puerta de 14 Marshalltown

Marshalltown, Iowa

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Application | July 2021

Submitted by the City of Marshalltown, Iowa

MARSHALLTOWN IOWA

BOLTON & MENK

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I. Project Description

A. Introduction

The Puerta de Marshalltown (Gateway of Marshalltown) serves as one of the primary entrances into Marshalltown, Iowa. The tight-knit, diverse neighborhood in the northeast portion of Marshalltown along the Highway 14 corridor is made up of over 40 percent Hispanic or Latinx residents. With a mix of land-uses and variable Right-of-Way (ROW) widths, Puerta de Marshalltown, consists primarily of the Highway 14 corridor. Existing roadway conditions have deteriorated, walkability is lacking due to degrading pavement surfaces and narrow sidewalks. Century-old water and sewer infrastructure is continually in need of repair, and the corridor lacks amenities to cater to its' residents.

This major arterial roadway provides a key connection to the City's downtown and industrial areas. Highway 14 runs directly through the low-income Census Tracts 9505 and 9509. Vital to the utilization of this corridor is the proximity to US Highway 30 and Highway 330/US 65, a heavily traveled route and the primary connection to Ames, Cedar Rapids and the Des Moines metropolitan area. These two major road networks welcome residents and visitors alike to Marshalltown. Furthermore, the corridor provides freight connections to large corporations, including Emerson Process Management, Marshalltown Company, Lennox and JBS.

On July 19, 2018, an EF-3 tornado struck the north half of the community, including the downtown core of Marshalltown, and destroyed nearby neighborhoods, damaging more than 2,000 properties. Multiple buildings in the downtown business district were damaged beyond repair, requiring demolition. Major industrial sites such as JBS and Lennox suffered extensive damage. The path of the tornado impacted more than a one-half mile section of the corridor. The damage and destruction however, impacted hundreds of residential properties along the corridor which had been economically challenged for years. Then, on August 10, 2020, the City was hit by an inland hurricane, known as a Derecho. The Derecho impacted the entire community with power outages, road blockages, and property damage. The impact of the Derecho was yet another setback to the north side of the community, creating uncertainty for the timeline of disaster recovery and causing more damaged to the deteriorating, low-income Highway 14 Corridor.

Figure 1: Damage to businesses and homes on Highway 14 Corridor in the aftermath of the July 2018 tornado

In response to the 2018 tornado, the City completed the Downtown Master Plan project to develop a plan to create a new vision for a downtown that would never look the same. Since the downtown is bisected by Highway 14, three catalyst redevelopment sites along the corridor were included in the new Downtown Master Plan. The completion of the Puerta de Marshalltown project will promote the successful implementation of the Downtown plan and kickstart the rebuilding process in the wake of two major disasters in two years.

In 2018, surveyed community members identified the arrival experience, sense of safety on the street, landscaping and sidewalk/pedestrian amenities were among the attributes that were liked the least about the corridor in the community. Alternatively, what people like the most was nothing, confirming the negative impression the corridor has. The Puerta de Marshalltown has become an area of growing concern with a deteriorating image, declining quality of housing, and increasingly unsafe pedestrian and vehicular conditions. A mix of incompatible land uses, narrow ROW conditions, lack of pedestrian accommodations and increasing semi-tractor trailer traffic has diminished the vibrancy of the corridor and caters to a negative image for the community. The revitalization of this primary thoroughfare has the potential to become a point of pride for Marshalltown.

Transecting the community from north to south, there are few residents and visitors who do not use the corridor as means of getting to or from their destination. Residents, patrons, business owners, delivery drivers, and visitors depend on the corridor as part of their daily routine. Like many arterial roads in the communities we live and work in, there comes a point where planning, reinvestment and a new vision become essential to ensuring the successful future of the corridor. For the last 15 years, the Highway 14 corridor has been noted in multiple planning efforts, with a future vision further strengthened and defined through the years.

In 2007, the IMAGINE 2011 grassroots initiative was executed with community members to continue the conversation of community betterment. “7 Big Ideas” were selected out of more than 3,000 suggestions. Five rely on reinvestment and revitalization of the corridor:

- Revitalize and Strengthen Downtown
- Create a Pedestrian and Bicycle Friendly Community
- Develop the Linn Creek Riverwalk and Trail System
- Increased Beautification
- Develop Riverview Park and Beautify the North Entrance to the Community

These big ideas are still relevant to the community 10 years later, as additional opportunities have arisen as a result of disasters and the changing footprint of the community.

In 2016, the Iowa Department of Transportation (DOT) allocated funding for Maintenance Resurfacing of Highway 14 corridor through Marshalltown in FY2019. The scope of that project was to include a mill and overlay of the existing road surface and reconstruction of ADA pedestrian ramps at each intersection impacted. Although the proposed improvements would have a significant positive impact, City officials knew Highway 14 had greater potential. It was decided that the Maintenance Resurfacing funding allocated for the project would be tabled to allow the

City to conduct a study of the corridor and develop a plan to lead to a more comprehensive project which promotes additional opportunities along the corridor.

In late 2017, a public-private partnership was formed between the Martha-Ellen Tye Foundation (local non-profit foundation), Region 6 Resource Partners (f/k/a Region 6 Planning Commission) and the City of Marshalltown to create vision and a plan for the north side of the community. The Highway 14 Corridor Study assessed approximately 1.9 miles of the 4.5 miles of the highway in Marshalltown. From the standpoint of deteriorating pavement, poor public safety and degrading housing and commercial property, this was the area of greatest need along the length of the corridor. Improving the safety of the corridor for all users, increasing opportunities for economic development and incorporating beautification strategies were among the primary goals set forth by the project partners.

The outcomes of the Highway 14 Corridor Study included a range of improvement strategies that were derived from the input of the community. Some recommendations were intended to be immediate or near-term improvements, but many were developed with the understanding that it will take time and multiple phases to implement. The immediate and near-term improvements encompass improving the public ROW and providing the needed infrastructure to support a multi-modal corridor that is attractive to development, promotes private investment and caters to a better quality of life for Marshalltown residents.

B. Technical & Engineering Aspects

The original roadway through the Puerta de Marshalltown was paved in the 1950's, with portions paved in brick. In the 1970's and 1980's, a series of resurfacing and widening projects were completed to transition the two-lane highway to a four-lane cross section. In 2003, a portion of the corridor from Nevada Street to Main Street was resurfaced through a mill and overlay maintenance project. In 2006, traffic signals were installed at the intersections of Linn, Church, Main, and State Streets.

For the corridor, per the Iowa DOT Concept Design Statement (June 2016) for the approved maintenance resurfacing project, the crash rate is 406/HMVM which is greater than the statewide urban average of 263/HMVM. Of the crashes at this corridor, 28% are a result of Failure to Yield the Right-of-Way (FTYROW) on a left-hand turn and at a stop sign.

In the past 30 years, little to no other improvements have been made to the corridor, other than the previously identified paving and maintenance projects. Existing land use in the area varies from high density residential, single family residential, neighborhood commercial, office park, and light and heavy industrial. Increased semi-tractor trailer traffic through residential neighborhoods to access the JBS pork processing plant and other industrial sites, incompatible land uses adjacent to one another, and poorly designed intersection alignments have catered to worsening living conditions within the corridor.

1. Existing Transportation Challenges

As Highway 14 runs north to south for the length of the community, it is naturally a significant barrier to access local jobs and businesses for pedestrians on the east side of the community trying to access the western half of the community, and vice versa. Infrequent

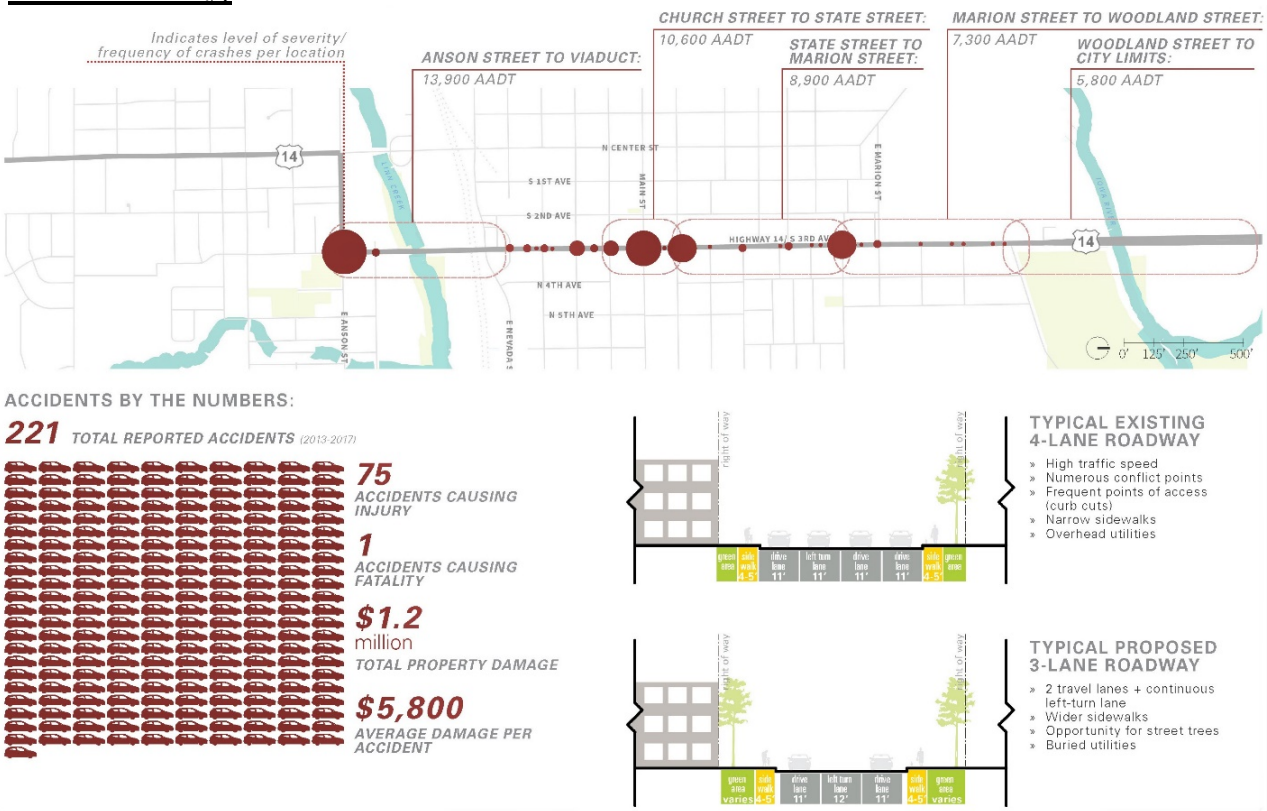
pedestrian crossings and inadequate sidewalks represent only a small part of the transportation challenges facing the Puerta de Marshalltown. The following is a list of additional challenges that impact the vehicular and pedestrian safety on the corridor:

- Narrow ROW creates very little separation between the roadway and sidewalks;
- Poor and interrupted sight triangles at side street intersections impede adequate sight distance to oncoming traffic;
- Excessive speeding and poor access management contribute to rear-end collisions resulting from sudden stops and sudden lane changes;
- Poorly aligned or offset intersections;
- Increased tractor trailer traffic and turning movements at poorly designed intersections with undersized turning radii;
- Lack of pedestrian accommodations, narrow and deteriorating sidewalks, and poorly defined intersection crosswalks;
- Non-compliant intersection pedestrian ramps;
- Inadequate street lighting;

Several intersections are prone to frequent accidents. Some are the result of higher traffic volumes and turning movements at the intersection, while others such as Marion Street and Riverside Street are poorly aligned, have poor sight lines and/or are not designed to support proper vehicle turning radii.

A summary of the crash history data from the Highway 14 Corridor Study identifies the cumulative cost associated with traffic related accidents from 2013-2017, as well as the cost per incident.

Figure 2: Accidents by the Numbers (2013-2017 traffic accident data map from Highway 14 Corridor Study)



2. Addressing the Transportation Challenges

To overcome the challenges that exist on the corridor it will take multiple tools and strategies to specifically address the needs of the different users and promote long-term growth potential of the corridor, while also maintaining the functionality of the roadway and those it serves daily. The following is a summary of specific solutions for addressing the transportation challenges of the Puerta de Marshalltown:

Challenge: Narrow ROW, creating narrow sidewalks
Solution: Utilize a road diet to reduce the overall pavement width of the roadway, creating additional space for wider sidewalks and wider buffers between vehicles and pedestrians.

Challenge: Poor intersection visibility
Solution: At the Swayze intersection, an existing building impedes the sight triangle and limits ability to see south bound traffic. By reducing the roadway width, vehicles stopped on Swayze will be pulled out from the blind spot the building creates and allow a better vantage-point to on-coming traffic. Side street intersection bump outs at four downtown intersections will allow pedestrians to be more visible from parked cars, improve visibility to on-coming traffic, and allow motorists to spot pedestrians more easily at crosswalks.

Challenge: Access management
Solution: Large, uninterrupted, and frequent curb-cuts and driveways greatly increase the number of conflict points along the corridor. During the traffic study, multiple driveways were identified to be removed or reduced. Through an extensive public outreach process involving individual meetings with property owners, consensus was built to reduce and/or eliminate many of the driveways along the corridor. Reducing the frequency of vehicles turning will have a significant positive impact on the corridor, from both a vehicular safety and pedestrian safety standpoint.

Challenge: Poorly aligned intersections
Solution: At the Riverside Street intersection, the street is divided into a boulevard for a block. The intersection is not aligned, which creates poor visibility for vehicles turning onto the corridor as well as vehicles stopping in the middle of the intersection as part of a turning movement. Abandoning the boulevard on Riverside, properly aligns the intersection so travel lanes are uninterrupted and do not lead into on-coming traffic while creating a great opportunity for streetscape amenities.

Challenge: Semi traffic at undersized intersections
Solution: The Marion Street intersection, which handles more than 250 semi-trucks (this is the quantity heading to and from JBS alone) on a daily basis, is also the location of a fatality caused when a semi-truck hit a motorcycle in 2017. The existing intersection has a tight turning radius that results in semis turning into oncoming traffic, while the trailer rides over the curb and sidewalk. The proposed intersection design includes a wider turning radius and will be properly designed to accommodate the vehicles that will use it daily. The Edgewood Street Extension project includes improvements to the Edgewood Street intersection to accommodate turning semi-

truck traffic. This project is funded Iowa DOT and the U.S. Economic Development Administration.

Challenge: Lack of pedestrian accommodations
Solution: Wider sidewalks along Puerta de Marshalltown will promote more walkability along the corridor and eliminate barriers for these pedestrians. ADA compliant sidewalks and compliant pedestrian ramps will give the mobility-impaired a useable pavement surface as well. Increased walkability will create connectivity to local businesses, Riverview Park, Anson Park, Downtown, and the Linn Creek Trail.

Challenge: Inadequate street lighting
Solution: Although some of the current roadway lights have been upgraded to LED, many of the lights are poorly spaced and nearly every pole is immediately behind the back of curb without any kind of breakaway base. The existing lights are fed by overhead electric, which was damaged or destroyed in the two disasters previously discussed and resulted in some streetlights not being replaced. Installing new poles, bases and fixtures will create more even distribution of lighting along the corridor, while moving the electric feed underground will provide resiliency in future disasters. Additional ROW due to a road diet will allow for the poles to be set back farther from the roadway. Improving the lighting along the roadway will improve vehicular, pedestrian and overall public safety by creating a more well-lit space.

Challenge: Aging and failing utility infrastructure
Solution: The water infrastructure is managed by Marshalltown Water Works (MWW). The existing watermain was installed prior to 1930 and a large portion of the corridor has dual watermains. The watermain and existing valves are failing and are a constant maintenance issue. The failure of the water valves creates a larger issue when there are main breaks in the adjacent area, as the inability to open and close valves extends repair time and corresponding water outage.
Solution: The storm sewer along the corridor is undersized and in need of upgrading. A community-wide drainage study was completed in 2004 and provided recommendations to increase storm sewer capacity along the corridor. The recommendations include upsizing pipe and providing capacity for both the corridor and the adjacent areas.

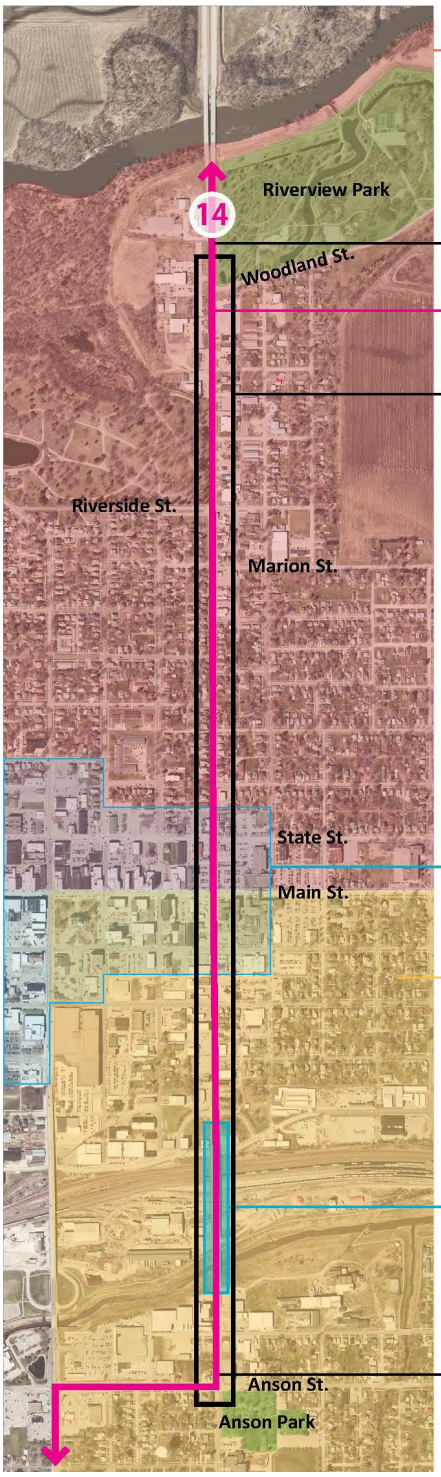
3. Proposed Improvements

Proposed improvements for the Puerta de Marshalltown represent years of critical study, application of sound transportation planning principles and are rooted in the public input. The improvements included herein will address transportation safety issues, create long-needed pedestrian connectivity solutions, improve property access, create safer intersections and provide a corridor that is more attractive and well suited for private investment, redevelopment and increased property values. Specific project elements include:

- Four-to-three-lane conversion for the entire project site;
- Roadway concrete pavement replacement;
- Wider sidewalks, adequate site furnishings, unobstructed intersection sight triangles, delineated crosswalks, decorative sidewalk pavement, and landscaping;

- New traffic signals with pedestrian friendly crossings;
- Full replacement of the watermain along the entire corridor including the watermain, water valves, and hydrants;.
- Installation of new, larger storm sewer including a new storm sewer outlet to the north of the project connecting into an existing drainage network in Riverview Park;
- Replacement of all existing sanitary sewer including services in the ROW.

Figure 3: Corridor Improvement Map



Census Tract 9505
- 24.1% - Persons below poverty line (1.5 times the rate in Marshalltown, per CensusReporter.org)
- 58% Hispanic
- 28.6 Median age (City of Marshalltown = 36.7)

Corridor Gateway Monument (proposed)

Puerta de Marshalltown
(Gateway of Marshalltown): Highway 14 Corridor

Project Area / Corridor-Wide Improvements
- Water main, sanitary sewer and storm sewer replacement
- Replacement of existing roadway and sidewalk pavement with new concrete pavement
- Four to three lane road diet conversion
- New curb and gutter
- Wider, accessible and pedestrian accomodating sidewalks
- Intersection bumpouts and shortened crosswalks
- Traffic signal improvements
- Visual quality improvements including: landscape improvements, site furnishings, and wayfinding and corridor monumentation
- Increase of pervious surfaces

Downtown Central Business District

Census Tract 9509 (Area of Persistent Poverty)
- 19.7% - Persons below poverty line (1.3 times the rate in Marshalltown, per CensusReporter.org)
- 41% Hispanic
- 26.3 Median age

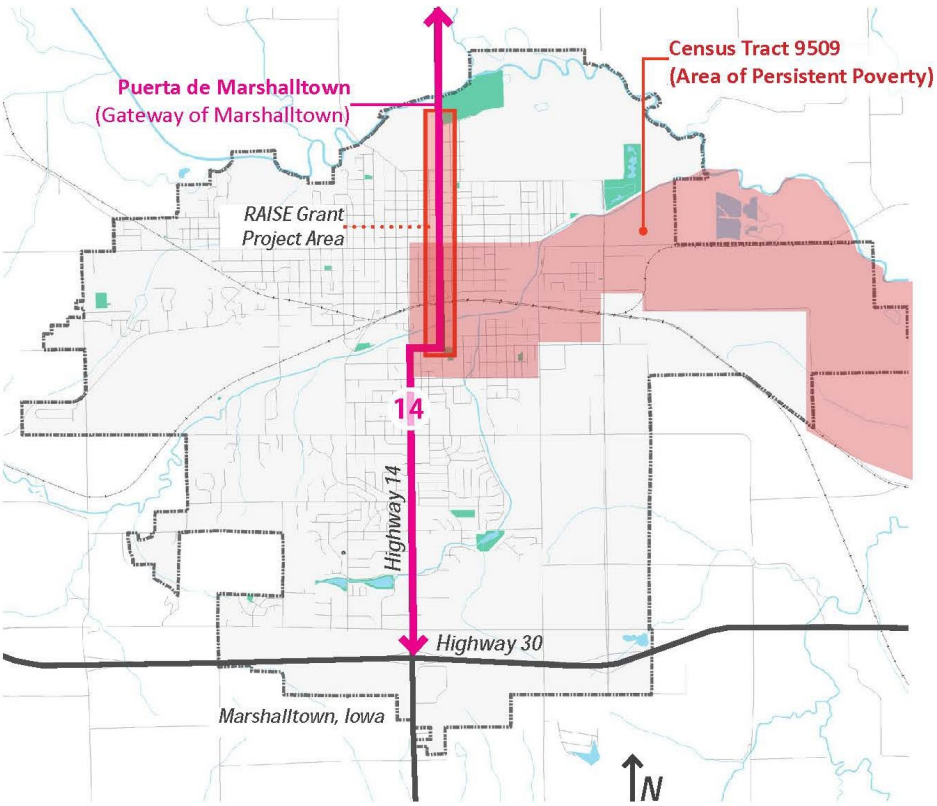
Viaduct Improvements
- Protected trail installation on viaduct to connect to the Linn Creek Trail and regional, Iowa River Trail system

Corridor Gateway Monument (proposed)

II. Project Location

The proposed project, Puerta de Marshalltown, includes 1.9 miles of State Highway 14/3rd Ave in Marshalltown, Iowa, from Riverside Street on the north end (including reconfiguration of Riverside Street from North 2nd Avenue to North 3rd Avenue) to Anson Street on the south end. This project will directly serve the Area of Persistent Poverty that is present in Census Tract 9509.

Figure 4: Project Context Map



Marshalltown is the county seat of Marshall County. Highway 14 connects many rural central Iowa communities to Marshalltown. Highway 14 also connects with other major Highways leading to larger urban communities including Ames, Waterloo, Cedar Rapids and Des Moines. Marshalltown is a 45-minute drive to the Des Moines metropolitan area.

The project is anchored on both ends by two of Marshalltown's most popular public parks, Anson Park on the south end at Anson Street and Riverview Park on Woodland Street at the north end. Anson Park is in the heart of the community. It is adjacent to Marshalltown school buildings and has close proximity to the Linn Creek trail and several commercial/retail amenities. Riverview Park has immediate access to Marshalltown's trail network and has abundant recreational amenities as the city's largest public park.

The community saw considerable growth in the 1960's to 1980's. In the past 20 years the population has grown approximately 4 percent. The population of Marshalltown was estimated at 27,068 in 2018. Despite the lower rate of overall growth, the changes in demographics is

significant. According to the US Census data in 1990 the Hispanic population in Marshalltown was 1 percent, and in 2019 it is estimated at 30.7 percent. The poverty rate has also increased from 8.67 percent to 12.61 percent city-wide. Census tract 9509 is designated as an Area of Persistent Poverty according to the DOT project status tool.

III. Grant Funds, Sources and Uses of All Project Funding

A. Project Cost

The Puerta de Marshalltown project is estimated to cost $21,546,456 to complete. These costs will take the project from design through construction including all of the required reports, testing, permits, and a Construction Representative on site full time to ensure it is being built properly. The full Opinion of Probable Costs with construction bid items can be found at www.PuertadeMarshalltown.com/supporting_docs.

Figure 5: Preconstruction Costs		
Description	**Estimated Cost**	**% of Total Cost**
Preliminary Engineering Report	$273,000.00	1.3%
Route Survey and Geotechnical Testing	$364,000.00	1.7%
Site Design, Final Plans, and Bidding Documents	$1,276,000.00	5.9%
Land Acquisition (Permanent & Temporary)	$14,400.00	.1%
Total Pre-Construction Cost	**$1,957,400.00**	**9.0%**

Figure 5: Preconstruction Phase Costs, shows the costs associated with items in the preconstruction phase of the project. The majority of the project cost will be incurred during the Construction phase of the project. All the items associated with the Construction phase are outlined Figure 6: Construction Costs.

Figure 6: Construction Costs		
Description	**Estimated Cost**	**% of Total Cost**
Construction Items (w/20% Contingency)	$18,223,056.00	84.7%
Construction Contract Administration	$182,000.00	.8%
Construction Staking	$273,000.00	1.3%
Resident Project Representative – Full Time	$911,000.00	4.2%
Total Construction Cost	**$19,589,056.00**	**91.0%**

B. Funding Sources

The Iowa DOT understands the value in this project and has committed to funding $1,000,000 towards the Puerta de Marshalltown project along Highway 14, whenever the project is ready to begin. During the study phase of this project, the Iowa DOT identified this corridor as a candidate for a 4-to-3 lane conversion so they have and will continue to provide insight to the City and its engineer. A Letter of Support from the Iowa DOT can be found at www.PuertadeMarshalltown.com/support. The City will be requesting the remaining amount ($20,546,456.00) be covered by the RAISE Grant. Per the Cost Sharing requirements for the RAISE Grant, the City of Marshalltown is deemed a rural community and can apply for 100 percent of the total project cost, up to $25 million. All project funds provided by Iowa DOT and RAISE grant, will be used to cover all the pre-construction and construction phase costs. None of

the project costs will be restricted from being covered by either funding source. Figure 7, identifies the funding sources that are anticipated to be utilized for this project:

Figure 7: Funding Sources			
Funding Source	**Category**	**Estimated Cost**	**% of Total Cost**
Iowa DOT	Non-Federal	$1,000,000.00	4.7%
US DOT Request	RAISE	$20,546,456.00	95.3%
	Total Project Cost	**$21,546,456.00**	**100%**

IV. Selection Criteria

A. Safety

According to the Marshalltown 2020 Community Survey, residents in Ward 1, which is the area impacted, responded that only 47 percent of participants thought the overall quality of transportation was good or excellent compared to other areas of the community that expressed a positive ranking as high as 71 percent. Additionally, when asked is your neighborhood a good place to live, 58 percent responded positively compared to 88 percent in other areas of the community. A link to the complete survey results can be found on the project website www.PuertadeMarshalltown.com/supporting_docs. The information gathered from this survey is critical in establishing a baseline feeling from residents in the community on important quality of life, safety and community development issues. The City plans to repeat this survey in the future to determine if projects such as the Puerta de Marshalltown have the anticipated positive impacts. As previously described in the project description, the corridor has a negative image, declining housing quality and increasingly unsafe pedestrian and vehicular conditions. A mix of incompatible land uses, narrow ROW conditions and increasing tractor trailer traffic plague the corridor and lead to an unsafe roadway.

In April 2017, the Iowa DOT released a review of 4-lane undivided roadways in their Statewide Screening for Potential Lane Reconfiguration Study. The study reviewed basic data such as Annual Average Daily Traffic (AADT), current lane configurations, medians and two-way traffic to determine the candidate roadway segments. The segments were then filtered by traffic volume and length to further narrow down the candidate roadway segments. Highway 14 from Main Street to the north city limits was identified as a candidate roadway segment. This roadway segment needs maintenance or reconstruction depending on sub segments, so the Iowa DOT initiated a planned redevelopment project for a 3-lane corridor.

The City of Marshalltown in a joint effort with the Iowa DOT hired a consultant to study the Highway 14/3rd Avenue undivided 4-lane corridor from the south end at Anson Street to the north city limits for feasibility of a 3-lane roadway and access management needs. The study was accepted by the City Council in June 2019.

1. Existing Data

Highway 14 runs from the north city limits to Anson Street, where it turns west on Anson Street. It is an undivided 4-lane roadway with two lanes in each direction and a left turn lane for southbound at Anson Street, otherwise there are no turn lanes present. Highway 14 is functionally classified as a major arterial roadway.

The previous 10 years of crash data was analyzed along the corridor. The crash history was completed using the crash data available through the Iowa DOT for January 1, 2011, through December 31, 2020. There were 237 reported crashes at the study intersections and 166 reported crashes along the segments between the study intersections for a total of 403 crashes along the Corridor during this 10-year period. The segment crash rate for Highway 14 from the north city limits to Anson Street including crashes at the intersections is 6.37 crashes per million vehicle-miles. The segment crash density is 22.4 crashes per mile per year.

Figure 8. Crash Type (2011 – 2020)

Crash Type	Frequency
Rear End	72
Right Angle	148
Sideswipe	61
Left Turn	64
Head On	5
Ran Off Road	47
Other	6

Figure 9. Crash Severity (2011-2020)

Crash Type	Frequency
Fatal	1
Suspected Serious Injury	4
Suspected Minor Injury	41
Possible Injury	68
Property Damage Only	289

Figure 8 indicates that most of the crashes were right angle crashes. The next most common were rear end crashes, followed closely by left turn and sideswipe crashes. Figure 9 breaks down the crash types from Figure 8 by showing the crash severity.

There was one fatal crash on the corridor, which happened at the Marion Street intersection. It was an angle, oncoming left turn crash involving a motorcycle driving northbound and a semi-truck driving southbound which turned left and collided with the motorcycle. There were also four suspected serious injury crashes on the corridor. One was between May Street and Nevada Street that involved a bicyclist at a driveway. The second was at the intersection of Swayze Street with Highway 14. This crash involved a vehicle turning right, while driving too fast for snowy roadway conditions leaving the roadway and hit a sign. The third occurred at the intersection at State Street and was a failure to yield to right-of-way causing a left-turn crash. The last suspected serious injury crash occurred on the bridge just south of Madison Street, where one vehicle lost control in icy conditions and hit another vehicle broadside.

2. Proposed Improvements

The proposed corridor improvements were analyzed and evaluated to determine the impact/changes to the proposed corridor.

Improvement: Road diet (4-to-3-lane)

- The proposed road diet will reduce the existing four lane roadway to a three-lane roadway with one through-lane in each direction and a center turn lane throughout the project limits.

Improvement: Reduced access points

- Based on public meeting and property owner discussions there are up to 49 access points out of the existing 112 that could be eliminated or combined. This is a 44 percent reduction in access points.

Improvement: ADA improvements

- The existing pedestrian facilities are not ADA compliant. The project will construct ADA compliant sidewalks that are wider along Highway 14 to promote more walkability along the corridor and create a safer space for pedestrians and bicyclists.

3. Predicted Crashes Per Year

Crash modification factors were reviewed for the proposed improvements from the Highway Safety Manual (HSM) and the Crash Modification Factors (CMFs) Clearinghouse. Crash modification factors were applied to the existing crash data collected to determine the predicted number of crashes with the proposed project improvements. The crash data was sorted by segment crashes and intersection crashes. The anticipated crash reduction and CMFs applied are as follows:

Segment CMFs:

- CMF ID 199 shows a 29% crash reduction for all crash types and severities with a road diet (4-to-3-lane conversion)

Reduced Access Point CMFs:

- CMF ID 177 shows a 29% crash reduction for all crash types and severities with access points reduction from >48 accesses/mi to 26-48 accesses/mi
- CMF ID 178 shows a 31% crash reduction for all crash types and severities with access points reduction from 26-48 accesses/mi to 10-26 accesses/mi
- CMF ID 179 shows a 25% crash reduction for all crash types and severities with access points reduction from 10-26 accesses/mi to <10 accesses/mi

Intersection CMFs:

- CMF ID 263 shows a 24% crash reduction for all crash types and severities with a left turn lane provided on one approach of a signalized intersection.
- CMF ID 267 shows a 28% crash reduction for injury crashes with a left turn lane provided on one approach of a signalized intersection.
- CMF ID 269 shows a 47% crash reduction for all crash types and severities with left turn lanes provided on two approaches of a side street stop-controlled intersection.
- CMF ID 273 shows a 50% crash reduction for injury crashes with left turn lanes provided on two approaches of a side street stop-controlled intersection.
- CMF ID 270 shows a 19% crash reduction for all crash types and severities with left turn lanes provided on two approaches of a signalized intersection.
- CMF ID 274 shows a 17% crash reduction for injury crashes with left turn lanes provided on two approaches of a signalized intersection.
- CMF ID 286 shows a 4% crash reduction for all crash types and severities with a right turn lane provided on one approach of a signalized intersection.
- CMF ID 288 shows a 9% crash reduction for injury crashes with a right turn lane provided on one approach of a signalized intersection.

The CMFs listed were applied to the intersection and segment crashes as applicable. With all of the improvements accounted for an overall crash reduction of 34 percent is anticipated. A copy of the CMFs are included in the detailed benefit cost analysis summary at www.PuertadeMarshalltown.com/benefit-cost-analysis/.

B. Environmental Sustainability

The City of Marshalltown is committed to climate action and equitable development through the expected Puerta de Marshalltown project outcomes.. Marshalltown's commitment to addressing environmental justice issues is exemplified by a recent award of $300,000 from U.S. Environmental Protection Agency (EPA) to address brownfields in the vicinity of the Puerta de Marshalltown project. In addition, the city has also been administering HUD Lead Based Paint Reduction grants since 2003. With more than $16 million dollars in Federal funding awards, hundreds of homes have been made lead safe for families. The current grant award is for $3,449,788.

At the present time, a local, regional, or state Climate Action Plan and Equitable Development Plan do not exist. However, the City has started researching the necessary steps in to develop each of these studies. Should the Puerta de Marshalltown project receive a RAISE award, the City is prepared to begin the data gathering and public outreach needed.

In order to understand the environmental justice (EJ) condition in Marshalltown and how the community is confronting EJ impacts, it is important to understand indirect actions that affect businesses and residents along the corridor. Running EPA's EJSCREEN Report (Version 2020) for Blockgroup 191279509001 bisected by Highway 14 in Marshalltown reveals not many populations in the State of Iowa or Nationally experience greater EJ impacts. The EJ Index for Traffic Proximity and Volume is 95 percent at the State level and 94 percent at the National level. Only 6 percent of the US population has a higher block group value than the average person in the Puerta de Marshalltown area. The EPA EJSCREEN revealed 65 percent people of color in the corridor southern block group and 71 percent low income population. A staggering 32 percent of the population has less than high school education.

Marshalltown's urban core that flanks the project area exhibits a poverty level of 18.7percent (higher than both the state (12 percent) and national (14.6 percent) averages), with child poverty at 7.8 percent. Out of the 4,517 households, almost 25 percent received Supplemental Nutrition Assistance Program (SNAP) benefits (2013-2017 American Community Survey 5-Year Estimates). Forty percent of the urban core population is seniors and children (2013-2017 American Community Survey 5-Year Estimates). Marshalltown demographics reveal 1.6 percent African American, 5.2 percent Asian, and 30.7 percent Hispanic or Latinx populations (U.S. Census Bureau, July 1, 2019).

A local Energy Baseline Study has not been prepared by the City of Marshalltown. If it is deemed necessary after project awards are announced, the City will complete the study at the local level.

The proposed improvements to the corridor in Marshalltown improves energy efficiency and lowers emissions by allowing for smoother flow of vehicles and less idling time through the

corridor. This creates intersections that allow smoother truck turning movements and fosters design improvements that favor bicycle and pedestrian movements as alternative modes of transportation. Any time a road system design can minimize idling vehicles, starting, and stopping, or need for acceleration, the amount of fuel used by those vehicles is less and the air pollutant emissions are less. Educating businesses on travel demand management strategies, including strategies playing off the lessons of Covid-19 remote work tools and policies, could reduce traffic volume on the corridor. These energy efficient and air pollutant reduction conditions help to mitigate climate change and would be the case following construction of the Puerta de Marshalltown.

With a 10-foot protected trail across the existing 3rd Avenue viaduct, improved pedestrian sidewalks and handicap accessibility along with added bike trail connections, a shift in modes of transportation would occur as people walk, bike, and utilize newer electric devices like power-assisted bicycles and electric scooters along the corridor. This factors into climate control mitigation measures that this project will include. Fewer motor vehicles also translates to greater energy efficiency, reduced dependence on oil, reduced congestion-related emissions and a healthier community. Reduced vehicle travel lanes (4-to-3-lane), tree plantings, permeable widened boulevard space, and other green street elements where practical, will contribute to reduced stormwater runoff and improved water quality. The proposed project would not impact wetland or endangered species but would look to establish native species for landscape treatments including species that benefit pollinators.

On the ends of the Puerta de Marshalltown, there are vacant lots that don't currently have a planned use. It is not part of this phase of funding being sought, however the City realizes that this space would be a great opportunity for installation of zero-emission vehicle infrastructure and electric vehicle charging stations. The ease of access being immediately off of Highway 14 would make for a great location for anyone seeking these amenities.

Decorative LED streetlights would be incorporated into the design and greatly improve energy efficiency. The existing lights are fed by overhead electric; this project will move the electric feed underground which will provide resiliency in future disasters. The City will discuss targeting underutilized properties on each end of the corridor and at the gateway to downtown at the intersection of Highway 14 and Main Street for possible electric vehicle infrastructure improvements (transmission and transformers) and charging stations for a future phase of the project. Through these renewable electrification projects, the renewable energy supply chain is enhanced.

A significant amount of the grid-supplied electricity to Marshalltown and the corridor is renewable as a result of significant wind and solar generation coming from the high voltage grid to the local distribution network. Marshalltown is also fortunate to have had its coal and PV solar generating facility just 1.5 miles east of Puerta de Marshalltown replaced by a modern gas generating power plant that powers businesses along the corridor. According to Alliant Energy the natural gas facility is providing clean energy for 500,000 homes and businesses. The Marshalltown Generating Station was the first infrastructure project in Iowa to receive the Envision® Platinum Award – the highest attainable Envision recognition level. The facility interconnects with an adjacent 2.5-megawatt

solar photovoltaic generation facility and a 500-kilowatt-hour battery energy storage system. This generating station supports Alliant Energy's growing investments in renewable energy flattening the renewable intermittency curve with its ability to adjust its output up and down quickly. This provides flexibility to better integrate wind and solar power into the local electric supply mix.

The Alliant solar/natural gas facility minimizes the harmful air pollution impacts on the minority and low-income communities that exist in the census tracts fronting Highway 14. Marshalltown Municipal Transit will also be upgrading its public transit fleet that operates along the corridor to all-electric vehicles as funding sources become available to facilitate the capital cost of fleet conversion. The significantly reduced vehicle emissions from proposed roadway and intelligent traffic signal design improvements, infrastructure-supported and renewable-supplied vehicle electrification, and EV conversion of the public transit fleets that utilize the Puerta de Marshalltown will significantly negate the historic EJ air pollution and vehicle noise impacts for the populations that abut this transportation corridor.

The Puerta de Marshalltown project does not include any buildings so constructing energy-and location-efficient buildings in order to address environmental sustainability does not apply.

A key element of this project rests with the ability of the enhanced roadway to serve as a redevelopment catalyst for the extensive number of brownfields along and near the roadway. The brownfield properties, some vacant and some dilapidated beyond repair as a result of the 2018 EF-3 tornado and 2020 Derecho, are infill sites that represent locational efficiencies and with utility incentives have the potential for highly energy efficient redevelopment projects. As mentioned above, the City of Marshalltown is the recipient of a $300,000 EPA Brownfield Assessment Grant in 2021 that will be utilized to facilitate assessment, planning, and sustainable redevelopment of properties along and near the Puerta de Marshalltown project area. While the nature of the proposed improvements would not exacerbate contaminant conditions or present issues during construction, they currently contribute to reduced property values and blighted conditions along the roadway. Throughout Iowa, highway improvements such as that proposed for Highway 14 have shown to be an impetus to attracting sustainable redevelopment and redeveloping existing infrastructure where needed. Improved access, improved aesthetics, rezoning for appropriate, compatible uses and enhanced recreational trial connections will undoubtedly increase redevelopment interest. Access to State and Federal grants and tax credit programs can be leveraged. Additionally, the ability for Opportunity Zone Fund investment in the southern part of the corridor and the opportunity for brownfields redevelopment, success is unprecedented.

A truly sustainable project involves consideration and improvement of environment resources, enhanced community wellbeing, and improved financial or economic conditions. As demonstrated above, this project clearly benefits the environment over baseline conditions. Additionally, the project offers the opportunity to enhance the health and quality of life of those in the community through energy efficiency, less greenhouse gas emissions, healthy transportation and recreational alternatives, reduced traffic volume, and catalyzed brownfield redevelopment thereby enhancing employment opportunities and tax base.

C. Quality of Life

Home to several large, regionally and globally significant manufacturing and engineering corporations, Marshalltown is a blend of white-collar, blue-collar and service-oriented industries. The community is an incredibly hard-working and tight-knit community, which is attractive to emerging professionals and young families.

Highway 14 passes through the Downtown business district and provides connectivity between adjacent residential neighborhoods. Many of the immediately surrounding residential neighborhoods are distressed and are below the low/moderate income threshold established by HUD. Many residents rely on the corridor to get to and from work and access necessary services like medical care. But the reference to this corridor as the "forgotten part of Marshalltown" shows room for improvement in internal and external perceptions.

One of the unique challenges facing the community, is the stark difference in the demographics of the Puerta de Marshalltown project area and the broader community. Figure 10 is a comparison of demographic data for the overall Marshalltown community, compared to the Puerta de Marshalltown project area. The community must consider the racial and ethnic equity of this project. The project is unique in that nearly 30 percent of community identify as being Hispanic or Latinx. The project area has an even higher percentage of population identifying as Hispanic at 42 percent. This in combination with the lower median home value and median household income make this area disadvantaged as compared to the remainder of the community. This project will help to provide equitable investment in public infrastructure and safety measures in the area.

Figure 10: Demographic Data

Category	Community-wide	Puerta de Marshalltown area
Population	27,068	2,116
Ethnicity	62% White/Caucasian 30% Hispanic or Latinx	47% White/Caucasian 42% Hispanic or Latinx
Median Home Value	$95,500	$74,000
Median Household Income	$50,612	$32,068
Employment Type*	53% White Collar 34% Blue Collar 14% Services	40% White Collar 51% Blue Collar 19% Services
Unemployment Rate	5.0%	5.7%
Education Level	21% No High School Diploma	35% No High School Diploma
Poverty Level	13%	30%

Source for all Figure 10 data: ESRI Business Analyst & US Census Bureau

*(white collar: professional/managerial/administrative, blue collar: skilled and unskilled labor/industrial/manufacturing, services: retail/distribution/food and other service-related industries)

According to the Marshalltown 2020 Community Survey, found at www.PuertadeMarshalltown.com/supporting_docs, respondents answered a variety of questions related to the community as a whole and their neighborhood. Measuring quality of life features is

more than a sidewalk or aesthetic enhancement it is a sense of place. Marshalltown is a designated Iowa Great Place community and has strived to make quality of life improvements a part of every project. Residents in this area indicated that 58 percent felt positive about their neighborhood as a place to live yet only 38 percent had a positive opinion of Marshalltown as a place to visit. Areas with low positivity rankings include items such as shopping opportunities, overall economic health, opportunities to attend cultural events, quality public spaces, cleanliness, and quality of transportation. These are areas of importance that play into the quality of life. The evolution of this project has included placemaking principles through the community engagement efforts at the initial planning stages. Implementation of improved access ways to community amenities and economic opportunities should improve the future rankings.

Fifty-two percent of respondents who live in the neighborhood had a poor opinion of the sidewalks in the Marshalltown. Providing better, ADA compliant connections to resources that the residents need, is a significant factor in quality of life. This project will afford better connections to many amenities that Marshalltown has to offer, with a few outlined below.

1. Access to healthcare

At the heart of the corridor is the current medical campus which is home to multiple providers. Marshalltown is experiencing a shift where a number of these providers are relocating to other areas of the community. This relocation will impact the current accessibility to services resulting in a higher demand for public transportation and vehicular access.

2. Access to daily goods and services

The highway functions as a significant commercial corridor allowing for the delivery of goods to local businesses. Along the corridor itself you can find multiple restaurants, service providers, retailers, gas stations, offices and medical providers. The corridor allows the essential deliveries to take place as well as ensuring accessibility by customers.

3. Connecting people to employment

A mobility study conducted in partnership between the City and Iowa State University examined mobility issues within the area. Preliminary findings indicated that many households in residential neighborhoods located in the north portion of the corridor, and within ¼-mile of existing transit stops, were between 51-81 percent low/moderate income. The study further considered households within ¼-mile of the transit stops that did not have a vehicle. The statistics ranged by individual bus stop area, but generally found that between 5-31 households (within each bus stop service area) did not have a vehicle. The preliminary findings of the study reinforce the importance of the corridor for multi-modal transportation. With a significant portion of households in close proximity being low/moderate income with limited access to vehicles, it is important to provide safe pedestrian access routes to and throughout the corridor for places of employment.

4. Connecting people to recreation

Establishing a protected bike lane across the highway viaduct will allow all users safe and efficient access to the downtown area, Riverview Park and Anson Park, and other community

amenities/destinations. The proposed improvements encourage and provide more usage of the public transit system by creating safe pedestrian access to transit stops.

The roadway needs improvement to continue to provide safe, desirable service to the community. Deteriorating infrastructure is often a precursor to declining property values as businesses and investors choose to expand in other places within the community. Infrastructure improvements as proposed to the corridor are needed to ensure that existing daily services can be retained in the corridor while attracting new investment in the form of redevelopment.

D. Economic Competitiveness

The Highway 14 corridor is the front door of the north entrance of the community which led to the project name, Puerta de Marshalltown. It is the main thoroughfare from the local Marshalltown Municipal Airport and is often the first impression for visitors coming into the community for business and leisure.

As a primary entrance to the community and a major north/south corridor for visitors and residents alike, this area is considered by many to be unsafe to walk and drive, so many try to avoid it. Some of the community business leaders reportedly avoid bringing clients through the corridor because of the negative image that it portrays. The negative image is not representative of Marshalltown businesses, neighborhoods or its diverse people. The opportunity to implement the Highway 14 Corridor Study is an encouraging boost to an area of Marshalltown that needs it the most.

In an effort to focus on housing and economic development opportunities, the corridor was broken into specific segments to better define needs and opportunities. For the purpose of the study, the corridor was divided into five distinct study areas:

1. Anson Street to Linn Creek
2. East Madison Street to East Linn Street (Viaduct Area)
3. East Linn Street to E State Street (Downtown)
4. Bromley Street to Riverside Street (North Residential Transition Area)
5. East Marion Street to the River (North Gateway)

The housing analysis illustrated the percentage of owner-occupied units, renter-occupied units, and vacant housing units (vacant units include both for-sale and for-rent units). This data is shown as a comparison of the five study areas along with the City of Marshalltown and the geographic areas within a 30-minute drive from downtown Marshalltown.

The City of Marshalltown and the areas within a 30-minute drive of downtown Marshalltown show very similar numbers for the different housing categories. If these geographies are used as a benchmark, then, in general, the five housing study areas provide opportunity to reduce vacancy and increase owner-occupied units. See Figure 11: Corridor Housing Analysis at www.PuertadeMarshalltown.com/figures.

The study area from Anson Street to Linn Creek shows similar owner-occupied housing units as the benchmark however, the vacancy rate is one of the highest of the study areas at 18.6 percent.

The downtown study area shows the lowest owner occupancy at 26.8 percent and a high vacancy rate at 16.5 percent. Investors and developers could consider this an opportunity to integrate more for-sale housing such as condominiums and townhouses. Additional amenities in downtown such as a drug store, greenspaces, and other daily needs stores could increase the appeal of downtown living and also contribute to reducing the vacancy rate. All the study areas have an opportunity to reduce vacancy rates. By achieving a reduced vacancy rate along the Puerta de Marshalltown, the total vacancy rate of the City of Marshalltown could also decrease.

Understanding the housing needs and considering the type of services and businesses that often pair well with downtown living, was a critical success factor during the Highway 14 Corridor Study. The plan needed to be appealing to developers and accommodate the type of businesses and services that might make sense for this area of Marshalltown. Addressing the existing challenges along the corridor such as pedestrian safety, walkability, adequate lighting, beautification and appropriate zoning would encourage such essential growth.

The Highway 14 Corridor Study recommended the development and adoption of a new type of zoning that could accommodate a more modern zoning district classification that would allow a variety of uses while providing a pedestrian friendly and aesthetically pleasing environment. The new mixed-use zoning will allow for more goods and services that will promote walkability and cater to the residential neighborhoods along the corridor. At the time of the Study the City had not experienced either of the natural disasters. What developed out of the 2018 EF-3 tornado and 2020 Derecho were new infill opportunities that previously did not exist without acquisition and demolition. The opportunity for zoning changes became clearer and more critical to future development. In 2020 the City engaged with Kendig Keast Collaborative to complete a comprehensive rewrite of the entire Zoning Ordinance, which would include the establishment of a mixed-use district. Adoption of the Zoning Ordinance is anticipated in January 2022.

The flexibility of site design and combination of uses allow for development to occur in a more modern pattern, better accommodating mixed use projects that are designed to encourage pedestrian activity and provide the opportunity for service and retail type businesses and housing to be developed cohesively. This type of development is not easily accommodated without the new district classification. The district allows simple changes like accommodating and prioritizing more space for outdoor seating, gathering places and moving parking and service entries off the street. It allows and encourages shared access points to the corridor street to reduce the number of driveway locations on the corridor over time.

The corridor passes through the Downtown area which was the focus of the 2019 Downtown Master Plan and the 2021 Downtown Implementation Plan. One of the implementation strategies of the Master Plan is the development of design guidelines. The City is in the process of incorporating design guidelines into specific sections of the Zoning Ordinance update. The design elements will specifically address many site related issues similar to the mixed-use zoning district and will be codified in such a way that they will provide a set of minimum requirements. The topics to be addressed in the guidelines will include building placement on the site, off-street parking, landscaping, lighting and the historically appropriate treatment of buildings located within the historic district.

Development is encouraged by both action and market speculation. Commitment to improving public infrastructure and doing so to promote and spur economic development is attractive to developers. Improving access management, creating a walkable corridor, undertaking intersection improvements, improvement of the water distribution system, focusing on zoning, land use compatibility, and implementing green street design elements along with beautification on this corridor shows commitment from the City. This kind of commitment will allow developers, businesses, and property owners to trust that the City also sees value in this area of town. That commitment is what the City can use to leverage the private investment to expand jobs and tax base while directly reducing the air (including GHGs), water, noise, and environmental justice impacts associated with major traditional motor vehicle transportation corridors. This project includes a major water distribution system replacement to some of the neighborhoods in greatest need. The improvements will ensure that some of the most vulnerable population has access to clean, safe drinking water and wastewater services.

With the requested RAISE Grant funding, the City can set in motion the pivotal improvements that will align the concepts derived in the Highway 14 Corridor Study. The improvements encourages the type of private investment and redevelopment that can add to Marshalltown's tax base, add desperately needed affordable housing, and potentially increase the type of neighborhood retail/commercial businesses that will cater to not only this area of Marshalltown but the entire community. Given the post tornado and devastating Derecho condition of the Puerta de Marshalltown, funding this project could not come at a more opportune time. Completion of this project will breathe life back into this community providing Marshalltown an economic competitive edge while enhancing the opportunity for a more sustainable future. Multiple project factors contribute to local and/or regional economic competitiveness as outlined below.

Project Factor: Increasing the efficiency of movement thereby reduces costs of doing business - Improving signal timing, reducing the quantity and frequency of driveway accesses, and a dedicated left-turn lane will improve circulation of freight trucks and shorten travel times for corridor users. Less transportation energy cost and less transport and driver labor time equate to reducing the cost of doing business in Marshalltown.

Project Factor: Reducing burdens of commuting – The proposed project will improve key intersections that are currently inadequately designed for the numerous semi-trucks. More than 250 trucks access JBS on a daily basis. Existing intersections lack pedestrian crossings, have poor visibility and inadequate turning radii. Smoother truck turning movements will equate to less congested car and light truck traffic and shorter, more efficient commuting for those using the corridor. Additionally, with enhanced pedestrian and bicycle lanes more commuters are likely to opt for biking or walking to work further reducing the burden of commuting associated with all transportation modes.

Project Factor: Promoting the expansion of private economic development by increasing the economic productivity of land, capital, or labor – Numerous vacant and underutilized properties within the study area will be assessed through the U.S. EPA Brownfields Program (previously discussed) and will be better positioned for redevelopment and/or more highly utilized. Potential

property consolidation, higher residential density and mixed development will contribute to higher economic productivity of the land adjoining and near the corridor. With a Federally designated Opportunity Zone at the southern end of the corridor significant private sector capital may be invested once a construction schedule and financing plan for improving the corridor is in place. With Opportunity Zone Fund investments most likely funding mixed use commercial, residential building construction, job and labor demand will increase both during construction as well as within the commercial businesses occupying the new real estate. Additionally, the added residential use will be critical to attracting and accommodating the workforce needed for the significant amount of industry in Marshalltown.

Project Factor: Improving overall well-being with long-term job creation and other economic opportunities – Improved public infrastructure coupled with complete streets design principles, will make existing properties which are currently vacant or underutilized, attractive for redevelopment, including in the Opportunity Zone mentioned above. Additionally, this will help the existing businesses as they grow and need to recruit new employees. Better connectivity to the downtown business district will promote better exposure for existing businesses and create an attractive scenario for potential businesses. Improved aesthetics, an efficient roadway, a more walkable and bikeable corridor, and less air quality, noise, and safety issues will translate into a remarkable improvement of well-being for those living and working in Marshalltown while increasing the likelihood that existing and new businesses will be long-term sustainable enterprises with long-term job creation.

Project Factor: Improving local and regional freight connectivity to the national and global economy – This corridor is home to several well-established and global, industrial leaders including Emerson, Lennox and JBS. Companies like these are the life-blood of many rural Iowa communities and a source of economic activity for hundreds of pork producers across central Iowa. Improving the conditions of the Puerta de Marshalltown with a design that enhances local and regional freight connectivity including access to and from Marshalltown to four-lane Highway 30 and Highway 330 followed by Interstate 80 and Interstate 35, will help to ensure that these national and global businesses remain competitive. The proposed project will encourage a higher quality of life for an established work force and provide the infrastructure required for these companies to continue to be competitive and operate efficiently.

Project Factor: Providing opportunities for workers to find good-paying jobs directly related to the project, including opportunities through unions, project labor agreements, local hiring provisions, or other targeted preferential hiring provisions – This proposed project will directly result in hundreds of good-paying jobs from those that work to develop the Corridor Concept to the planners, engineers, and landscape architects that design the facility, to the construction workers that implement the design. Environmental planning, engineering, and landscape design will be completed by professional service workers within Iowa. The construction company selected will undoubtedly need to rely on the local and regional labor force to competitively be selected and complete the project. The following trade unions are expected to be necessary for

constructing the roadway and ancillary attributes and utility infrastructure along and associated with Highway 14:

- International Association of Bridge, Structural Ornamental and Reinforcing Ironworkers (Local 67)
- International Brotherhood of Electrical Workers (Local 347)
- International Brotherhood of Painters and Allied Trades
- International Union of Bricklayers and Allied Craftsmen
- Laborers International Union of North America (Local 177)
- Lineman (Local 55)
- Plumbers And Steamfitters (Local 33)

Project Factor: Expanding Private Economic Development – Changes in land use within the project corridor has resulted in under-utilized and vacant properties. An important factor in attracting new investment and capitalizing on redevelopment opportunities in the corridor is modernizing the public infrastructure. Improving the mobility and overall aesthetic of the project will also be an attractive benefit to investors. The Highway 14 Corridor Study identified key redevelopment areas including, the medical campus, the opportunity for industrial expansion in the Edgewood Industrial Park, and the development of a mixed-use district north of the viaduct.

The medical campus is particularly critical to this corridor. The property value information was analyzed using the existing valuation of the parcels in the corridor, according to the Marshall County Assessor information. The base value of property including land, structures and dwellings located in the corridor is $43,118,376. There are many vacant and/or property tax exempt properties located within the corridor.

The medical center site located in downtown was identified as a catalytic redevelopment site in the Highway 14 Corridor Plan and the Downtown Master Plan. The estimated new value of these sites was determined by estimating the square foot of each type of new land use development identified in the concept plan and then assigning a value per square foot for each type of use. The value of the land was not adjusted, only the value of structures and/or dwellings as appropriate. The net total change was determined by the estimated value following redevelopment within the corridor.

The medical campus redevelopment concept plan proposes a development program that includes multi-level mixed residential/commercial buildings and single-story commercial buildings. Much of the campus is currently exempt from property taxes and is considered a prime location for redevelopment in the corridor and in the downtown area. Private investment in the site will result in adding taxable value to the City.

Figure 12: Building Area Estimates

Estimated Area, in square feet	Use Type
87,5000	Residential within mixed use structures
62,500	Commercial within mixed use structures
14,800	Retail, consumer service, restaurant
39,000	Senior housing
7,000	Hotel
20,000	Residential, common-wall product

This project which could be phased over the 20-year life of the project is estimated to be valued at $32,341,000 and contributes a positive net change to the overall corridor valuation by $18,516.800.

E. State of Good Repair

Puerta de Marshalltown has seen a lot of changes and growth since first being paved in the 1950's. It has grown from a 2-lane roadway to a 4-lane urban arterial corridor that serves the entire community. The existing watermain along the corridor was installed in the early 1900's and is one of the worst sections of watermain in the entire town.

Roadway pavement starts to deteriorate the day after it is put in place. The deterioration for both concrete and asphalt pavement follows a predictable lifecycle. If left alone and no maintenance is completed, all pavement will eventually fail. As a pavement moves along the typical street life cycle, the types of recommended repairs change based the pavement condition. If the pavement is neglected too long, the only option remaining is a full reconstruction. If the pavement is addressed before this point, the repairs can help extend the life of the existing pavement. By doing smaller preventative maintenance and rehabilitation the life of a pavement is able to be extended beyond that of a pavement which no maintenance is completed.

Due to the poor watermain condition and lack of storm sewer capacity, a full reconstruction of the corridor is recommended. The full reconstruction will allow the replacement of failing watermain and increasing the storm sewer capacity while providing a new roadway. The reconstruction of the roadway will be paired with a 4-to-3-lane conversion, pedestrian improvements, streetscape elements and increased accessibility along the entire corridor to provide a revitalized ROW.

The proposed project approach of full reconstruction will meet the selection criteria for a state of good repair based on the following information.

1. The proposed project is consistent with the existing plans to maintain the roadway and ensure It is in a good state of repair. In 2016 the Iowa DOT allocated funding to rehabilitate all of Highway 14 Corridor through Marshalltown including a 4-to-3-lane conversion for the North portion of the roadway. As discussed in the Project Description section the North half of Highway 14 from Anson Street to the Iowa River was removed from the Iowa DOT's surface improvement project in order to allow for the City of Marshalltown to evaluate the corridor and establish a vision for the northern portion of corridor. Between 2016 and 2020 the City has completed the previously discussed Highway 14 Corridor Study and the Downtown Master Plan. Both of these studies when put together create a unique vision for the corridor which helps outline a goal for the future. The

proposed project aligns with the previous Iowa DOT improvement plans while addressing the current vulnerabilities along the corridor.

The City of Marshalltown also completed an ADA Transition Plan in December of 2019. As part of the transition plan all of the City's sidewalks, ADA ramps, traffic signals and pedestrian crossing were analyzed for ADA compliance. The data collected shows that 68% of the ADA ramps in the corridor are non-accessible while 50% of the sidewalks are inaccessible or have barriers to accessibility present. The proposed improvement will bring the entire project corridor into ADA compliance and help meet the goals of the recently approved ADA Transition Plan.

2. If the roadway improvements are not completed, the roadway will continue to deteriorate to a point of disrepair. This would lead to increased yearly maintenance costs, possible increase in pavement condition related crashes and continued hardship to an already blighted area of town. The first step of a much larger vision is the reconstruction of the Puerta de Marshalltown. This reconstruction will help spur development and revitalize the northern end of Marshalltown.

3. As part of both the Highway 14 Corridor Study and the Downtown Master Plan the City developed preliminary costs for the roadway improvements and possible redevelopment in the area. The reconstruction of Puerta de Marshalltown will help spur the redevelopment as referred to in the economic competitiveness portion of the narrative. The initial cost to improve the roadway will provide long term benefits for the entire corridor including reducing long term maintenance costs, improving pedestrian access and increasing economic redevelopment in the area.

The Iowa DOT will be partnering with the City of Marshalltown for the project. The Iowa DOT has committed to provide $1,000,000 to the project to help cover roadway pavement related costs. Once completed the investment in the roadway will help play a much larger role in the redevelopment and economic growth in the northern portion of Marshalltown.

4. Once the project is completed, the aspect of long-term maintenance also needs to be addressed. The City of Marshalltown has a maintenance agreement with the Iowa DOT for Highway 14 through the City limits (which can be viewed at www.PuertadeMarshalltown.com/supporting_docs). Marshalltown is responsible for minor maintenance along the roadway including pothole filling, partial-depth patching, pavement marking, signage and any maintenance outside of the travel lanes. The Iowa DOT is responsible for all other maintenance required for the travel lanes. The City required maintenance along the corridor will be funded as part of the normal operating budget for the City of Marshalltown. The current budget has allocations for street repairs, ADA improvements and pavement marking. These allocations along with the Iowa DOT funds will help cover any future pavement maintenance costs along the corridor.

The City has both sanitary sewer and storm sewer utility fees in place to help cover costs of future improvements needed. These utility fees will provide any future funding needed for utility maintenance along the corridor. The project will provide new sanitary and storm sewer to replace

the aging and undersized infrastructure. The watermain replacement will provide much needed water valve and main replacements. This will afford reduced maintenance requirements and efficiency for future watermain breaks and the ability to control waterflow with properly working valves. The City of Marshalltown is partnering with Marshalltown Waterworks for the water main replacement. Partnering results in a reduced chance of new roadways having to be removed to repair watermain infrastructure if it fails after reconstruction. Marshalltown Waterworks will still maintain ownership of any installed water infrastructure and perform any future maintenance required.

F. Partnership

One of Marshalltown's greatest strengths is the ability to collaborate and partner with other agencies to execute community visions. The City of Marshalltown has many stakeholders for the Puerta de Marshalltown project identified. In a rural community, this support is crucial to making a project of this size successful. Support is shown by many local and state representatives, local businesses, the Iowa DOT and residents. Representatives from all of these key stakeholders have provided letters of support showing their buy-in for the project. All of these letters can be found at www.PuertadeMarshalltown.com/support/. As mentioned in the State of Good Repair section, Marshalltown Waterworks has been identified as a key stakeholder as well. In addition to letters of support, the Iowa DOT is showing their support by contributing $1,000,000 to ensure this project's completion. The City of Marshalltown's City Council is also showing their support through a Resolution that they passed on June 28, 2021 to apply for the RAISE grant. The Resolution can be found at www.PuertadeMarshalltown.com/support/.

G. Innovation

Careful pre-project planning, both conceptually and environmentally, will streamline the environmental permitting process for the Puerta de Marshalltown. The City invested heavily in executing a corridor study that will promote an efficient and effective permitting process, thus promoting efficient project delivery.

All readily available information on resources in the corridor has been documented, catalogued into a GIS database, and mapped (See Environmental Resource Maps at www.PuertadeMarshalltown.com/supporting_docs. As a result, to the understanding of environmental resources a corridor improvement concept has been developed that avoids impacts to wetlands, threatened and endangered species habitat, historic architectural sites, and Land and Water Conservation Act 6(f) resources. For categorically excluded projects of this nature, Iowa DOT and FHWA utilize a programmatic agreement that allows the Iowa DOT to sign off on a proposed federal action without corresponding FHWA review or signature. This streamlined process reduces the amount of time required for the NEPA environmental review and decision-making process. Additionally, the Iowa DOT along with the FHWA utilize a different programmatic agreement with the State Historical Society of Iowa (SHPO) for projects of this nature with anticipated not adverse effect to cultural resources. This Iowa DOT/FHWA and SHPO Programmatic Agreement assigns the decision-making for adverse effects solely to the Iowa DOT Cultural Resources Section and as a result, several months of outside agency review and consultation are removed from the project planning process. So, with early environmental planning and concept design coordination, Programmatic Categorical Exclusion classification, and

use of a Programmatic Agreement for final determination of cultural resource impacts makes this project is about as streamlined and efficient as it can be in Iowa and will assure efficient and timely project delivery in the context of a comprehensive understanding of corridor resources and socioeconomic conditions.

The City recognizes that improvements to the corridor are needed beyond the public right-of-way and is developing a Neighborhood Beautification Program to assist residential properties in the project area to make improvements. The specific details of the program and funding are under development at the time of this application but are anticipated to be applicable to all residential properties fronting Highway 14. Eligible exterior improvements to the property include things such as retaining wall repairs, landscaping, siding, windows, and other non-structural improvements.

While no innovative technologies except for LED street lighting, or innovative financing are planned for this project, the innovative project delivery methods provide for an exciting project for the City of Marshalltown.

V. Environmental Risk Review

Based on a detailed review of the engineering concept for improving the Puerta de Marshalltown in relation to potentially affected environmental and socioeconomic resources, the proposed project would be reasonably expected to begin construction in a timely manner. All resources have been evaluated with respect to the project concept. The analysis of potential impacts show that this proposed project presents minimal risk.

The proposed project has minimal parcel acquisition as the worst-case scenario. Temporary construction easements will be needed for some parcels. The ROW acquisition is a minor component and will not affect the schedule. Because only small portions of some parcels near intersections would be required, condemnation would be an unlikely scenario. If condemnation were necessary, the design would likely be revised if condemnation would be expected to affect the project schedule.

The City of Marshalltown and consultant team will work with the Iowa DOT and Iowa Department of Natural Resources through the planning and designing phase of this project. The project's anticipated Programmatic Categorical Exclusion (PCE) will be complete in about three months after a RAISE Grant is awarded. If any unknowns surface during further engineering and evaluation of resources, this will be evaluated, addressed, and incorporated into the existing project schedule not affecting planning bid letting and construction. If more significant unknowns were to develop the proposed project design would be altered to mitigate any potential schedule impacts.

A. Project Schedule

A project schedule that identifies all major project milestones is identified in Figure 13.

Figure 13 – Project Schedule

	2021		2022				2023				2024	
Quarter	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
RAISE Grant Submittal												
RAISE Grant Award												
Project Kickoff												
Design Survey												
Preliminary Design												
Environmental Assessment												
Public Outreach												
Final Design												
Bidding												
Construction												

The anticipated NEPA classification of this proposed action would be PCE. The PCE would be completed in approximately three months from the RAISE Grant award date. As the proposed project would not extend beyond the existing corridor ROW with the exception of small areas at intersections to improve turn radii (e.g., East Marion Street intersection), environmental permitting approvals that would extend the environmental planning and permitting process beyond three months are not anticipated. All environmental planning, review, and permitting activities will be complete to allow RAISE Grant funds to be obligated sufficiently in advance of the statutory deadline (September 30, 2024 for FY 2021 funds), and the project would be able to begin construction quickly upon obligation of RAISE Grant funds and those funds will be spent expeditiously once construction starts, with all funds expended by the required deadline of September 30, 2029. All real property and ROW acquisition will be completed in a timely manner in accordance with 49 CFR part 24, 23 CFR part 710, and other applicable legal requirements.

B. Required Approvals

1. Environmental Permits and Reviews.

A thorough review of baseline resources along the project corridor has been completed and Geographic Information System (GIS) data and mapping has been developed. Thus, data for NEPA classification and resource impact analyses is well underway with SHPO Section 106 consultation and 30-day review period being the greatest variably affecting duration of the NEPA clearance.

(i.) Information about the NEPA status of the project

The NEPA status of this proposed project is no decision document has been issued as there has not been a federal action that would invoke NEPA or NHPA Section 106 Consultation. However, as stated in above, baseline documentation of resources and GIS mapping relative to the proposed project concept have been completed and all resources have been analyzed for the

potential for impacts. Based on the Puerta de Marshalltown improvements, need for ROW acquisition or lack thereof, and projected impacts this proposed project is expected to obtain NEPA classification as a PCE. Given the nature of the corridor improvements this project would be expected to be classified as a "retrofit" Type II action or project and as such the determination of additional cultural resource investigation and potential impacts beyond the completed Phase IA analysis could rest with the Iowa DOT Cultural Resources Section under the DOT/FHWA Programmatic Agreement with the Iowa SHPO. As such the NHPA Section 106 consultation process would likely occur over a period of less than 30 days with an outside chance the DOT may request a Phase I Archaeological Survey which could extend the cultural resource analysis and approvals out to around 60 days. Regardless, the entire PCE process and NEPA clearance could still be completed in approximately three months with minimal to no other resource impacts or changes to the proposed concept.

(ii.)Information on reviews, approvals, and permits by other agencies.

Wetland or stream impact permits would not be required. DOT Act Section 4(f) resources would not be adversely affected. Land and Water Conservation Act Section 6(f) resources would not be adversely affected. Threatened and endangered species or their habitat would not be impacted. A Phase 1A cultural resource survey has been completed which identified numerous older structures along the corridor and little potential for discovery of archeological resources. Old streetcar rails may exist under the existing roadway which the State Historic Preservation Office may request preservation in place or other mitigation. Therefore, should this project become a Federal project with the award of RAISE Grant funds, the National Historic Preservation Act Section 106 Consultation would be the most length environmental review process associated with environmental permits and reviews.

(iii.) Environmental studies or other documents

Documentation of baseline environmental resources in the corridor can be found at www.PuertadeMarshalltown.com/supporting_docs along with a checklist providing conclusionary analysis of potential impacts along the corridor. The cultural resource Phase 1A Study can also be found at this same link.

(iv.) A description of discussions with the appropriate DOT operating administration field or headquarters office regarding the project's compliance with NEPA and other applicable Federal environmental reviews and approvals.

The project team has corresponded with the Iowa DOT Office of Location and Environment, National Environmental Policy Act (NEPA) Section. After providing the DOT NEPA Section with a description of the proposed action, the preliminary analysis of potential impacts to resources, and the Phase 1A cultural resources investigation, the Section Director concluded that, should this become a Federal Action requiring a Federal Decision as a result of RAISE Grant funding, the proposed action would likely be classified as PCE.

(v.) A description of public engagement about the project that has occurred, including details on the degree to which public comments and commitments have been integrated into project development and design.

In addition to two public open house events, the planning for proposed corridor improvements included a final public presentation was held May 2, 2018 and the plan was formally presented to the City Council May 29, 2018 for acceptance. The public also was afforded the opportunity to complete a survey regarding preferences for improving the project corridor. The survey had 580 responses which were aggregated and incorporated into concept design components along the corridor. Goal for improving the corridor were directly derived from public input as well as the creation of specific objectives including: 1) Vacant and rundown buildings; 2) Condition of the commercial and retail properties; 3) Vehicular traffic safety; 4) Beautification along the roadway; and 5) Condition of residential properties. As a result of the public input specific safety and beautification components of the roadway project have been developed and a rezoning process in under way that addresses land use, inappropriate mixed use, and rundown and vacant properties along the corridor.

2. State and Local Approvals.

The project will require two approvals, NEPA and NHPA Section 106 Consultation with SHPO. NEPA classification, impact analysis documentation, and a decision document would be required from Iowa DOT and FHWA. For this particular project, a PCE is expected and through the PCE agreement between DOT and FHWA, signature by an FHWA representative would not be required. This project is also expected to be declared a Type II or retrofit project and therefor through another "Programmatic" agreement between DOT and Iowa SHPO, the DOT would make a determination of effect on cultural resources without SHPO consultation. Both of these "Programmatic" agreements greatly shorten the timeframe for NEPA and Section 106 approvals. Wetlands, floodplain, Endangered Species Action Section 7, DOT Action Section 4(f), or LAWCON Section 6(f) approvals or permits would not be required for this project.

3. Federal Transportation Requirements Affecting State and Local Planning.

The proposed project has been discussed by the Iowa Region 6 Regional Planning Area (RPA) Agency in relation to the Transportation Improvement Program (TIP). The Region 6 Planning Commission is headquartered out of Marshalltown and financially supported the initial planning efforts related to the proposed corridor improvement project. The proposed project is in an attainment area for all criteria air pollutant and therefore, the project does not require inclusion in a conformity transportation plan or TIP.

C. Assessment of Project Risks and Mitigation Strategies

The project does represent any significant material risks. The greatest risks are minor risks that include encountering contaminated soils from former gas stations during construction and lead time on utility components such as ductile iron pipe. The potential for leaking underground storage tank sites will be assessed well in advance of construction with intrusive investigation performed where necessary to confirm any soil conditions that may warrant remedial or removal actions prior to construction. For unidentified orphan site encountered during construction an impaired soil management protocol will be established that keeps construction moving while impaired soils

and/or old buried gasoline/diesel tanks are removed. Shortages and lead time for infrastructure components from concrete to DIP will be assessed in the earliest stages of design and advanced purchasing and/or material alternatives with shorter lead times established to mitigate disruptions to the construction schedule.

VI. Benefit Cost Analysis

The purpose of a benefit-cost analysis is to express the effects of an initial investment into a common measure, base-year dollars. This accounts for benefits occurring over long periods of time, while most of the costs are incurred with an initial investment. Under this approach, a project with monetized benefits greater than costs has a benefit-to-cost ratio greater than one and should be considered an economically beneficial endeavor. The detailed benefit-cost analysis is included at www.PuertadeMarshalltown.com/benefit-cost-analysis/ and a summary of the benefit-cost analysis results are provided in **Figure 14**.

Figure 14. Benefit-Cost Analysis Summary

Item	BCA	
	PV (7% Discount Rate)	
Travel Time Benefit	$	(2,869,000.00)
Collision Reduction Benefit	$	8,391,000.00
Operation and Maintenance Benefit	$	2,008,000.00
Emissions Benefit	$	-
Vehicle Operating Benefit	$	-
Property Value Benefit	$	10,241,000.00
PV Total Benefit	**$**	**17,771,000.00**
PV Total Cost	**$**	**18,035,000.00**
PV Salvage Value	$	1,327,000.00
(PV Total Cost - Salvage Value)	**$**	**16,708,000.00**
Benefit-Cost Ratio	**1.064**	

The analysis indicates that the build option has a benefit-cost ratio greater than 1.0, meaning that it is an economically beneficial project. The benefits of the project are estimated to be higher than the costs associated with the construction of the project.