% of residents have a Bachelor's degree or higher, compared to 33% in the nation.

The project location contains the publicly owned right-of-way along Isett Avenue from U.S. Highway 61 (41°27'5.691" N, 91°02'31.648" W) to 11th Street (41°26'1.51" N, 91°02'35.465" W) and Cypress Street from 11th Street to 5th Street (41°25'44.601" N, 91°02'18.897" W).

Sources and Uses of Project Funds

Planning and design costs for *Developing Connection: Isett Avenue and Cypress Street Reconstruction* that are eligible for RAISE funding are estimated at \$2,002,000. The City of Muscatine will seek funding from other sources to complement this investment, including grants from the Traffic Safety Improvement Program, Iowa Department of Natural Resources and Environmental Protection Agency's Brownfields programs, and the Surface Transportation Block Grant to support the construction phase of the project. A summary of estimated RAISE project costs can be found in Figure 9.

DEVELOPING CONNECTION PLANNING PHASE COST OPINION		
TASK #	TASK DESCRIPTION	ESTIMATED COST
1	GRANT AWARD	-
2	PREPARE REQUEST FOR QUALIFICATIONS	-
3	ISSUE REQUEST FOR QUALIFICATIONS	-
4	RECEIVE STATEMENTS OF QUALIFICATIONS	-
5	REVIEW AND SCORE STATEMENTS OF QUALIFICATIONS	-
6	INTERVIEW AND SELECT CONSULTANT	-
7	NEGOTIATE CONTRACT	-
8	REQUEST CONTRACT APPROVAL FROM CITY COUNCIL	-
9A	TRAFFIC STUDY	\$120,000.00
9B	ENVIRONMENTAL ASSESSMENT	\$200,000.00
9C	CORRIDOR PLANNING	\$100,000.00
10	DESIGN PHASE	\$1,400,000.00
SUBTOTAL		\$1,820,000.00
10% CONTINGENCY		\$182,000.00
PLANNING PHASE TOTAL		\$2,002,000.00

Figure 9: Uses of Project Funds

Merit Criteria

Safety

Safety issues are critical challenges facing the Isett/Cypress Corridor today. Traveling along this route is currently unsafe for pedestrians and vehicles. The main contributors to a hazardous environment are a lack of adequate sidewalks, tight lane configurations, skewed intersections, and deteriorating pavement conditions. The busiest section of Isett Avenue has an [average annual daily traffic](#) volume of 12,300 vehicles, which is the second highest of any road in the City of Muscatine. The corridor becomes even more congested and unsafe at peak hours of the day.

The skewed angles of four of the major intersections in this corridor and the frequently changing lane configurations create many possible conflict points for vehicles. From 2011 to 2022, there were [88 crash events](#) in this corridor:

- 21 included minor or possible injuries.
- Affected 163 total vehicles and 217 total people.
- Resulted in \$448,559 in property damage, or an average of \$5,097 per crash.
- Damaged 91% of vehicles involved (see Figure 10).
- The majority (74%) of the crashes occurred in daylight and 70% occurred in clear, dry weather conditions, indicating that the majority of incidents in the corridor were not because of environmental factors and can be mitigated (see Figure 11).

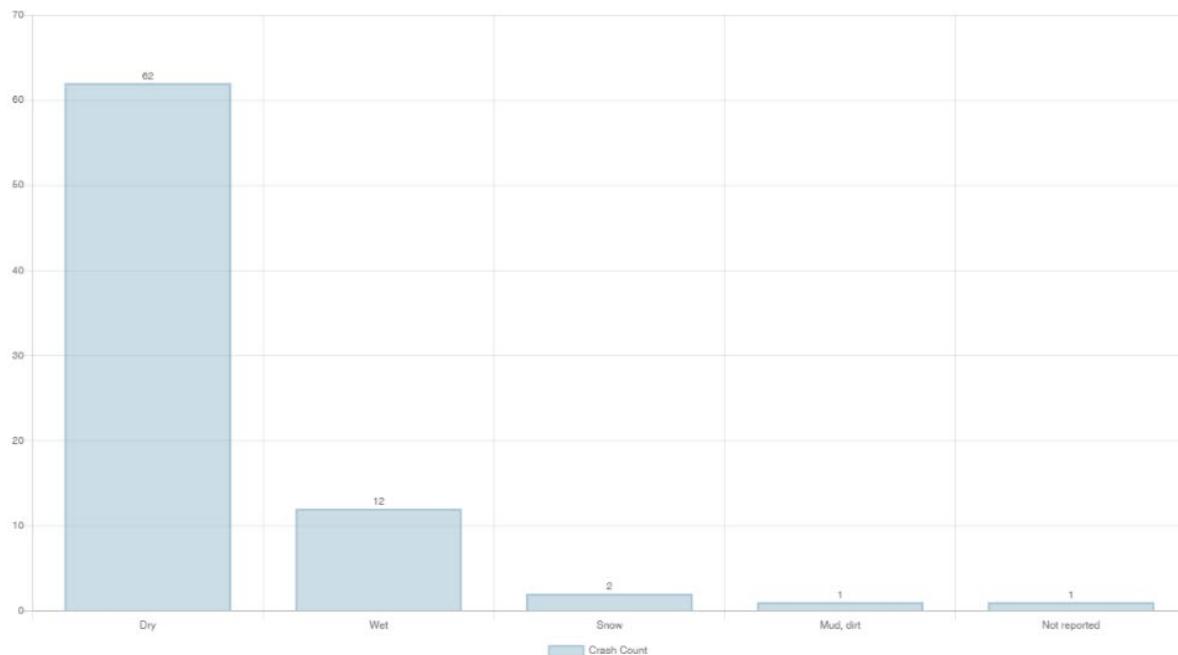


Figure 10: Crashes along Isett Avenue mostly occurred in dry conditions.

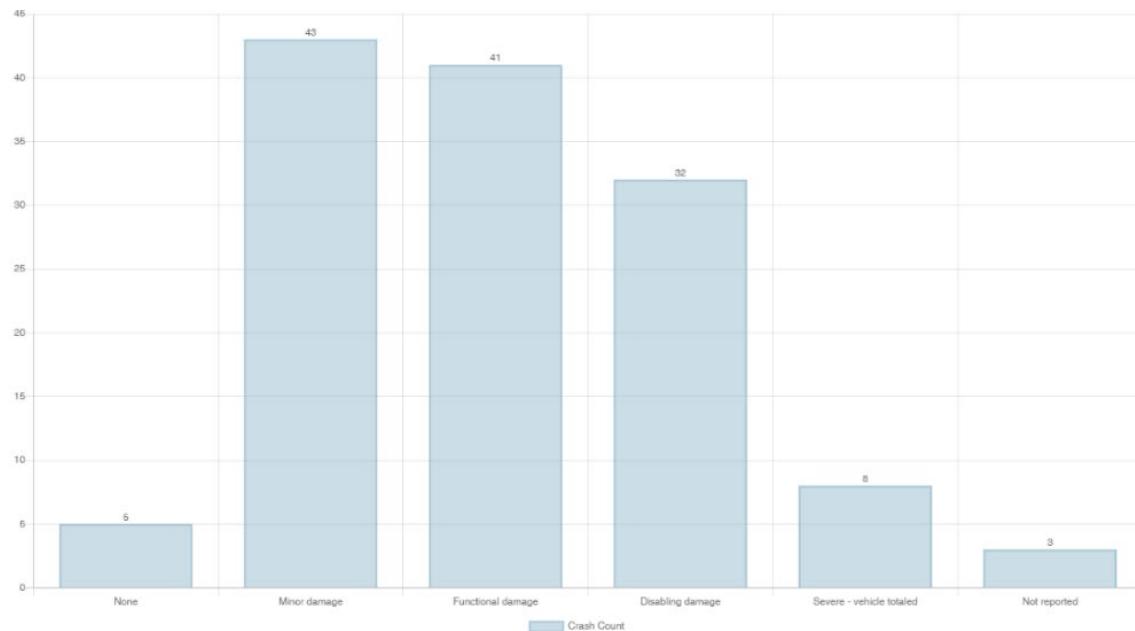


Figure 11: Extent of vehicle damage incurred during crash events.

It is in the best interest of the City and its residents to reduce the negative effects of these crashes. Many of them could have been mitigated if roundabouts and a center left-turn lane had been present:

- 16 failed to yield right-of-way from a stop sign
- 6 ran a stop sign
- 6 were following another vehicle too closely
- 5 failed to yield right-of-way while making a left turn
- 3 swerving/evasive action
- 2 ran a traffic signal
- 1 failed to yield right-of-way to a pedestrian
- 1 crossed the centerline

In addition, Figure 12 shows that almost half of the crash events occurred while making a left turn:

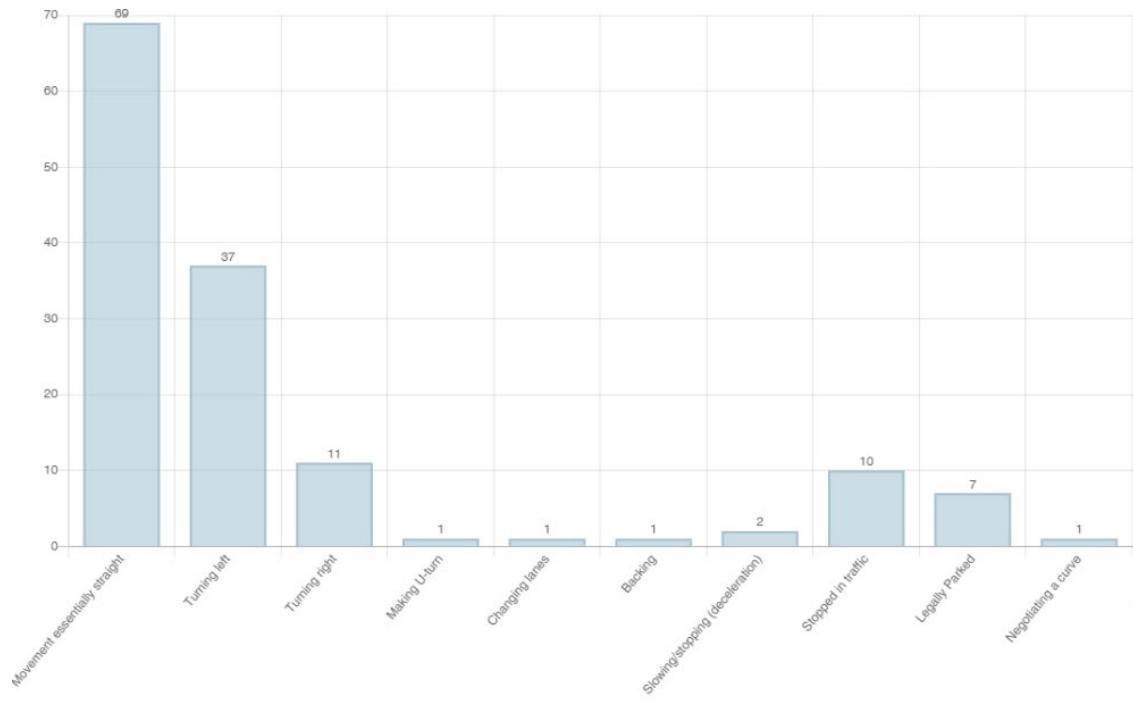


Figure 12: Vehicle movements during crash events.

A portion of the crashes were a direct result of the road geometry at the intersections of [Cypress Street & 11th Street](#) and [Isett Avenue & Lake Park Boulevard](#). Intersections placed on horizontal curves further increase crash risks due to the difficulty in recognizing vehicle movements at these locations. One way that this can occur is from a stopped vehicle on the major road waiting to make a left turn at the intersection resulting in a rear-end incident. Another common method is when drivers on the minor road fail to interpret oncoming vehicle movements from the major roadway and enter the roadway in an unsafe manner. When drivers are preoccupied with trying to turn onto a major road with non-stop traffic and lacking adequate sight distance, it also increases risk for pedestrians crossing at that intersection in any direction.

The Isett/Cypress Corridor exists as a four-lane section between Lake Park Boulevard and Bidwell Road. Within this segment of Isett Avenue, intersection turning movements are accommodated by lane drops, where one travel lane is designated as a turn lane. Intersection lane drops present a driver with a high-judgment, complex driving situation that may require a driver to change lanes to continue in their intended direction of travel. A southbound vehicle may need to change lanes before Clay Street, before Bidwell Road, and after Bidwell Road to maintain a southbound direction. A northbound vehicle may need to change lanes at Clay Street and at Lake Park Boulevard to maintain a northbound direction (see Figure 13).

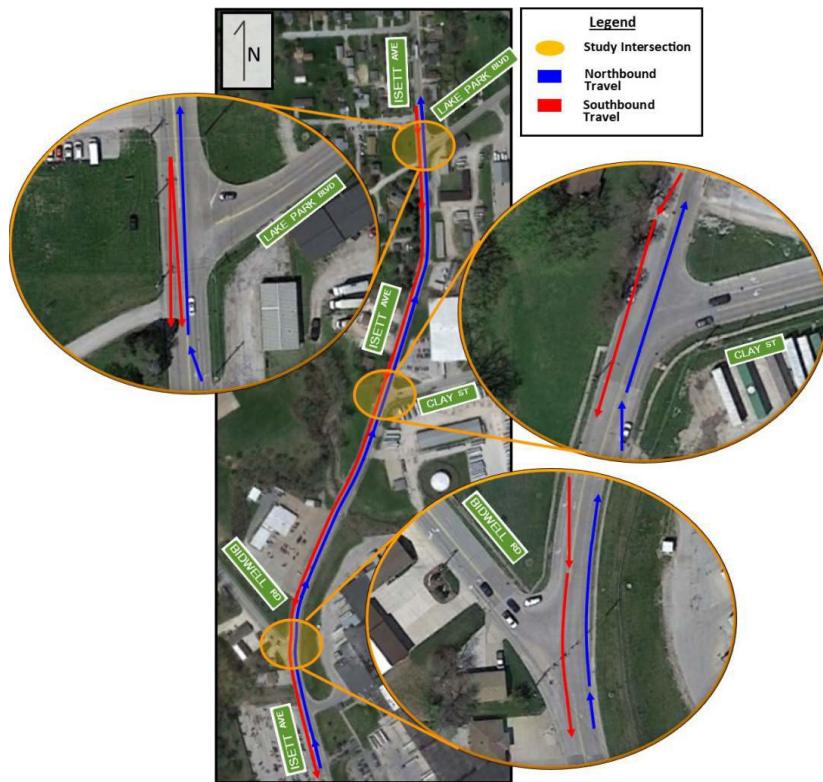


Figure 13: Multiple lane changes in a short stretch of roadway are required for northbound and southbound vehicles to maintain their direction.

a Traffic Engineering Assistance Program ([TEAP](#) study) performed on this corridor in 2021 by the Iowa DOT. Converting this corridor to three lanes fits within the Federal Highway Administration's thresholds for traffic volumes that will accommodate a three-lane undivided roadway.

A three-lane configuration will benefit all parties utilizing the roadway. A dedicated turn lane will decrease left-turn and rear-end crashes, since cars will no longer need to stop in the through lane to make left turns and will cross fewer lanes of traffic while turning, improving their view of oncoming cars and enabling easier timing decisions. Pedestrians and bikers will also benefit from having fewer lanes to cross. The Crash Modification Factor Clearinghouse lists a crash reduction factor of 47% for converting four-lane roadways to three-lane roadways with a center turn lane. One lane of traffic in each direction is safer for semi-trailers and the cars around them, as semi-trailers currently take up parts of both lanes in one direction. Having more buffer space between opposing traffic directions will increase safety for all vehicles, considering the number of large trucks that traverse the corridor. Speeds are more consistent for all traffic with just one lane in each direction and no sudden stops from left turns. Because vehicles can pull over quickly and will not get trapped in the middle lanes, this lane configuration is better for emergency responders.

Within the conversion area, the Isett/Cypress Corridor has an approximately 38-foot width cross section, which narrows as it nears Woodlawn Avenue. It is possible to implement a continuous three-lane cross section without expanding the width of the roadway, minimizing

Unexpected lane changes can create safety hazards and impede traffic flows, especially with unfamiliar drivers, while drivers familiar with the area often pre-position ahead of lane drops, which reduces the overall capacity of the roadway.

The City of Muscatine plans to convert a large portion of this corridor from four undivided lanes of traffic to three lanes, one in each direction with a center two-way left turn lane. The center left turn lane will provide access into all minor cross streets and driveways and will be a dedicated left turn lane at major cross streets. This solution has been identified by the Iowa Department of Transportation in a [statewide screening](#) for potential lane reconfigurations, as well as by

disturbance to the surrounding homes. This shift will increase the utilization and efficiency of the roadway for the traveling public. Reallocating roadway space in the right locations will increase the safety and operation of the corridor. This will provide the City with the opportunity to grow its network of bike and pedestrian infrastructure and align with existing complete streets, in keeping with strategic plans and goals for the area.

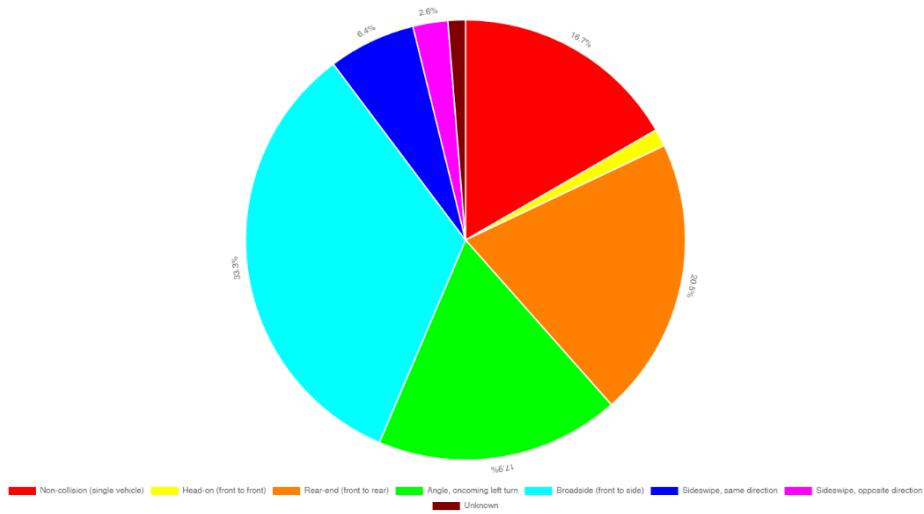


Figure 14: Crash types along Isett Avenue/Cypress Street; over half were broadside or from an oncoming left turn.

It is anticipated that both roundabouts and a center left-turn lane will reduce broadside and rear-end crashes. Over half of crashes in this corridor from 2011 to 2022 were broadside, head-on, or at an angle from an oncoming left turn, as shown in Figure 14. Roundabouts have been shown to reduce total crashes by 35% and injury crashes by a staggering 76% when compared to previously stop controlled

or signalized intersections. The reduction in crashes is accomplished by eliminating severe crash types including head-on, broadside, and left-turning crashes.

Due to the amount and types of crashes, it is proposed to construct roundabouts replacing three of the intersections to increase safety. The following measures will have safety benefits for all travelers of the Isett/Cypress Corridor:

- Splitter islands will be installed to reduce the intersection speeds and notify motorists of the intersection.
- Crosswalks and curb ramps are proposed to safely accommodate pedestrians at the intersection and connect to existing sidewalks according to ADA compliance. The splitter islands will serve as a pedestrian refuge as they will be raised.
- The central island will be a 3" traversable raised curb, designed to deter motorists from traveling straight through the roundabout while allowing enough turning space for large trucks and buses.

The proposed improvements will provide users with an intersection that will reduce speeds, accommodate and increase safety for pedestrians, aid in providing acceptable gaps for all directions, and accommodate future traffic growth. The result will be safer intersections and reduction in the number of injury crashes per year.

Potential challenges with converting three current signalized or stop-controlled intersections to roundabouts include needing a wider right-of-way than what is currently available, as well as higher construction costs and a longer timeline than if the intersection was not being completely rebuilt. The City would like to conduct a benefit-cost analysis on this project to determine if the potential changes are the most effective and efficient way to renovate this corridor.

The current safety issues with sidewalks in the Isett/Cypress Corridor include deteriorating pavement conditions, sections with no sidewalk, lack of curb cuts for ADA compliance, and a narrow or nonexistent buffer between the sidewalk and the four-lane road. These conditions deter residents of the surrounding neighborhoods from walking to work or walking/biking for recreation and exercise. Pedestrians account for more than 17% of all fatalities in motor vehicle traffic crashes, with most of these deaths occurring at uncontrolled crossing locations such as mid-block or unsignalized intersections. These types of intersections, several of which are present in the Isett/Cypress Corridor, are among the most common locations for pedestrian fatalities because of inadequate crossing facilities or inconvenient crossing opportunities. Expecting pedestrians to travel significantly out of their way is unrealistic and counterproductive to encouraging healthier transportation options. To create a safer and more welcoming environment that encourages walking, the City will construct missing sidewalk segments and ensure that each intersection has adequate and ADA-compliant crossings.

Overall, converting major intersections to roundabouts, four lanes to three lanes of roadway, and a skewed intersection to 90° will reduce potential conflict points and severe crash types. If left unimproved and unplanned, it is likely that major repairs to this corridor will have to wait until future funding is secured. With the high number of vehicles that use this roadway repairs are already needed; delaying them further threatens the safety and mobility of the people in the area. These proposed improvements align with the USDOT's National Roadway Safety Strategy elements of: Safer People, Safer Roads, Safer Vehicles, and Safer Speeds.



Figure 15: Sidewalks without a buffer from the roadway, curb cuts, adequate crosswalks, or that are altogether nonexistent discourage pedestrian and bicycle traffic along Isett Avenue.

Environmental Sustainability

The *Developing Connection: Isett Avenue and Cypress Street Reconstruction* project seeks to address environmental concerns and mediate negative impacts for the surrounding areas while keeping environmental health and sustainability in mind. Corridor improvements to sidewalks and the multi-use trail encourages use of lower-carbon transit modes such as walking and biking.

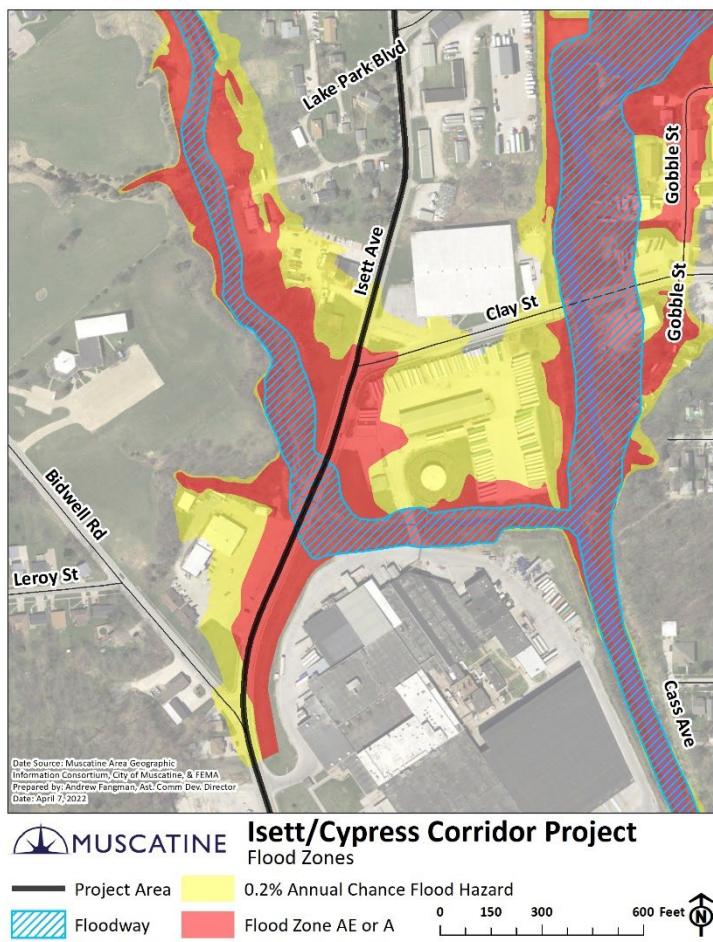


Figure 16: A portion of Isett Avenue and surrounding homes and businesses are in a flood risk zone.

The City seeks to improve the resiliency of the at-risk infrastructure in the Isett/Cypress Corridor. Mad Creek and Geneva Creek run nearby Isett Avenue and Cypress Street and have flooded intermittently in the past, causing damage to the roadway and bridge infrastructure as well as adjacent businesses and houses. One section of Isett Avenue in particular, between Clay Street and Bidwell Road, is in a flood zone (see Figure 16) and at a low point of the area. There is often sitting water on the roadway after rain because of insufficient drainage and pavement damage. The whole stretch of Isett Avenue/Cypress Street is at risk of continued deterioration and eventual failure of pavement if serious upgrades are not performed soon.

Roundabouts will also improve the infrastructure's resiliency because they require less energy and labor time than stoplights. The only necessary upkeep is landscaping maintenance that will be added into the City's groundskeeping schedule. Roundabouts result in less air

pollution and emission of greenhouse gases because they reduce idling and unnecessary stop-and-go. They alleviate congestion and improve the traffic flow, also resulting in less idling and emissions from vehicles. Roundabouts also reduce electricity usage because they do not require 24/7 electricity to maintain, unlike traditional signalized intersections. For general construction, the City will incorporate lower-carbon pavement and construction materials by using recycled concrete for the base.

The Isett/Cypress Corridor runs through a few disadvantaged communities and has contributed to disproportionately negative effects on them in the past. Kraft Heinz and HNI employ hundreds of workers for shift, hourly wage, assembly line positions. Many of those people are cost burdened, which impacts their ability to maintain safe and consistent transportation. Their walkable proximity to work and other essential locations decreases the burdens of vehicle transportation on them and raises the importance of maintaining good jobs in a walkable environment. For the Heinz employees who live to the north of the factory, the lack of sidewalk on Isett Avenue to the north of Kraft Heinz prohibits them from walking to work without significant risk. There is no alternate walking route from some of the neighborhoods north of Heinz. The addition of sidewalks, improvement of the existing ones, and the multi-use path extension would significantly reduce the negative cost and safety impacts of dependency on auto transportation.



Figure 17: The Kraft Heinz plant in Muscatine was the company's first outside Pittsburgh and currently employs over 300 workers.

The City would like to perform surveys of the residents in the surrounding neighborhoods to determine exactly how many people are currently disadvantaged by not being able to walk that certain stretch of Isett Avenue, or who are choosing to walk regardless of sidewalk availability. The City will also study the effects of flooding and runoff in the area to discover their impact on the roadways, bridges, homes, and businesses in the Isett/Cypress Corridor.

In addition to safety, accessibility, and cost effects, there are also disproportionate impacts of the appearance of the Isett/Cypress Corridor on the surrounding neighborhoods. Currently, the roadway is in a state of disrepair, but the businesses along Isett Avenue also have undeveloped and deteriorated exteriors and there is not much landscaping along the corridor, other than overgrown trees in some sections. Roundabouts, and the landscaping that will be in their centers to deter crossing through the center section, would make the environment more inviting and break up the stretches of gray pavement that currently make Isett Avenue unpleasant to walk, as well as increasing the amount of green space for runoff and environmental purposes. Improvement in the surrounding environment often leads to increased community pride and organic commercial and residential façade investment.

Stormwater management will be a key component of the plans for environmental sustainability. Plans will include measures such as bioretention cells, permeable pavers, and additional green space, as well as other elements that have yet to be identified. It is proven that

pollutants can be removed from stormwater and the amount of runoff can be reduced by using green infrastructure practices, improving the overall quality of the receiving waters, which are essential to Muscatine's environment and align with the City's environmental management priorities.

This project also presents an opportunity for brownfield redevelopment. The City will be pursuing a grant from the Iowa Department of Natural Resources and/or the Environmental Protection Agency's Brownfields programs to perform Phase I and Phase II environmental site assessments on an [eligible property](#) at the corner of Isett Avenue & Bidwell Road, which is the site of a former gas station and will likely include removal of a remaining underground tank. The parcel will become part of the roundabout proposed for that location, which will be shifted to the north of the current intersection to minimize disruption to the adjacent homes and businesses. The information gained from these assessments will benefit the design and construction of the project and the redevelopment sparked by it.



Figure 18: The gap in the levy causes it to be an insufficient measure against flash flooding from Geneva Creek.

The City will also evaluate alternatives to the current flood mitigation plan involving an uncertified levy that runs alongside Isett Avenue (indicated in Figure 18). This levy was meant to protect the area from flooding from Geneva Creek, over which the currently-too-low bridge passes, but it does not function as a proper deterrent. At present, there is a gap in the levy where the Isett Avenue roadway is (indicated with the dark red arrow), with a pile of dirt next to the roadway that is meant to be pushed into the gap in the event of a flood. Geneva Creek, however, is a flash flood creek, which means that the City would not have enough time to send someone out to fill in the levy in the middle of a storm, rendering this contingency plan ineffective. Historically, the result has been the road and surrounding area continuing to flood, despite the levy. The City

would like to investigate alternative options to protect the area from flooding, addressing a piece of at-risk infrastructure in the process.

Green infrastructure practices are relatively unutilized in the City of Muscatine and surrounding areas. By receiving this grant, the City is ensuring the success and publicity of these practices which will help to spread the knowledge of their benefits and increase the frequency of their use throughout the community and southeastern Iowa.

Quality of Life

This project will improve walkability along the Isett/Cypress Corridor, which will reduce transportation and housing cost burdens by decreasing auto dependence. The part of the corridor that does not currently have a sidewalk will have one added, but walkability and appeal throughout the corridor will be improved by widening pavement, fixing bumps and potholes that make sidewalks hazardous, ensuring ADA compliance, repainting pedestrian crossings, and increasing the distance between the sidewalk and the roadway. One of the main goals of this project is to increase access to non-car travelers in this corridor that is currently unfriendly to anything but a vehicle.

A study of income disparities in walkable places found that roadways with lighting, sidewalks, traffic calming features, and marked crosswalks are significantly more common in higher-income communities than in middle- and low-income communities.

Muscatine County has an adult obesity rate of 40%, 46% of the population shows symptoms of chronic depression, and 23% of adults self-reported having fair or poor health. Increasing the walkability, and thereby the aesthetic appeal, of this area would improve the quality of health and life for residents, as access to welcoming outdoor space is shown to increase wellness in multiple areas.

The corridor connects with the Muscabus system, which is the only public transit option for Muscatine residents. The [Red Route](#) passes through the corridor, connecting downtown, the hospital, and commercial areas on Park Avenue. There are no bus shelters located on the Red Route, which runs on weekdays from 6:30am to 5:00pm, more limited times on Saturdays, and no service on Sundays. Improving the Isett/Cypress Corridor will contribute to the City's goal of reinforcing Muscabus services to ensure residents of Muscatine have access to transportation, and therefore resources and services that can only be accessed by car, either because of distance or lack of pedestrian infrastructure. It is this project's goal to increase transportation options and improve the public transit and pedestrian infrastructure in the corridor.

Addressing barriers to opportunity is also a priority of the project. The project will make workplaces more accessible, connect several neighborhoods with commercial areas, enabling people to get to work on time and consistently, whether they can afford auto transportation or not. Safe connection to employment and various parts of town is vital to help households thrive in Muscatine and continue supporting their families, without the cost, accessibility, and quality of life burdens auto-centric transportation has placed on them.

The project will enhance the unique characteristics of Muscatine in general, as well as this area in particular. The City wants to capitalize on its industrial, commercial, and community traditions by reinforcing community connections to companies such as Kraft Heinz and the HNI Workplace Furnishings by ensuring Muscatine is a good place for the companies and their workers to stay far into the future. This project also seeks to build on the location of Mad Creek in the corridor by further developing the multi-use trail, studying runoff and stormwater management strategies in the area, and by repairing the current infrastructure around the water to ensure both the waterway and the road can continue to coexist. Another unique

aspect of this corridor is the way it connects U.S. Highway 61 to Muscatine's downtown and waterfront, passing through residential, industrial, and commercial areas. The City wants to ensure these connections are maintained and that the various areas are healthy and welcoming to residents.

The City is investigating different ways to incorporate public art into the corridor infrastructure, most likely through art installations around the roundabouts, on the retaining walls that will be at the intersection of Isett Avenue & Bidwell Road, and on the chain link fence that currently surrounds Kraft Heinz, which takes up a large portion of the roadside between 11th and Clay Streets. All of these efforts will contribute to creating a corridor that is aesthetically pleasing to travel through, whether by car, truck, bike, or on foot. More than just improving a community visually, [public art](#) is also known to form a place's identity and purpose, encourage people to pay attention to their surroundings, connect people to each other, and make art accessible in everyday life. Public art would also provide another opportunity to engage the surrounding neighborhoods and businesses in the selection and upkeep processes, which would result in art that better reflects the culture and values of the area.

A successful sidewalk poetry program has been implemented in the downtown area that could be extended through the Mulberry Neighborhood Revitalization Project and into the Isett/Cypress Corridor (see Figure 19). Muscatine residents submit original poems that are selected to be paved into the sidewalks. The City would target residents of the corridor with marketing about this opportunity to share their work in an effort to receive submissions from people who live and work there. Extending this effort into the Isett/Cypress Corridor would give residents another opportunity to share their ideas, as well as build a sense of ownership over the neighborhood, which would have cascading effects. Sidewalk poetry would also increase the walkability, sense of place, and general appeal of the corridor.



Figure 19: Poems by local writers on the sidewalks of downtown Muscatine.

Improves Mobility and Community Connectivity

Currently, the Isett/Cypress Corridor does not contribute to community mobility and connectivity, except for vehicles. It serves as a vital thoroughfare and connection between disparate areas of Muscatine, but does not encourage stopping along the route; it is merely a way to get from Point A to Point B. This project will expand connectivity and freedom of movement for all travelers.

The key piece of increasing connection is the sidewalk and multi-use path improvements that will unite the corridor in a way that has never existed before. Currently, there is no safe way to travel from anywhere near Highway 61 on that side of town to downtown. According to a [traffic count](#) performed over a 24-hour period in December 2020, there were only ten pedestrians at all intersections between Bidwell Road and Lake Park Boulevard combined, with slightly more pedestrians in the residential and commercial areas around the south end of the corridor that boast more consistent sidewalks and better crosswalks. Park Avenue, the other nearby connector owned by the Iowa Department of Transportation, does not have sidewalks for part of its length, and the sidewalks that do exist are also narrow and close to the roadway. Children who live between the intersections of Isett Avenue & Lake Park Boulevard and Isett Avenue & Highway 61 have no way to walk to their assigned elementary school because of the sidewalk gaps. Grant Elementary School, which serves Kindergarten through 6th grade, is in the top 30% of all schools in Iowa for overall test scores, has a non-white enrollment of 28%, and 45% eligibility for free or reduced lunch.

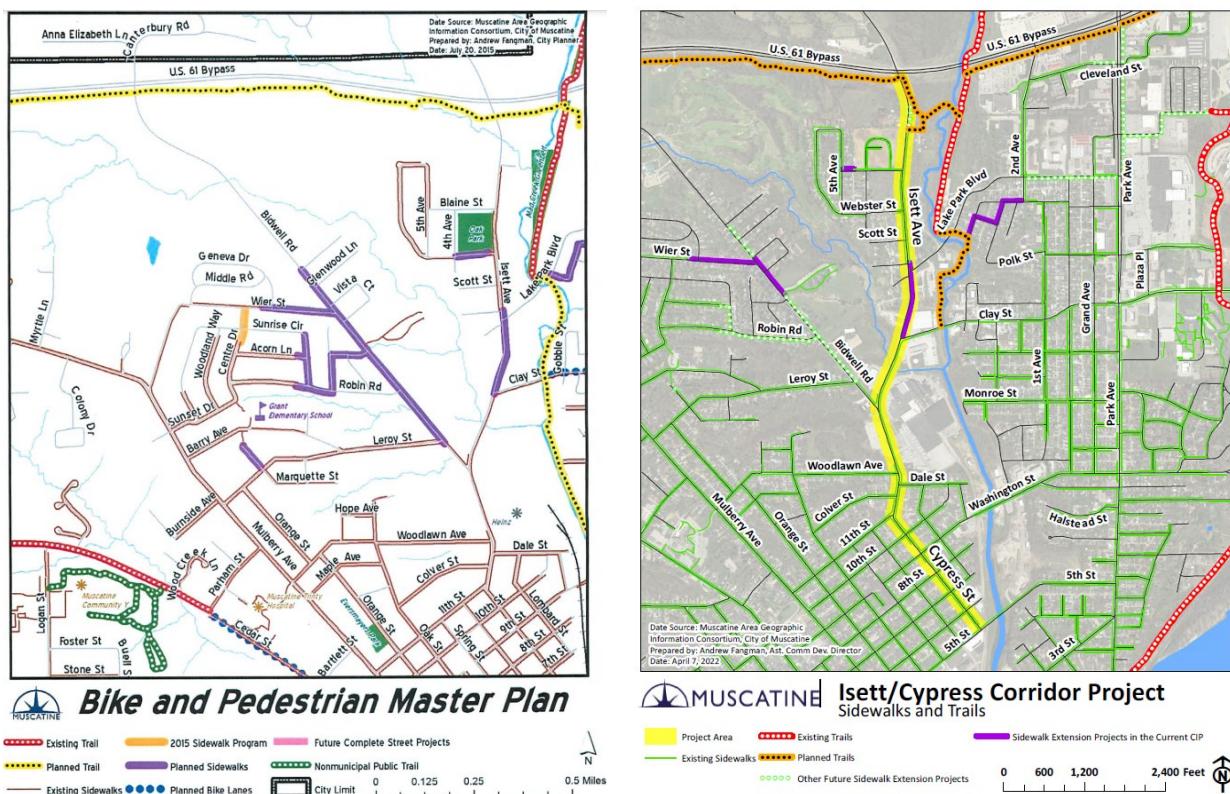


Figure 20: Connecting Lake Park Boulevard to Clay Street and expanding the multi-use trail near Isett Avenue will connect the corridor into broader multi-modal networks and increase transportation options.

The multi-use path currently stops before it reaches Isett Avenue, so the City would like to extend this path all the way down the corridor to 5th Street. Bike travel along Isett Avenue is not safely possible because of the lack of sidewalks and the semi-trailer traffic, but the addition of a paved, 10-foot multi-use path will encourage biking, rolling, and walking, to access destinations as well as for recreation. See Figure 20 for planned sidewalk additions and potential multi-use trail expansions.

Besides health and quality of life purposes, additional means of non-auto travel are important because of the disadvantaged communities near the Isett/Cypress Corridor. The neighborhood surrounding the south end of the project area, which is being targeted in the [Mulberry Neighborhood Revitalization Project](#), borders a federally designated Opportunity Zone and an Area of Persistent Poverty. Census Tract 508, in which half of the project is located, is 48% low and middle income. Tract 509, the downtown area to the south, is an Area of Persistent Poverty, while Tract 506 to the north, and making up the other half of the project area, has a much lower percentage of LMI residents and a much higher median household income. The *Developing Connection* project has the opportunity to increase mobility between these disparate areas of town, creating opportunities and increasing equity for all residents.

35.4% of the population of Muscatine works in the Manufacturing sector, with a median hourly wage of \$20. Workers who travel to major industrial centers such as HNI and Kraft Heinz every day for their shift currently would struggle to get there safely in any way except via car, since the workforce at both places largely consists of low-income people who are more likely to face transportation, housing, and employment barriers. The City would like to further study the makeup of the neighborhoods around Isett Avenue/Cypress Street to discover the effects of the current corridor configuration.

As part of the planning process, the City will also evaluate the public bus system as it interacts with this corridor. The Muscabus service is vital to many residents' connectivity, especially people who do not own a car or are disabled and cannot drive. Further examining the current routes and bus stops will ensure that Muscabus is serving who it is meant to serve and removing barriers to transportation, opportunity, and resources. The current bus stops along Isett Avenue/Cypress Street are not safe, comfortable, or weather-proof (see Figure 21), all factors that would encourage use of the public transit system. Muscabus connects disadvantaged areas around the south end of the corridor to the grocery stores that have affordable prices out on Highway 61. It links low- to middle-income seniors living at Oak Park Senior Living to social connections and services downtown. It ties families all over the city to workplaces and parks. As commercial activity increases as a result of the corridor improvements, the City will revisit the stops along Isett



Figure 21: The current bus stops are easy to miss, not weather-proof, and do not have a designated waiting area.

Avenue to confirm their safety, convenience, and accessibility. Maintaining an efficient system of public transportation will keep Muscatine residents connected and keep the services accessible, safe, and enjoyable.

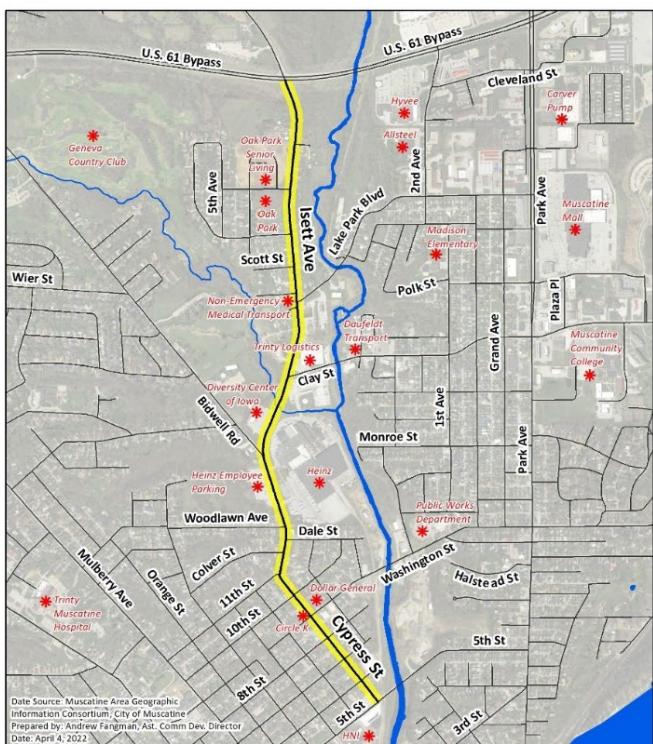


Figure 22: The Isett/Cypress Corridor provides access to many local businesses and essential resources.

conversions free up space for wider sidewalks and improve access to businesses by allowing for safer and easier left turns.

Improving efficiency and speed for freight movement will result from the corridor improvements as well. According to the [traffic count](#), up to 7% of traffic in a 24-hour period is articulated trucks, buses, or single-unit trucks. There are currently two skewed intersections that prevent semi-trailers from utilizing certain roads. Daufeldt Transport, a logistics company located on Clay Street, is not currently able to utilize Isett Avenue on their truck routes because of the angle of the Isett Avenue & Clay Street intersection, even though Isett Avenue would be a more direct route to Highway 61. This intersection will be replaced with a roundabout and the other skewed intersection will be realigned to 90°, which will increase mobility and safety for the trucks that travel along Isett Avenue. Roundabouts will greatly reduce the delay produced by semi-trailers' high stop and acceleration times at traffic signals and stop signs.

The City also hopes to encourage mobility by beautifying the corridor through landscaping and public art, as discussed in the *Quality of Life* section. Even the more commonplace components

This project will also improve connectivity for vehicle travel. Isett Avenue is a major thoroughfare in Muscatine and a main transfer between U.S. Highway 61 (north of Isett) and the downtown area (south/west of Isett), as well as the commercial districts along Park Avenue (east of Isett) and residential around Mulberry Avenue (west of Isett). People often cross or travel along Isett Avenue and Cypress Street to get to work, to major grocery stores, to the downtown area for work and recreation, to the riverfront for activities and outdoor access, to the restaurants and stores along Park Avenue, and to the several residential neighborhoods that border the Isett Corridor. Figure 22 shows the Isett/Cypress Corridor in the context of the many community services and important locations nearby.

Proposed infrastructure improvements will contribute to mobility and connectivity. Better street lighting will allow cars to drive safely and encourage pedestrians during non-daylight as well as daylight hours. Roundabouts keep traffic flowing and reduces delays and stops experienced by drivers. Four to three lane

of the project, such as repaving the road, will serve to benefit the community and make travel through the corridor a more pleasant experience by removing jarring potholes and unattractive broken pavement.

Economic Competitiveness and Opportunity

The Isett/Cypress Corridor has a total of 26 businesses along its 1.7 miles, which are interspersed with residential zones, as shown in Figure 23. Because industrial centers such as Kraft Heinz and HNI Manufacturing utilize Isett Avenue/Cypress Street, this corridor is connected to the national and global economy. Other smaller but no less vital businesses involved in the national economy include Daufeldt Transport, Trinity Logistics, Non-Emergency Transport, Dollar General, and Circle K. Lots of trucks travel to and from these locations every day, so improvements to the corridor will only increase these businesses' connection to the national economy. Interstate 80, a heavily traveled highway that is essential to the nation's economy, is located only 15 miles north of Muscatine. Commercial traffic frequently moves between Highway 61, which is intersected by Isett Avenue and Interstate 80 to carry goods to other states. Partners are Illinois, Minnesota, Missouri, Nebraska, and Iowa, which together have an equal over \$78 billion in trade value.

[Businesses with a local and regional impact](#) in the Isett/Cypress Corridor include a low-income senior living complex, a transport service for people with mobility barriers, a laundromat, several auto and HVAC service providers, a moving company, an engineering firm, an insurance firm, a pet kennel, and the Diversity Service Center of Iowa. All of these enterprises contribute to the regional economy and provide essential services to Muscatine residents, especially those who encounter disadvantages. Muscatine wants to support its local economy and catalyze growth, which will happen through revitalization of the Isett/Cypress Corridor.

At certain times of the day, Isett Avenue gets backed up because of the traffic signals, but roundabouts will make the routes more reliable because they create a more consistent traffic flow. The busiest intersections in the corridor are Isett & Clay, Isett & Bidwell, Cypress & 10th, and Cypress & 9th, all of which will receive updates or reconfigurations in order to increase efficiency and smooth the traffic flow, creating more reliable systems.

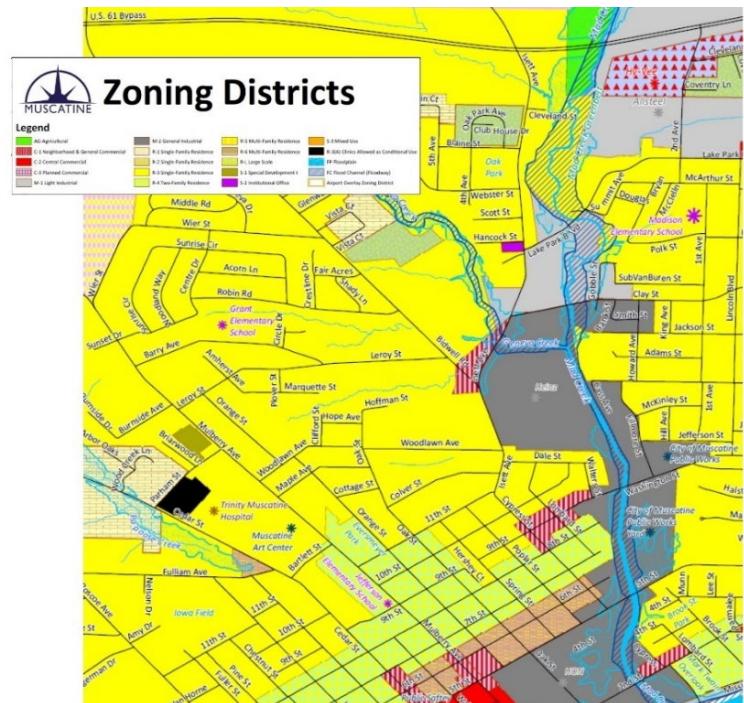


Figure 23: The Isett/Cypress Corridor is a unique mix of residential, commercial, and industrial zoned areas.

Recent economic development in the corridor (see Figure 24) has increased the need for structural and environmental improvements, which in turn will increase the appeal for further growth. There are several commercial areas along the corridor, interspersed with residential and industrial zones, that would greatly benefit from the proposed reconfigurations and enhancements. Recent economic activity includes:

- A rundown former car wash was recently acquired and is being renovated by a family-run HVAC business.
- Non-Emergency Transport, which provides transportation to events, appointments, and more in the Muscatine area and beyond with wheelchair-accessible vehicles, recently moved into a vacated church.
- Oak Park Senior Living opened in 2020 and provides affordable apartments and community to seniors.
- Fringe Salon & Brow Bar recently modernized and renewed their storefront.



Figure 24: Recent economic activity along Isett Avenue/Cypress Street includes, clockwise from top left, Fringe Salon, Areguin Heating & Cooling, Non-Emergency Transport, and Oak Park Senior Living.

The City would like to build on new business activity and commercial efforts by upgrading the infrastructure and appeal of Isett Avenue/Cypress Street. The City would like to promote commercial growth in the area, especially in the shopping center located near the intersection of Isett Avenue & Bidwell Road. Currently, many of the businesses are only accessible by car, and traffic constraints have prevented development and expansion. Improvements in the walkability and sustainability of this corridor will stimulate further commercial development that will in turn provide essential services and resources to the surrounding neighborhoods. The project will result in further commercial and economic growth throughout the corridor, as well

as contribute to residential development through the Mulberry Neighborhood Revitalization Project adjacent to the south end of the project area.

This project will also support the economy and businesses by increasing connectivity between workers and workplaces, which has become an even more essential piece of the economy in recent years. Many of the companies in the corridor are hiring, and the City wants to support both the employers' ability to hire good people and the employee's ability to get to work safely and reliably. The project will also open access to more workers; HNI Workplace Furnishings has opened a facility in Mexico because it was unable to access the necessary number of workers. As one of the biggest industrial centers in Muscatine, Kraft Heinz is located along Isett Avenue and currently employs 328 people. Reducing barriers to economic and labor opportunity through increasing walkability, safety, and access to public transportation in the corridor will help Muscatine provide opportunities for all its workers.

This corridor is known for its employment opportunities at Kraft Heinz and HNI Workplace Furnishings, but it is the many small businesses along Isett Avenue/Cypress Street that will experience the most direct benefits from the proposed improvements. More accessible entrances and more options for travel to their locations will increase their visibility and consumer traffic, which in turn will grow their revenue and create opportunities for growth and hiring. HNI Workplace Furnishings and Areguin Heating & Cooling, LLC are both Registered Apprenticeship Program sponsors and will benefit from improvements to the Isett/Cypress Corridor. The City seeks to hire a regional firm for design and engineering, as well as a local firm for construction.

State of Good Repair

With this project, the City of Muscatine seeks to restore and modernize infrastructure assets that are essential to the functioning and well-being of the town. By updating the inefficient and unsafe intersections with roundabouts and road widening, and reconfiguring much of Isett Avenue from four to three lanes, the corridor will be protected from vulnerabilities, both in the short-term future and in the long-term. Current system vulnerabilities such as flooding, roadway deterioration, an ineffective levy, and lack of pedestrian facilities will further damage the businesses and neighborhoods in the corridor if not addressed soon. The City plans to further study these weaknesses and design the most cost-effective and collaborative way to protect and amplify Muscatine's future.

The Roadway Maintenance Division of the Public Works Department works to provide a safe and well-maintained transportation system throughout the City of Muscatine. Upkeep of streets in Muscatine is performed on all roads within the city limits except the U.S. Highway 61 Bypass and a small portion of Business Route U.S. 61, which are maintained by the State of Iowa.

Street repairs include in-house pothole patching with hot and cold mix asphalt, in-house minor street repairs with hot mix asphalt, contracted full-depth concrete patching, contracted mill and overlay with hot mix asphalt of streets and alleys.

Streets in Muscatine are inspected yearly by Roadway Maintenance Staff and are driven every other year by the Institute for Transportation at Iowa State University to determine their pavement condition index. This pavement condition index, along with other factors, is used by the Engineering Department of Public Works to create a pavement repair matrix which in turn is used to decide which street segments will receive contracted repairs. It is the goal of the Public Works Department to maintain a PCI level of 60 or above for all city streets.

The PCI ratings for multiple sections of this project are well below the city's target level for repair or replacement. Utilizing RAISE grant funds will allow the city to plan for a comprehensive project that will greatly improve pavement quality over a much larger length of project than could normally be done. For the city to repair the approximately 8,820 feet of street in this project scope using only Road Use Tax dollars allocated to street repairs, it is anticipated that it would take the entire allotment for the next ten years. However, with a developed plan, the project can be prioritized and external resources can be pursued.

Partnership and Collaboration

Gathering input into the transportation needs through this corridor will start late this spring, alongside the Muscatine [Heart and Soul](#) initiative. Heart and Soul is a community engagement model specific to small communities that employs strategies to engage large numbers of residents. Through a range of community engagement activities, input regarding community strengths is collected and used to identify opportunities to build on those attributes.



Figure 25: Heart and Soul volunteers collected feedback from Muscatine residents about what they value in their community.

Engagement will begin with a "kick-off" event, which will be a large event like a neighborhood block party, and will continue with smaller activities targeting various groups and populations within the identified neighborhoods. This could include participation in cultural celebrations hosted by the local League of United Latin American Citizens chapter, a Liberian church picnic, a fundraising event for the senior center, and more. Other events will be set up with a target population directly invited, such as local business owners. Community input and strategy development will occur over a 12-month period and will inform the City's strategic goals as well as development of the next [Comprehensive Plan](#).

Additional activities specific to the proposed project will also take place as part of the planning, design, and construction phases.

During the project planning process, each study activity will include components of community input, such as identifying appropriate and desired pedestrian amenities in consultation with individual residents and targeted groups including the trails committee, Melon City Bike Club, and the Muscatine Running Club. Local conservation entities will be consulted for impact on the natural environment to identify opportunities to return spaces to natural plantings and animal habitat.

While businesses will be included in the planning studies, direct connections will be made to inform design. In-person visits will be conducted during the planning process to seek feedback and discuss concerns, potential impacts, events, timeline, and communication. The City of Muscatine recognizes how critical it is to address the transportation needs of the corporations and business, large and small, to ensure the design provides adequate space while minimizing idle time of vehicles.

The City is currently seeking partnerships with local commerce and industry, both through letters of support and through financial sponsorship. There is a strong history of partnering with HNI Workplace Furnishings on City infrastructure projects, including a flood wall, a corridor reconstruction project along the riverfront in 2018, and donation of land for a roundabout in 2019. A project of this scale is not feasible for the City of Muscatine to complete without this grant funding and without the support of local businesses.

There is not currently a plan for right-of-way acquisition; it will be developed during the design phase. The City will ensure that the plan that is formed minimally disrupts the businesses and homes that surround the roadway. One component that will be significant is the decision to shift the intersection at Isett Avenue & Bidwell Road slightly to the north to minimize disruption. Currently, there are two businesses and one home close to the intersection, but the proposed roundabout would be further north. The City will look to engage with the Army Corps of Engineers early on in the design process. At the least, the Corps will review the plans for the bridge once completed.

The City is looking into partnering with a local utility provider, Muscatine Power & Water, to research alternative energies for pedestrian infrastructure such as crosswalks. Muscatine Community College has several technical and trades certificate training programs, so the City is also interested in researching how they could combine efforts for this project to support skill development, whether through on-the-job training or in-class projects that would contribute to the completed corridor.

Innovation

The City will be utilizing innovative transportation concepts such as modern roundabouts and four-to-three lane conversion to improve safety and connectivity throughout the corridor. The integration of public art into spaces along the roadway would also be innovative for Muscatine. As mentioned in the Partnership and Collaboration section, the City is also seeking financial partnerships with the private entities along Isett Avenue/Cypress Street.

The *Developing Connection: Isett Avenue and Cypress Street Reconstruction* project will include innovative technology such as LED street lighting, solar-powered crosswalks, and stormwater management techniques such as bioretention cells and permeable pavement, as well as further researching ways to include forward-thinking technologies.