

City of Moline 7th Avenue Reconstruction & Connector Project TIGER Grant

SUBMITTED BY: City of Moline, IL
LOCATION: 12th Street, 7th Avenue, 23rd Street, Moline, IL
TOTAL PROJECT COST: \$6.7 million
MATCHING FUNDS: \$1.3 million
GRANT REQUESTED: \$5.4 million

April, 2016





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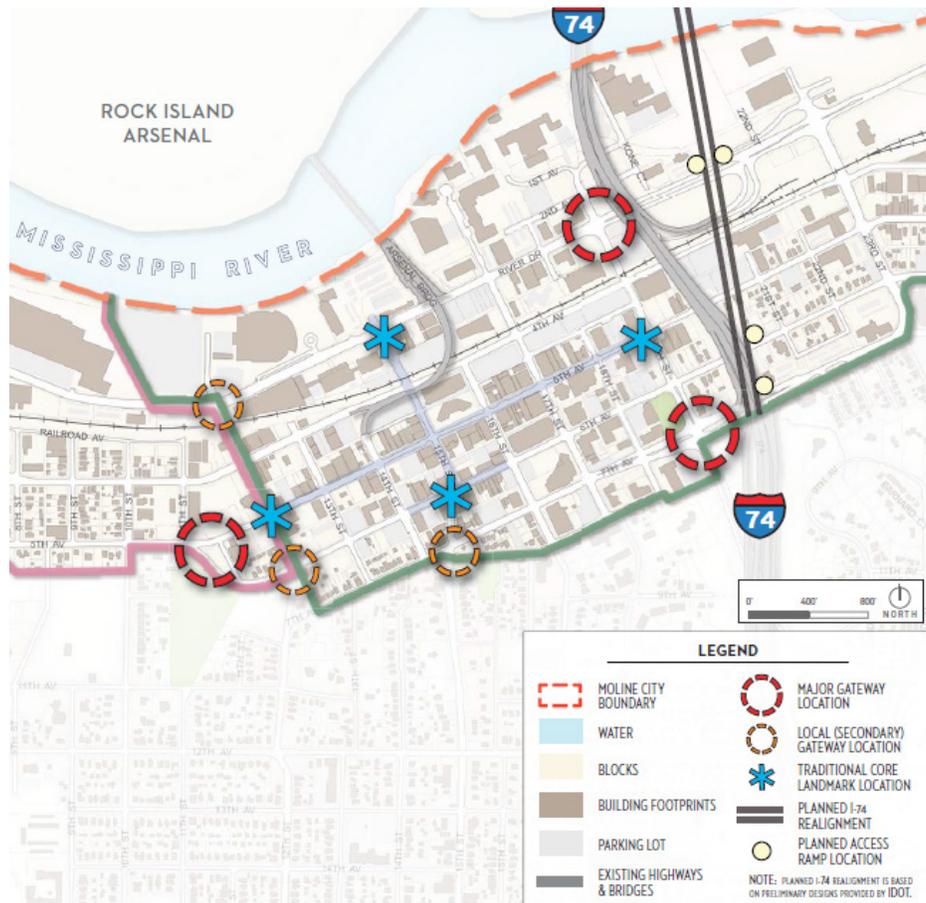




I. PROJECT DESCRIPTION

Now is the time for Moline to re-build 7th Avenue to support the economic growth engine that has been cultivated by riverfront redevelopment and the pending I-74 reconstruction. Livability, sustainability, quality of life amenities and a connection to the new multimodal station are all a part of this vision for a more effective circulation pattern within downtown Moline. Interstate 74 provides direct access to Moline across the Mississippi and directly onto the project area. The reconstruction and revitalization of the 7th Avenue corridor generally between 12th Street and 23rd Street will provide a vibrant gateway into Moline for visitors and residents alike. The 12th Street corridor provides a dynamic connection, from 7th Avenue, to the Quad Cities Multi-Modal Station, The Q. A coalition consisting of Renew Moline, the City of Moline, the Quad Cities Rail Coalition led by the Quad Cities Chamber of Commerce, and MetroLINK was successful in securing \$10 million in TIGER II monies from the federal government and more than \$6 million in monies from the Illinois Department of Transportation to rehabilitate the chosen site – a six-story former warehouse constructed in 1917 – so that it might be home to an passenger rail platform, as part of the high-speed rail network, and other transit

enhanced development. Renew Moline has been a partner with the city in the planning and development process of downtown Moline and it's riverfront for over two decades. The condition of 12th Street, 23rd Street, and 7th Avenue are poor and level of service is suffering. Two major issues plaguing this transportation corridor include a lack of connectivity to alternative modes of transportation and a relatively poor safety record. A roundabout is proposed at the intersection of 7th Avenue and 23rd Street for traffic calming and enhanced safety at an intersection that has seen heightened accident rates. All of these street corridors will also receive advanced technology lighting, signage and striping for traffic and pedestrians; curb, gutter, and ADA compliant ramps; streetscaping with native vegetation and trees and technology kiosks to disseminate information to bicyclists and pedestrians. The goal for the 7th Avenue Corridor reconstruction and Connector project will be to implement the recommendations in the Comprehensive Plan update recommending major and secondary gateways along the 7th Avenue corridor and 12th Street. Below is the recommendation found in the Comprehensive Plan (Lakota, 2014)



Moline Centre Gateways Map

II. PROJECT LOCATION

The City of Moline, IL is located along the banks of the Mississippi River, in the heart of the Midwest. Moline is one of the Quad Cities, together with East Moline and Rock Island in Illinois and Davenport and Bettendorf in Iowa, having a combined metropolitan population of over 380,000 people. The City of Moline has a population of 43,483 (2010 Census), with a 15% Hispanic population, 11% poverty and a median household income of \$50,209 (2010-2014 American Community Survey 5-Year Estimates). It is anticipated that Moline will perform similarly to the growing population experiencing in the Quad Cities MSA with a population projection in Moline to reach 45,789 by 2020. In order to accommodate growth and attract a greater share of the projected MSA population growth, Moline will need to be aggressive in making their community a vibrant place to live, work, and play. The unemployment for the Davenport-Moline-Rock Island area is 6.8% (February, 2016, BLS). It is vital that efficient transportation choices are readily available for all citizens of these area to provide ample opportunity to

travel between these communities with ease and to access both places to live, work, and educational opportunities. The 7th Avenue Corridor, defined as 12th Street from 4th Avenue to 7th Avenue and 7th Avenue to 23rd Street to the intersection with State Highway 92 or 4th Avenue locally, is the point of transition from the heart of Downtown Moline to the residential area surrounding the downtown area. The 12th Street corridor provides a dynamic connection, from 7th Avenue, to the Quad Cities Multi-Modal Station, The Q. A coalition consisting of Renew Moline, the City of Moline, the Quad Cities Rail Coalition led by the Quad Cities Chamber of Commerce, and MetroLINK was successful in securing \$10 million in TIGER II monies from the federal government and more than \$6 million in monies from the Illinois Department of Transportation and approximately \$3 million in funding from from City of Moline for acquisition and to rehabilitate the chosen site – a six-story former warehouse constructed in 1917 – so that it might be home to an passenger rail platform and other transit enhanced development.



III. PROJECT PARTIES

The City of Moline is the primary applicant for TIGER2 funding. The Planning and Development and Public Works Departments within the City are taking the lead roles in the planning and implementation of the grant project.

City of Moline Planning & Development



The Planning and Development Department strives to create a healthy and strong city community with beautiful neighborhoods and a thriving economy. The department provides a full array of economic development, planning and

zoning, and neighborhood and housing improvement services.

City of Moline Public Works

To provide and maintain the infrastructure of the City of Moline, and to protect the health and welfare of residents, businesses, and visitors. To provide quality services within available resources, to our customers in a timely and efficient manner. To support economic growth and development with the unity and trust of highly qualified and skilled personnel.

Illinois Department of Transportation



IDOT strives to design and maintain a world class transportation system that enhances safety and the quality of life of its citizens and visitors by reducing congestion and increasing mobility. This

system also facilitates and improves the inter-connectivity of all transportation modes for the efficient movement of people and goods to support the state's national and global competitiveness.

MetroLINK



Throughout the Illinois Quad Cities, the Rock Island County Metropolitan Mass Transit District, commonly known as MetroLINK, is moving Quad Citizens from one destination to another.

The organization provides Metro bus service, ADA paratransit and Special Transportation Services, and seasonal passenger ferryboat service with the Channel Cat Water Taxi. Communities we serve include Moline, Rock Island, East Moline, Silvis, Milan, Carbon Cliff, Hampton, and Colona.

The 3.5 million rides a year taken on MetroLINK services provide a vital connection to jobs, education, healthcare, and retail; supporting our local economy and creating a vibrant quality of life. Our multi-modal organization keeps riders moving in the right direction, while easing traffic congestion and reducing air pollution—making the Quad Cities a better place to live.

The City of Moline have received 7 letters of support for the 7th Avenue Reconstruction and Connector Project from a wide variety of agencies, and organizations including 3 letters from legislators. Attachment A contains the letters of support.



IV. GRANT FUNDS AND SOURCES/USES OF PROJECT FUNDS

The 7th Avenue Reconstruction and Connector Project proposal requests \$5.4 million in TIGER funding for the complete reconstruction and reinvention of the 7th Avenue Corridor including the vital connections of 12th Street and 23rd Street. These funds will be complemented by \$1.3 million in local matching funds that will be provided by the City's annual allocation of motor fuel tax and local utility taxes.

Funding Source: City of Moline
Capital Costs: \$1.3 Million
Status: If awarded, the City will program funding for the improvements to the 7th Avenue Corridor project in the city's Capital Improvement Project (CIP) for the life of the project. The remainder will be funded through the City's allocation of motor fuel tax revenue and a local tax on electric and gas utilities for capital improvements.



Funding Source: TIGER Grant Funding
Capital Costs: \$5.4 Million
Status: Application submittal April 29, 2016



PROJECT COSTS	
12th Street	
Tear Out & Replace Pavement (SY)	\$ 708,030
Utilities (LF)	\$ 246,100
12th Street Sub Total	\$ 954,130
7th Avenue	
Tear Out & Replace Pavement (SY)	\$ 1,839,960
Utilities (LF)	\$ 410,550
7th Avenue Sub Total	\$ 2,250,510
23rd Street	
Tear Out & Replace Pavement (SY)	\$ 250,830
Utilities (LF)	\$ 19,425
23rd Street Sub Total	\$ 270,255
Amenities and Upgrades	
Sidewalks	\$ 138,272
Stamped Concrete	\$ 200,000
Street Lights	\$ 930,000
Traffic Lights	\$ 510,000
Stripping	\$ 20,000
Benches	\$ 23,200
Trash Receptacles	\$ 9,000
Street Trees	\$ 124,800
Shrub Beds	\$ 125,000
Traffic Control	\$ 100,000
Amenities Subtotal	\$ 2,180,272
Project Subtotal	\$ 5,655,167
Contingency	\$ 678,620
Contractor	\$ 452,413
Grand Total	\$ 6,786,200



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Primary Selection Criteria

State of Good Repair

The 7th Avenue Reconstruction and Connector Project is a continuation of the momentum over the past 20 years of several major re-development projects in and around the downtown and riverfront of Moline. With those projects complete, the focus needs to shift to the redevelopment of the areas connecting to those areas. The redevelopment and reinvention of the 7th Avenue corridor is supported by multiple local and regional plans including the City of Moline Downtown Streetscape Master Plan (Shive Hattery, updated 2009). The City of Moline sees this renovation as the unification of the neighborhoods throughout the downtown, as well as a way to improve the efficiency and safety of traffic for both residents and visitors, alike.

Moline will improve the link between the 7th Avenue Corridor to the downtown and the multi-modal station. All three streets, (12th Street, 7th Avenue, 23rd Street), included in this project are in an advance state of disrepair and the utility envelope under, around and above these streets are equally distressed. Street restoration will incorporate underground utility repairs including storm, sanitary, and water; all of which are older infrastructure in need of replacement.

Economic Competitiveness

Over the past 20 years, Downtown Moline and the surrounding area has seen over \$450 million in public and private investment. Notable projects located within or adjacent to the project area include: John Deere Commons, The MARK, the Heart of America Building, the Historic Block, Bass Street Landing, and the development of the Quad Cities Multi-Modal Station, The Q. The continued momentum in Moline is evidenced in the projection of \$138 million in private investment over

the next 18 -24 months in commercial and residential development in the downtown. In addition to the private investment in the area, the US DOT, Iowa DOT, Illinois DOT will invest \$1.4 billion on the complete reconstruction of I-74 over the Mississippi and new approaches right into the project area. These developments reflect both the State's commitment to improving the Moline Urban Core as well as the potential increase of visitors to the area.

There are redevelopment sites and infill opportunities adjacent and adjoining the 7th Avenue Corridor. By increasing the visibility on each of these roads, the possibilities of future redevelopment opportunities are widened. The project area is encompassed by an Enterprise Zone, a Tax Increment Financing District, and a Special Service area. These established incentive programs will be used to encourage and incentivize redevelopment within the 7th Avenue Corridor. The project will create, support, and retain jobs and employment throughout the Quad City region. Based on other similar projects, investment in bicycle and pedestrian projects generate twice as many jobs per construction dollar compared to roadway construction, doubling the impact of this project on reducing the areas' unemployment rate. The 7th Avenue Corridor project will continue the momentum in Moline toward a network of integrated, multimodal transportation options that will allow residents and visitors to safely and conveniently walk, bicycle, or take transit between destinations. These improvements will allow Moline to bolster their attractiveness to new businesses. The improved transportation network will become part of sustaining economic development as businesses choose Moline to take advantage of the appealing facilities, attractive workforce, and improved quality of life and



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visitors will see the area as a more desirable destination. To support this renewed interest, businesses will bring increased property tax base, sales tax revenues, and new opportunities for employment.

Quality of Life

The regeneration of downtown Moline requires a vibrant 7th Avenue Corridor. It is vital that the 7th Avenue Corridors facilitate the connectivity among the transportation opportunities throughout not only Moline, but the surrounding areas. The ability for residents and visitors to have access to MetroLINK and the Q provides the necessary ability to access opportunities for employment, education, and residency. This 7th Avenue Corridor project provides the opportunity to be the missing link in the efficient circulation between the multi-modal high speed rail system, the local bus system, and bicycle and pedestrian transportation options in the heart of Moline. The city is also a TOD Technical Assistance recipient. This project will be incorporated into this program assistance.

Quality of Life Benefits of 7th Avenue Corridors Project:

- Increased access to multimodal opportunities for residents and visitors
- Improved walkability
- Improved access to transit
- Safer walkability and bikability

Environmental Sustainability

The 7th Avenue Corridor project will reduce the consumption of prime farmland on the periphery of the City by promoting infill development with more attractive

transportation options. This project will result in reduced greenhouse gas emissions, lesser dependency upon fossil fuels and long-term avoided costs from future infrastructure investments. This project will allow the City to continue to implement transit-oriented development plans alongside increased utilization of local transit and rail services by making it easier to access those transportation options.

The city of Moline proposes to use an innovative concept for urban streetscape in the 7th Avenue Corridor project areas. The city currently has an approved streetscape plan encouraging natural streetscapes with a variety in paving, plantings, and environmental graphics. Additionally, the Streetscape Plan recommends providing physical and psychological barriers that separate pedestrian areas from the roadway including trees and planters. The benefits of trees are numerous:

- Shaded roadways require significantly less maintenance and can save up to 60% of repaving costs over 30 years.
- In some sectors of the economy such as tree care, there is a job for every trained worker, because such companies struggle to find qualified employees.
- Just 3–4 shade trees located strategically around a house can cut summer cooling costs by 30–50%.
- Trees provide the oxygen we breathe. One acre of trees produces enough oxygen for 18 people to breathe each day and eliminates as much carbon dioxide from the air as is produced from driving a car 26,000 miles. Studies show that children who live on tree lined streets have lower rates of asthma.

Each year 100 large, mature trees can:

- Remove 37 tons of carbon dioxide



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- Remove 259 pounds of other air pollutants
- Catch about 216,200 gallons of rainwater

The intersection at 7th Avenue and 23rd Street will be converted from a signalized intersection to a roundabout. Studies have shown that the conversion of signalized intersections to roundabouts leads to a more environmentally-friendly environment. Most drivers are moving slowly through intersections with roundabouts and are rarely stopped. When vehicles are stopped at a red light, the vehicle's exhaust emits pollutants and gases into the atmosphere. The conversion from signals to roundabouts have been shown to reduce carbon monoxide emissions by 32 percent, nitrous oxide emissions by 34 percent, carbon dioxide emissions by 37 percent and hydrocarbon emissions by 42 percent. Gasoline use is also reduced because traffic moves more efficiently through roundabouts due to fewer stops and starts. Studies have shown that fuel savings can be up to 30 percent at these intersections. All of these factors will lead to less dependence on oil, fewer greenhouse gas emissions and better air quality.



Safety

Conversion of signalized intersections to roundabouts will lead to a much safer driving environment for the traveling public. The intersection of a one-way street with a two-way street has 24 conflict points that result from merging, diverging and crossing maneuvers. This does not include the potential for sideswipe conflicts when changing lanes on the existing roadways. Roundabouts at the intersection of two 2-way streets have 8 conflict points, thus reducing the number of conflicts by 67 percent. The Transportation Research Record reported that all crashes are reduced by 40 percent and injury crashes by 80 percent when signalized intersections are converted to single-lane roundabouts. Speeds are slower and the crashes are typically of the sideswipe variety rather than at right angles, thus reducing the severity of crashes. In 2015, four crashes were recorded along the 7th Avenue project corridor requiring Moline Police assistance.

Roundabouts improve intersection safety for vehicles, pedestrians and bicyclists through accident and injury reduction. Good outdoor lighting can create and encourage a pedestrian friendly environment, which is especially beneficial to neighborhood business districts. Pedestrian-scale lights improve walkway illumination for pedestrian traffic and enhance community safety and business exposure. According to the DOT, roundabouts:

- **90%** reduction in fatal crashes
- **76%** reduction in injury crashes
- **30-40%** reduction in pedestrian crashes; and
- **10%** reduction in bicycle crashes



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Secondary Selection Criteria

Innovation

7th Avenue is a major transportation corridor providing access to the Moline downtown. Moline’s goal is to create a multimodal system within the 7th Avenue Corridors that allows the area to become a more livable, walkable community with excellent access to the rest of the metropolitan area. Low energy street lighting will be incorporated into the project. Pedestrian signals will be equipped with LED lights instead of incandescent bulbs, and LED street lighting elements enhance efficiency while giving Moline a safe, well-lighted downtown.

The project will construct wet medians with native plantings that will naturally store and treat stormwater. This solution improves biodiversity, reduces pollution and runoff, and enhances the urban habitats.

Partnership

The 7th Avenue Corridor project is a collaboration of multiple state, regional, and local planning processes.



An artist’s bird’s-eye illustration of the long term vision for Downtown Moline, looking southwest.



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Jurisdictional & Stakeholder Collaboration

The reconstruction within the 7th Avenue, 12th Street, and 23rd Street corridors has received extensive support from both public and private stakeholders throughout the city, region, and state. Letters of support from federal, state, regional, and local parties are included as an attachment in **APPENDIX A**. The 7th Avenue Corridor reconstruction will be completed in conjunction with the complete replacement of the Interstate 74 Bridge. The I-74 Bridge crosses the Mississippi River and carries over 71,000 automobile and 2,300 trucks daily. The new bridge project proposed the replacement of the existing bridge structure to eliminate curves in the existing alignment. Engineering to construct the new bridge has been completed. Plans and specifications are scheduled to be released in the next construction season. The project includes the construction of a partial interchange at River Drive and a full interchange at 7th Avenue and 18th Street. In the reconstruction, 5th Avenue will be closed to provide space for on and off-ramps. This will transition the necessity for connectivity to the 7th Avenue corridors. IDOT offers its full support for the project and continues to be a key partner in the development, advancement, and enhancement of Moline's local and regional transportation system.



The image above shows the current plans for the interstate I-74 realignment.

Plan provided by IDOT as of 2012.



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Disciplinary Integration

The concepts for the 7th Avenue Corridor Complete Streets area based on the recommendations of a major transportation planning effort taking place in Moline. These ideas are reiterated throughout Chapter 10 of the City of Moline, Illinois Comprehensive Plan (Comp Plan). The Comp Plan offers the following strategies: “improve pedestrian links from neighborhoods and maintain existing sidewalks along the Avenue; create landscape buffers between parking areas and sidewalks to better define pedestrian and public areas, and enhance transit opportunities...” The revitalization and complete reconstruction of the 7th Avenue Corridor project, will incorporate permeable paving and stamped concrete; advanced technology lighting, signage and striping for traffic and pedestrians; bicycle and shared lanes; curb, gutter and ADA compliant ramps; streetscaping with native vegetation and trees and technology kiosks to disseminate information. These ideas were identified in *The City Livable: Modest Proposals for Reviving Downtown* authored by Jeff Speck. These recommendations specifically identified four principals for a walkable city as being: a reason to walk: most aspects of daily life should be reachable in a five-minute walk; A safe walk: the streetscape must help pedestrians feel unthreatened by fast-moving cars; A comfortable walk: streets must provide pedestrians with a sense of refuge; and An interesting walk: the fronts of buildings must at least suggest human activity. The City of Moline Downtown Streetscape Master Plan (Shive-Hattery, 2009) <http://www.molinecentre.org/MolineStreetscapeMasterPlan.PDF> also specifically recommends streetscape enhancements along 6th and 7th Avenue “to expand the ambiance of Moline Centre and create an overall sense of place”. The 2045 Quad Cities Long Range Transportation Plan was developed by the

Bi-State Regional Planning Commission and was recently adopted in March 2016. This plan provides guidance for the cohesive transportation development throughout the Quad Cities.

The Moline Comprehensive Plan Updates for the Moline Centre, Florencia and Edgewater neighborhoods (Lakota, 2014) <http://www.moline.il.us/DocumentCenter/View/3510> analyzed Moline’s transportation network to document existing conditions and to identify gaps, barriers, and other issues related to the City’s pedestrian, bicycle, automobile, truck, and transit environment.

Based on data provided in this plan, a large number of people are using the streets in the downtown for bicycling. No fatal crashes involving bicyclists were reported during the 2008 – 2012 time period, however, 56 crashes involving injury were reported and three of those were within the 7th Avenue Corridor project limits; one A-injury (i.e. severe lacerations, broken limbs, skull or chest and abdominal injuries) and two B-injury (i.e. lump on head, abrasions, bruises, and minor lacerations).





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Results of Benefit-Cost Analysis

The intent of the Benefit-cost analysis is to demonstrate the potential benefits of the 7th Avenue Corridors project will outweigh, on a net present value basis, the incurred costs associated with the project. The full benefit-cost analysis is provided as part of the attached appendices. The elements of the proposed project increase traffic flow efficiency and access to several modes of public transportation, which will decrease the amount of cars on the roadway and the idling time of the cars on the roadway.

Three major benefit categories were estimated:

- Accident cost savings: the reduced social costs of accidents resulting from the diversion of trips from automobiles using the project corridors.
- Emissions Cost Savings: The economic value of reduced emissions resulting from fewer vehicles traveling on the project corridor roadways.
- Vehicle operating cost savings: the economic value of reduced costs associated with private vehicle use.

Present Value Benefits and Costs (Discount Rates 7% and 3% from 2017-2037)					
Selection Criteria	Description	Inputs	Value	Monetized Value	
				Discount Rate 7%	Discount Rate 3%
Livability	Increased mobility and decreased congestion	Travel time savings	11,092 vehicle-hours traveled saved	\$178,402	\$262,295
Environmental Sustainability	Reduced emission	VOC cost savings NOx cost savings CO2 cost savings	1.15 metric tons of VOC reduced 0.37 metric tons of Nox reduced 187.40 metric tons of CO2 reduced	\$344,842	\$359,674
Safety	Reduced crashes	Crash cost savings	31% reduction in crashes	\$9,345,182	\$13,739,745
Total Project Costs				\$6,423,494	\$6,699,773
Total Project Benefits				\$9,868,426	\$14,361,713
Net Present Value				\$3,444,932	\$7,661,940
Cost to Benefit Ratio				1:1.54	1:2.14

The full BCA calculation can be found in Appendix B.



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Demonstrated Project Readiness

No major environmental concerns are expected to occur during the project period since the project will occur within existing streets and right-of-way that are currently developed. All key project decisions and procurements will be completed well in advance of the September 2024 deadline and the funds will be obligated within the required timeframe. The City of Moline will add the 7th Avenue corridor project to the CIP upon notification that the project has been awarded TIGER funds. Moline will also work with BI-State Regional Planning Commission and IDOT to add this project to all state and regional plans, as necessary.

Technical Feasibility

The City of Moline will implement the reconstruction of the 7th Avenue Corridors within their local capabilities. No significant challenges and any associated engineering and constructability issues are expected as part of this project. No right-of-way acquisition, permitting, or additional approvals are foreseen to be needed for this project. The projects are all within the current bounds of existing right-of-way under the City of Moline jurisdiction, with the exception of the area surrounding I-74 ramps. This area is the subject of a MOU between IDOT and the City, whereby the City has right of first refusal for any vacated right-of-way from the reconstruction and realignment of the I-74 Bridge.

The City of Moline will utilize current standards to ensure safe passage of all travelers during construction. Access to local businesses during construction should not be adversely affected. The project will utilize conventional construction techniques, and the design will conform to federal, state, and local standards, as well as current ADA standards.

Financial Feasibility

The City of Moline has secured and will allocate their motor fuel taxes towards the reconstruction of the 7th Avenue corridors. This is an annual allocation received by the city under (35 ILCS 505) motor fuel tax law. The redevelopment of the corridor will also bolster redevelopment in the area increasing the equity in the area's TIF project funds, which may also be allocated towards the project.

The City of Moline has successfully implemented a previous TIGER grant, as well as multiple other state and federal grant funding programs, and have well-established procedures for the management of grant funds. The City will designate a single Grant Administrator and a back-up as the responsible entities for all project milestone reporting and schedule tracking. The Grant Administrator will take the lead in preparing all required reporting accurately and within the required timeframe. The Assistant Grant Administrator will provide assistance to the Grant Administrator and will be available to step smoothly into the Grant Administrator position should that person no longer be available to serve in that capacity. The Grant Administrator will follow Office of Management and Budget Guidance for the reporting format and required information. The Grant Evaluation Report will monitor the following for each reporting period:

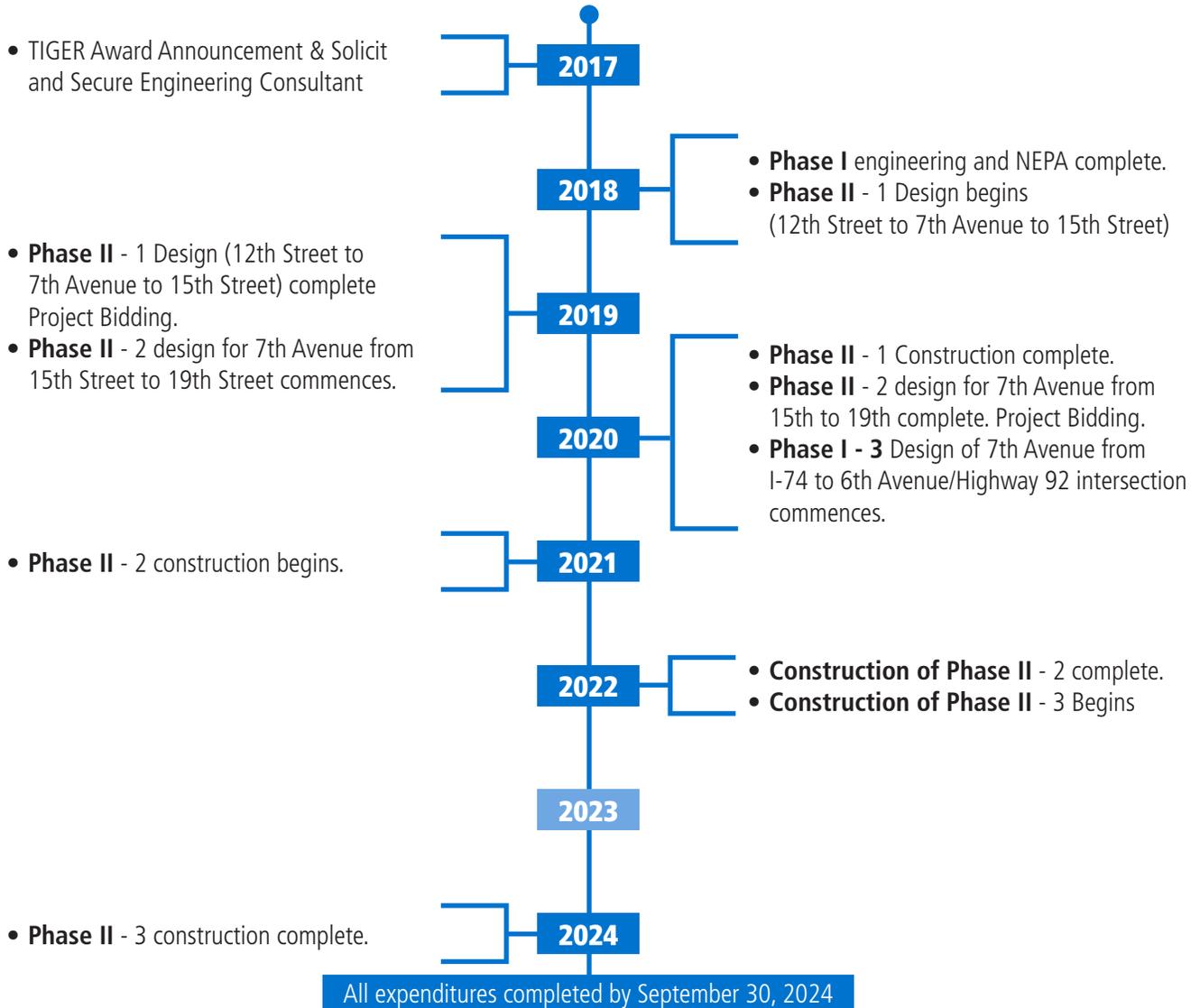
- Project progress
- Work performed
- Funds expended
- Jobs created/retained
- Projected work for next reporting period.

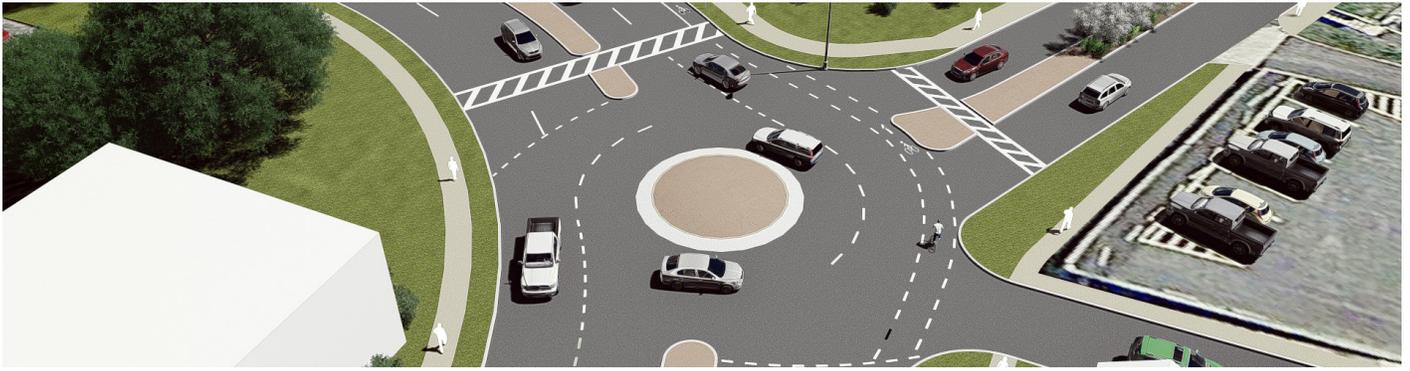


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Project Schedule

The City of Moline will be coordinating the construction along the 7th Avenue corridor with the reconstruction of the I-74 bridge and approaches by IDOT. The detailed project schedule includes all major project milestones including design, approval of Plan, and construction dates. The project will begin implementation rapidly upon notice of receipt of TIGER grant funding. No right-of-way is required to complete the project, which expedites commencement of work.





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Required Approvals

Environmental Permit Reviews

The 7th Avenue Corridor projects will be completed within the current boundaries of the existing right-of-way and therefore, there will be no significant impact to the natural, social or economic environment. The project will create additional greenspace and introduce native plantings to the area to bolster the environmental friendliness of the area along with a softer, more welcoming gateway into the community. Based on Chapter 23 of the Bureau of Design and Environment Manual, the project may qualify for a categorical exclusion (CE). Based on the information found in 23 CFR 771.117, FHWA defines categorical exclusions as, "They are actions which: do not induce significant impacts to planned growth or land use for the area; do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually or cumulatively, have any significant environmental impacts." The City will work with diligently IDOT to verify the project will qualify for a categorical exclusion.

Legislative Approvals

The project is receiving support from state and local officials. Appendix A includes letters of support from the City of Moline, the Bi-State Regional Planning Commission, and Illinois Department of Transportation. No other legislative approvals are required.

State and Local Planning

The project has been included in many transportation and planning documents developed in Moline and regionally. These plans have undergone extensive public outreach as

part of the planning process. The community is supportive and excited for this next piece of connectivity to the momentum in Moline's transportation network in the downtown.

Assessment of Project Risks & Mitigation Strategies

No environmental concerns arose in other projects and in the prier corridors; however a slight potential for environmental uncertainties remain given the age of the development along the corridors to address this potential the City of Moline will issue a request for proposals for an environmental assessment which will perform a historical environmental records search on all parcels adjacent to the roadways planned for reconstruction. These searches identify potential environmental impacts including; underground storage tanks (both operating and those identified as leaking), past industrial usages, brownfields, wells (private and public), identified contaminated sites, etc. In the event that any potential areas for concern are identified the city will contract for site evaluation and assessment to determine if environmental uncertainties will cause the design of the project to be altered. This work to discover potential problem areas before they are encountered during construction will greatly reduce delays during construction and help to prevent cost overruns. The 7th Avenue Corridor project will benefit from a schedule running along parallel project tracts. Projects will be under design as others in construction in a continuous motion until the project is complete. The project will be completed in a phased approach to lessen the construction impact to the community and make the projects more easily managed on a smaller scale. Additionally, the 7th Avenue Corridor project will need to be coordinated with the I-74 bridge reconstruction and relocation as the project areas overlap.

APPENDIX A



Scott Raes
Mayor

619 16th Street
Moline, Illinois 61265

Office: 309.524.2001

Email:
sraes@moline.il.us

April 27, 2016

The Honorable Anthony Fox
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: Letter of Support for TIGER8-FY16 Grant, City of Moline, Illinois – 7th Avenue Reconstruction and Connector Project

Dear Secretary Fox:

The City of Moline, Illinois is seeking funding under the FY2016 National Infrastructure Investments program known as the TIGER Discretionary Grant Program to help finance the 7th Avenue Reconstruction and Connector project. This regionally important project focuses on the reconstruction of 7th Avenue in proximity to Interstate 74 and the new Q multimodal station, which is currently under construction for the purpose of accommodating a high-speed rail connection between Moline and Chicago, Illinois.

Now is the time for Moline to re-build 7th Avenue to support the economic growth engine that has been cultivated by significant riverfront redevelopment such as the new Western Illinois University Quad Cities Campus and the upcoming I-74 Mississippi River Bridge Crossing project. Livability, sustainability, quality of life amenities and a connection to the new multimodal station known as the Q are all a part of this vision for a more effective circulation pattern within downtown Moline. Interstate 74 provides convenient access to Moline from across the Mississippi and affords direct access to the project area. The reconstruction and revitalization of the 7th Avenue corridor generally between 12th Street and 23rd Street will provide a dynamic gateway into Moline and connection to the Q multimodal station for visitors and residents alike.

The 7th Avenue Reconstruction and Connector project will improve the roadway; upgrade utilities; and accommodate alternative modes of transportation such as transit, pedestrians, and bicycles. It is expected that this project will result in improved safety throughout the corridor and also enhance the quality of life for the adjacent neighborhoods by affording a greater level of accessibility to employment, education, and recreation.

I believe this is an excellent opportunity to continue the progress taking place within the Illinois Quad Cities region by reinforcing the connection between the I-74 Bridge Mississippi River Bridge Crossing project and the Q multimodal station in a manner that improves safety and supports multiple modes of transportation.

Please join me in supporting the approval of a TIGER Discretionary Grant to the City of Moline, Illinois for the 7th Avenue Reconstruction and Connection project. As Mayor of the City of Moline, I offer my commitment to work with you to ensure the success of this important transportation and economic development project for the Quad Cities region and the State of Illinois. Your favorable consideration would be greatly appreciated.

Sincerely,

Scott Raes
Scott Raes,
Mayor

United States Senate
Washington, DC 20510-1304

April 25, 2016

The Honorable Anthony Foxx
Secretary, U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590-0001

Dear Secretary Foxx,

I am writing in support of the City of Moline's application for \$5.3 million through the 2016 TIGER Grant Program administered through the U.S. Department of Transportation for the 7th Avenue Reconstruction and Connector Project.

The project calls for the reconstruction and revitalization of 7th Avenue between 12th Street and 23rd Street. It will improve the roadway, upgrade utilities and accommodate alternative modes of transportation such as transit, pedestrian and bicycles.

The 7th Avenue Reconstruction and Connector Project will be complementary to two other projects currently moving forward in Moline: the new I-74 Bridge and The Q multimodal station currently under construction for the purpose of accommodating passenger rail service from Moline, IL to Chicago, IL. It is clear that with the livability, sustainability and quality of life amenities of this project, it will have a dramatic impact on Moline.

I urge you to give this application the most serious consideration. Thank you for your attention to this matter.

Very truly yours,



Richard J. Durbin
United States Senator

RJD/be

CHERI BUSTOS

17TH DISTRICT, ILLINOIS

SENIOR WHIP

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HTTP://BUSTOS.HOUSE.GOV

Congress of the United States
House of Representatives
Washington, DC 20515-1317

April 26, 2016

The Honorable Anthony Fox
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: Letter of Support for TIGER8-FY16 Grant, City of Moline, Illinois – 7th Avenue
Reconstruction and Connector Project

Dear Secretary Fox:

I am writing to urge prompt consideration for the City of Moline's FY2016 National Infrastructure Investments program known as the TIGER Discretionary Grant Program to help finance the 7th Avenue Reconstruction and Connector project. This regionally important project focuses on the reconstruction of 7th Avenue in proximity to Interstate 74 and the new Q multimodal station, which is currently under construction for the purpose of accommodating a high-speed rail connection between Moline and Chicago, Illinois.

Now is the time for Moline to re-build 7th Avenue to support the economic growth engine that has been cultivated by significant riverfront redevelopment such as the new Western Illinois University Quad Cities Campus and the upcoming I-74 Mississippi River Bridge Crossing project. Livability, sustainability, quality of life amenities and a connection to the new multimodal station known as the Q are all a part of this vision for a more effective circulation pattern within downtown Moline.

Interstate 74 provides convenient access to Moline from across the Mississippi and affords direct access to the project area. The reconstruction and revitalization of the 7th Avenue corridor generally between 12th Street and 23rd Street will provide a dynamic gateway into Moline and connection to the Q multimodal station for visitors and residents alike.

The 7th Avenue Reconstruction and Connector project will improve the roadway; upgrade utilities; and accommodate alternative modes of transportation such as transit, pedestrians, and bicycles. It is expected that this project will result in improved safety throughout the corridor and also enhance the

quality of life for the adjacent neighborhoods by affording a greater level of accessibility to employment, education, and recreation.

I believe this is an excellent opportunity to continue the progress taking place within the Illinois Quad Cities region by reinforcing the connection between the I-74 Bridge Mississippi River Bridge Crossing project and the Q multimodal station in a manner that improves safety and supports multiple modes of transportation.

Again, I would like to urge full and fair consideration for the TIGER Discretionary Grant to the City of Moline, Illinois for the 7th Avenue Reconstruction and Connection project. Thank you and I look forward to your favorable review.

Sincerely,

A handwritten signature in black ink that reads "Cheri Bustos". The signature is written in a cursive, flowing style.

Cheri Bustos
Member of Congress



Serving local governments in Muscatine and Scott Counties, Iowa; Henry, Mercer and Rock Island Counties, Illinois

April 26, 2016

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The Honorable Anthony Foxx, Secretary
U.S. Department of Transportation
1200 New Jersey Avenue S.E.
Washington, D.C. 20001

MUNICIPAL REPRESENTATIVES:

City of Davenport
Frank Kilpsch, Mayor
Vacant, Alderperson
Jason Gordon, Alderman
Randy Moore, Citizen

RE: Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program

City of Rock Island
Dennis Pauley, Mayor
Chuck Austin, Alderman

Dear Secretary Foxx:

City of Moline
Scott Raes, Mayor
Sean Liddell, Alderman

I want to take this opportunity to comment on the application to be submitted by the City of Moline, Illinois for the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program. As part of the City's downtown revitalization efforts, a key objective of the project is to help finance the 7th Avenue Reconstruction and Connector project. This regionally important project in the Quad Cities metropolitan area focuses on the reconstruction of 7th Avenue in proximity to Interstate 74 and the new Q multimodal station, which is currently under construction for the purpose of accommodating a high-speed rail connection between Moline and Chicago, Illinois.

City of Bettendorf
Bob Gallagher, Mayor

City of East Moline
John Thodos, Mayor

City of Muscatine
Diana Broderson, Mayor

City of Kewanee
Steve Looney, Mayor

City of Silvis; Villages of Andalusia, Carbon Cliff, Coal Valley, Cordova, Hampton, Hillsdale, Milan, Oak Grove, Port Byron, and Rapids City
Tom Conrad, Mayor, Silvis

The project is anticipated to spur economic growth engine that has been cultivated by significant riverfront redevelopment such as the new Western Illinois University Quad Cities Campus in Moline, and the upcoming I-74 Mississippi River Corridor Reconstruction project, serving the Bi-State Region. Livability, sustainability, quality of life amenities, and a connection to the new multimodal station known as the Q are all a part of this vision for a more effective circulation pattern within downtown Moline.

Cities of Aledo, Colona, Galva, Geneseo, Villages of Alpha, Andover, Atkinson, Cambridge, New Boston, Orion, Sherrard, Viola, Windsor, and Woodhull
Dave Holmes, Mayor, Woodhull

Cities of Blue Grass, Buffalo, Eldridge, Fruitland, LeClaire, Long Grove, McCausland, Princeton, Riverdale, Walcott, West Liberty, and Wilton
Marty O'Boyle, Mayor, Eldridge

COUNTY REPRESENTATIVES:

Henry County
Roger Gradert, Chair
Dennis Anderson, Member
JoAnne Hillman, Member

Interstate 74 provides convenient access to Moline affording direct access to the project area by interstate travelers. The reconstruction and revitalization of the 7th Avenue corridor, generally between 12th Street and 23rd Street, will provide a dynamic gateway into Moline and connection to the Q multimodal station for visitors and residents alike.

Mercer County
Vacant

Muscatine County
Jeff Sorensen, Chair
Bob Howard, Member

Rock Island County
Ken "Moose" Maranda, Chair
Kim Callaway-Thompson, Member
Scott Terry, Member
Elizabeth Sherwin, Citizen

The 7th Avenue Reconstruction and Connector project will improve the roadway; upgrade utilities; and accommodate alternative modes of transportation such as transit, pedestrians, and bicycles. It is expected that this project will result in improved safety throughout the corridor and also enhance the quality of life for the adjacent neighborhoods by affording a greater level of accessibility to employment, education, and recreation.

Scott County
Carol Earnhardt, Member
Diane Holst, Member
Tom Sunderbruch, Member
Jazmin Newton-Butt, Citizen

PROGRAM REPRESENTATIVES:

Ralph H. Heninger
Nathaniel Lawrence
Rick Schloemer
Bill Stoermer
Jim Tank
Rory Washburn
Executive Director
Denise Bulat

1504 Third Avenue, P.O. Box 3368, Rock Island, Illinois 61204-3368
Phone (309) 793-6300 • Fax (309) 793-6305
E-mail: info@bistateonline.org • Website: www.bistateonline.org



The proposed project is consistent with the 2045 *Quad City Area Transportation Long Range Plan (March 2016)*. It is aligned with the underlying goals of the plan for economic vitality, promoting efficient system management and operation, mobility choice and emphasizing system preservation.

This project is identified in the 2016 *Comprehensive Economic Development Strategy (CEDS) (April 2016)* for the Bi-State Region. It is consistent with Goal 3 promoting quality of life opportunities and Goal 5 continuing to make best use of existing infrastructure.

I look forward to hearing a positive outcome on your funding request and subsequent implementation.

Sincerely,



Denise Bulat
Executive Director

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Gerald J. Taylor (*The Dispatch*The Rock Island Argus*)
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William Ratzburg (*Deere & Company*)
Carrie O'Neill, *Wells Fargo Bank*
- **Secretary - Vacant**
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Deere & Company, William Ratzburg
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Genesis Medical Center – Illini Campus, Theresa Main
Gerald L. Butts
Illowa Construction Labor & Management Council, Jerry Lack
John Deere Foundation, Mara Downing
KONE, Inc., Adam Judd
MetrolINK, Jeff Nelson
MidAmerican Energy Company, Greg Theis
Renew Moline, Janet Mathis (ex-officio)
RiverStone Group, Inc., Mike Ellis
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Shive-Hattery Architecture and Engineering, Jennifer Bennett
Southeast National Bank, Daniel Daly
Stoney Creek Hotel & Conference Center, Daniel Hance
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UnityPoint – Health, Trinity, Tammy Pauwels
US Bank, N.A., James Richardson
Wells Fargo Bank, Carrie O'Neill
West Gateway Partners, LLC, Bob Ontiveros
WIU Quad Cities, Dr. Joe Rives

Non-Voting Contributing Members

Harris Family Foundation, J. Hunt Harris

Institutional Members

Moline School Board District #40, Lanty McGuire

April 27, 2016

The Honorable Anthony Fox
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: Letter of Support for TIGER8-FY16 Grant, City of Moline, Illinois – 7th Avenue Reconstruction and Connector Project

Dear Secretary Fox:

This letter on behalf of Renew Moline, Inc., (Renew) is in support of the City of Moline, Illinois', application for funding under the FY2016 National Infrastructure Investments program known as the TIGER Discretionary Grant Program. Renew is the public-private, economic development corporation that works with Moline on the design and implementation of a comprehensive economic development strategy for Moline's Riverfront area. The 7th Avenue Reconstruction and Connector Project area included in the city's application is part of the geography in which we collaborate.

The grant monies requested will help finance the reconstruction of 7th Avenue, a project that is necessary as a result of the Interstate 74, bi-state, bridge replacement project. This gateway entrance into downtown Moline will connect the more than \$1.2 billion I-74 bridge asset project with The Q multimodal station currently under construction in downtown Moline as well as the emerging transportation and transit asset opportunities at the new Western Illinois University – Quad Cities Campus and related private development next to the campus. The Q station is being built to accommodate a high-speed rail connection between Moline and Chicago, Illinois.

With the other transportation work being downtown, the time is right for Moline to rebuild the 7th Avenue Gateway in order to support the continued redevelopment of the riverfront. Over the past 25 years, more than \$410 million has been invested in the one census tract known as Moline Centre into projects that include the John Deere Pavilion tourist destination; corporate centers for Deere & Company, KONE, Inc., and United Healthcare; a new public university campus; and multiple other housing, retail-commercial, community and visitor destinations. These amenities that provide livability, sustainability and quality of life will be enhanced and have an opportunity to grow into additional investment, jobs and new taxes through the improved connection at 7th Avenue for which these TIGER funds are being requested.

The proposed 7th Avenue project is also part of an overall vision and plan for a more effective circulation pattern within downtown Moline. It will allow for improvements to the roadway; upgrades to utilities; and the ability to accommodate alternative modes of transportation such as transit, pedestrians, and bicycles. It is expected that this project will result in improved safety throughout the corridor and also enhance the quality of life for the adjacent neighborhoods by affording a greater level of accessibility to employment, education, and recreation.



I believe this is an excellent opportunity to continue the progress taking place within the Illinois Quad Cities region by reinforcing the connection between the I-74 Bridge Mississippi River Bridge Crossing project and The Q multimodal station in a manner that improves safety and supports multiple modes of transportation.

I believe that the application for TIGER Discretionary Grant monies to the City of Moline, Illinois, for the 7th Avenue Reconstruction and Connection project merits serious consideration and the awarding of the requested funding. I offer my commitment to work with you to ensure the success of this important transportation and economic development project for the Quad Cities region and the State of Illinois.

Thank you for your consideration.

Sincerely,

Janet M. Mathis
CEO & President

April 26, 2016

The Honorable Anthony Fox
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590



Subject: Letter of Support for TIGER8-FY16 Grant, City of Moline, Illinois – 7th Avenue Reconstruction and Connector Project

Dear Secretary Fox:

The City of Moline, Illinois is seeking funding under the FY2016 National Infrastructure Investments program known as the TIGER Discretionary Grant Program to help finance the 7th Avenue Reconstruction and Connector project. This regionally important project focuses on the reconstruction of 7th Avenue in proximity to Interstate 74 and the new Q multimodal station, which is currently under construction for the purpose of accommodating a high-speed rail connection between Moline and Chicago, Illinois.

Now is the time for Moline to re-build 7th Avenue to support the economic growth engine that has been cultivated by significant riverfront redevelopment such as the new Western Illinois University Quad Cities Campus and the upcoming I-74 Mississippi River Bridge Crossing project. Livability, sustainability, quality of life amenities and a connection to the new multimodal station known as the Q are all a part of this vision for a more effective circulation pattern within downtown Moline.

Interstate 74 provides convenient access to Moline from across the Mississippi and affords direct access to the project area. The reconstruction and revitalization of the 7th Avenue corridor generally between 12th Street and 23rd Street will provide a dynamic gateway into Moline and connection to the Q multimodal station for visitors and residents alike.

The 7th Avenue Reconstruction and Connector project will improve the roadway; upgrade utilities; and accommodate alternative modes of transportation such as transit, pedestrians, and bicycles. It is expected that this project will result in improved safety throughout the corridor and also enhance the quality of life for the adjacent neighborhoods by affording a greater level of accessibility to employment, education, and recreation.

I believe this is an excellent opportunity to continue the progress taking place within the Illinois Quad Cities region by reinforcing the connection between the I-74 Bridge Mississippi River Bridge Crossing project and the Q multimodal station in a manner that improves safety and supports multiple modes of transportation.

Please join me in supporting the approval of a TIGER Discretionary Grant to the City of Moline, Illinois for the 7th Avenue Reconstruction and Connection project. I offer my commitment to work with you to ensure the success of this important transportation and economic development project for the Quad Cities region and the State of Illinois. Your favorable consideration would be greatly appreciated.

Sincerely,

Jeffrey A. Nelson
General Manager, MetroLINK

United States Senate

April 28, 2016

The Honorable Anthony Foxx
Secretary
United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Secretary Foxx:

I write in support of the 2016 Transportation Investment Generating Economic Recovery (TIGER VIII) grant application being submitted by the City of Moline, Illinois to reinforce the connection between the new I-74 Mississippi River Bridge Crossing and the Quad Cities Multimodal Station (The Q). The project would drive economic growth in the region and benefit the community by reducing congestion in the downtown area, upgrading utilities, and accommodating pedestrian and bicycle paths.

The City of Moline has undergone several major re-development projects over the past 20 years in and around the downtown area and riverfront, and is continuing that momentum by shifting its focus to connecting areas that have fallen into disrepair. Moline's proposal involves the reconstruction and revitalization of the 7th Avenue corridor between 12th and 23rd Street, including the improvement of the roadway and the addition of a roundabout at the intersection of 7th Avenue and 23rd Street. While improving access to the future site of the Quad Cities Multimodal Station and improving connectivity throughout the city, this project effectively incorporates a 21st century vision by incorporating permeable pavement for stormwater runoff, efficient lighting technology, bicycle and shared lanes, ADA compliant ramps and native vegetation.

The proposed project will improve connectivity and safety for the residents and visitors of Moline, and is a key to future economic development and improving quality of life in both the City of Moline and the broader Quad Cities region. I urge your thoughtful and careful consideration of their application. If you should have any further questions, please do not hesitate to contact Shaun McCabe at my Chicago office at (312) 886-3506.

Sincerely,



Mark Kirk
United States Senator

APPENDIX B

Travel Time Savings

Travel Time Savings					
	VHT per year (1% growth)	\$ per vehicle-hour	Savings - No Deduction	7% Deduction	3% Deduction
2017	1,073	\$16.00	\$17,168.00	\$15,966.24	\$16,652.96
2018	1,084	\$16.00	\$17,339.68	\$14,848.60	\$16,153.37
2019	1,095	\$16.00	\$17,513.08	\$13,809.20	\$15,668.77
2020	1,106	\$16.00	\$17,688.21	\$12,842.56	\$15,198.71
2021	1,117	\$16.00	\$17,865.09	\$11,943.58	\$14,742.75
2022	1,128	\$16.00	\$18,043.74	\$11,107.53	\$14,300.46
2023	1,139	\$16.00	\$18,224.18	\$10,330.00	\$13,871.45
2024	1,150	\$16.00	\$18,406.42	\$9,606.90	\$13,455.31
2025	1,162	\$16.00	\$18,590.48	\$8,934.42	\$13,051.65
2026	1,174	\$16.00	\$18,776.39	\$8,309.01	\$12,660.10
2027	1,185	\$16.00	\$18,964.15	\$7,727.38	\$12,280.29
2028	1,197	\$16.00	\$19,153.79	\$7,186.46	\$11,911.89
2029	1,209	\$16.00	\$19,345.33	\$6,683.41	\$11,554.53
2030	1,221	\$16.00	\$19,538.79	\$6,215.57	\$11,207.89
2031	1,233	\$16.00	\$19,734.17	\$5,780.48	\$10,871.66
2032	1,246	\$16.00	\$19,931.52	\$5,375.85	\$10,545.51
2033	1,258	\$16.00	\$20,130.83	\$4,999.54	\$10,229.14
2034	1,271	\$16.00	\$20,332.14	\$4,649.57	\$9,922.27
2035	1,283	\$16.00	\$20,535.46	\$4,324.10	\$9,624.60
2036	1,296	\$16.00	\$20,740.81	\$4,021.41	\$9,335.86
2037	1,309	\$16.00	\$20,948.22	\$3,739.91	\$9,055.79
Total	24,936			\$178,401.71	\$262,294.94

Column 1: Lifespan of project by year

Column 2: Travel time (hours) saved per year (daily hours x 365)

Column 3: Value per hours saved is \$13.00. Local travel (all purposes) = \$13.00 and intercity travel (all purposes) = \$19.00. Average = \$16.00. (Source: The value of the average person hour is based on the USDOT's revised departmental guidance on the valuation of travel time in economic analysis (revision 2 - corrected))

Column 4: Time savings with no deduction

Column 5: Converting future present value based on 7% deduction per year

Column 6: Converting future present value based on 3% deduction per year

VHT Reduction					
Before	Speed	Miles	Time	ADT	Total Travel Time Per Day
7th Avenue Corridor	30 mph	2.14 miles	0.07133	4260	303.88 hours
		Before total travel time			303.88 hours
After	Speed	Miles	Time	ADT	Total Travel Time Per Day
7th Avenue Corridor	30 mph	2.14 miles	0.07133	3834	273.49 hours
		After total travel time			273.49 hours
		Reduction in Vehicle Hours Traveled			30 VHT per day or
					11,092 VHT per year

Column 1: Existing and proposed corridor(s)

Column 2: Average travel speed of corridor(s).

Column 3: Total length of corridor(s)

Column 4: Total time (hours) to travel corridor (miles/speed)

Column 5: Total annual daily traffic (Source: IDOT traffic counts)

Column 6: Total hours saved (daily and yearly)

Backup Information

Table 1

Recommended Values of Travel Time Savings (per person-hour as a percentage of total earnings)		
Category	Surface Modes* (except High-Speed Rail)	Air and High-Speed Rail Travel
Local Travel -		
Personal	95%	--
Business	5%	--
Intercity Travel -		
Personal	79%	60%
Business	21%	40%

Vehicle operators - 100% on all modes

* Surface figures apply to all combinations of in-vehicle and other time. Walk access, waiting, and transfer time should be valued at 100% of hourly income when actions affect only those elements of travel time.

Table 2

Plausible Ranges for Values of Travel Time Savings (per person-hour as a percentage of total earnings)		
Category	Surface Modes* (except High-Speed Rail)	Air and High-Speed Rail Travel
Local Travel -		
Personal	35% - 60%	--
Business	80% - 120%	--
Intercity Travel -		
Personal	60% - 90%	60% - 90%
Business	80% - 120%	80% - 120%

Vehicle operators - 80%-120% on all modes

* Surface figures apply to all combinations of in-vehicle and other time. Walk access, waiting, and transfer time should be valued at 80% - 120% of hourly income when actions affect only those elements of travel time.

Table 3

Recommended Hourly Earnings Rates for Determining Values of Travel Time Savings (2009 U.S. \$ per person-hour)		
Category	Surface Modes* (except High-Speed Rail)	Air and High-Speed Rail Travel
Local Travel -		
Personal	\$12.50	
Business	\$24.40	
Intercity Travel -		
Personal	\$17.50	\$33.20
Business	\$24.40	\$60.70

Truck Drivers	\$25.80
Bus Drivers	\$26.70
Transit Rail Operators	\$46.30
Locomotive Engineers	\$38.70
Airline Pilots and Engineers	\$84.20

Emissions Transmissions

Before (12th Street, 7th Avenue, 23rd Street)			
Number of Vehicles	4,260		
Distance	2.14 miles		
Average Speed*	30 mph		
Emissions Factor - VOC	1.708 g/mile		
Emissions Factor - NOx	1.744 g/mile		
Emissions Factor - CO2	563.190 g/mile		
Before: 4260 vehicles * 2.14 miles * 1.708 g/mile VOC = 15570 g/day		=	5.68 metric tons/year
Before: 4260 vehicles * 2.14 miles * 1.744 g/mile NOx = 15,899 g/day		=	5.80 metric tons/year
Before: 4260 vehicles * 2.14 miles * 563.190 g/mile CO2 = 5,134,264 g/day		=	1,874.01 metric tons/year
After (12th Street, 7th Avenue, 23rd Street)			
Number of Vehicles	3,834		
Distance	2.14 miles		
Average Speed**	30 mph		
Emissions Factor - VOC	1.513 g/mile		
Emissions Factor - NOx	1.813 g/mile		
Emissions Factor - CO2	563.190 g/mile		
After: 3,834 vehicles * 2.14 miles * 1.513 g/mile VOC = 5422.8 g/day		=	4.53 metric tons/year
After: 3,834 vehicles * 2.14 miles * 1.813 g/mile NOx = 14,875.22g/day		=	5.43 metric tons/year
After: 3,834 vehicles * 2.14 miles * 563.190 g/mile CO2 = 4620838 g/day		=	1,686.61 metric tons/year
			Emissions Savings
		VOC	1.15 metric tons/year
		NOx	0.37 metric tons/year
		CO2	187.40 metric tons/year
			Cost Effectiveness
		VOC	\$1,813.00/metric ton/year
		NOx	\$7,147.00/metric ton/year
		CO2	\$47.00/metric ton/year
			Cost Savings
		VOC	\$2,089
		NOx	\$2,671
		CO2	\$8,808
Total Yearly Cost Savings			\$13,567.63

Emissions Savings

Emissions Savings									
	mt/year (1% Growth)	\$/mt/year	7% Discount	3% Discount		mt/year (1% Growth)	\$/mt/year	7% Discount	3% Discount
2017					2028				
VOC	1.15	\$1,813.00	\$1,942.90	\$2,026.46	VOC	1.29	\$1,813.00	\$2,167.63	\$2,260.86
NOx	0.37	\$7,147.00	\$2,483.72	\$2,590.55	NOx	0.42	\$7,147.00	\$2,771.01	\$2,890.19
CO2	187.40	\$47.00	\$8,191.28	\$8,543.60	CO2	209.08	\$61.00	\$11,860.94	\$12,371.09
2018					2029				
VOC	1.16	\$1,813.00	\$1,962.32	\$2,046.73	VOC	1.30	\$1,813.00	\$2,189.30	\$2,283.47
NOx	0.38	\$7,147.00	\$2,508.56	\$2,616.45	NOx	0.42	\$7,147.00	\$2,798.72	\$2,919.09
CO2	189.27	\$49.00	\$8,625.25	\$8,996.23	CO2	211.17	\$62.00	\$12,175.93	\$12,699.63
2019					2030				
VOC	1.18	\$1,813.00	\$1,981.95	\$2,067.19	VOC	1.31	\$1,813.00	\$2,211.20	\$2,306.30
NOx	0.38	\$7,147.00	\$2,533.64	\$2,642.62	NOx	0.43	\$7,147.00	\$2,826.71	\$2,948.28
CO2	191.17	\$51.00	\$9,067.07	\$9,457.05	CO2	213.28	\$63.00	\$12,496.04	\$13,033.51
2020					2031				
VOC	1.19	\$1,813.00	\$2,001.77	\$2,087.86	VOC	1.32	\$1,813.00	\$2,233.31	\$2,329.36
NOx	0.38	\$7,147.00	\$2,558.98	\$2,669.04	NOx	0.43	\$7,147.00	\$2,854.97	\$2,977.77
CO2	193.08	\$52.00	\$9,337.31	\$9,738.91	CO2	215.41	\$63.00	\$12,621.00	\$13,163.84
2021					2032				
VOC	1.20	\$1,813.00	\$2,021.79	\$2,108.74	VOC	1.34	\$1,813.00	\$2,255.64	\$2,352.66
NOx	0.39	\$7,147.00	\$2,584.57	\$2,695.73	NOx	0.43	\$7,147.00	\$2,883.52	\$3,007.54
CO2	195.01	\$52.00	\$9,430.68	\$9,836.30	CO2	217.57	\$65.00	\$13,151.89	\$13,717.56
2022					2033				
VOC	1.21	\$1,813.00	\$2,042.00	\$2,129.83	VOC	1.35	\$1,813.00	\$2,278.20	\$2,376.18
NOx	0.39	\$7,147.00	\$2,610.42	\$2,722.69	NOx	0.44	\$7,147.00	\$2,912.36	\$3,037.62
CO2	196.96	\$54.00	\$9,891.33	\$10,316.76	CO2	219.74	\$66.00	\$13,487.77	\$14,067.89
2023					2034				
VOC	1.22	\$1,813.00	\$2,062.42	\$2,151.13	VOC	1.36	\$1,813.00	\$2,300.98	\$2,399.95
NOx	0.40	\$7,147.00	\$2,636.52	\$2,749.92	NOx	0.44	\$7,147.00	\$2,941.48	\$3,068.00
CO2	198.93	\$55.00	\$10,175.25	\$10,612.89	CO2	221.94	\$67.00	\$13,829.05	\$14,423.85
2024					2035				
VOC	1.24	\$1,813.00	\$2,083.05	\$2,172.64	VOC	1.38	\$1,813.00	\$2,323.99	\$2,423.95
NOx	0.40	\$7,147.00	\$2,662.88	\$2,777.42	NOx	0.45	\$7,147.00	\$2,970.90	\$3,098.68
CO2	200.92	\$56.00	\$10,463.86	\$10,913.91	CO2	224.16	\$68.00	\$14,175.81	\$14,785.52
2025					2036				
VOC	1.25	\$1,813.00	\$2,103.88	\$2,194.37	VOC	1.39	\$1,813.00	\$2,347.23	\$2,448.19
NOx	0.40	\$7,147.00	\$2,689.51	\$2,805.19	NOx	0.45	\$7,147.00	\$3,000.60	\$3,129.66
CO2	202.93	\$57.00	\$10,757.22	\$11,219.89	CO2	226.40	\$69.00	\$14,528.12	\$15,152.98
2026					2037				
VOC	1.26	\$1,813.00	\$2,124.92	\$2,216.31	VOC	1.41	\$1,813.00	\$2,370.70	\$2,472.67
NOx	0.41	\$7,147.00	\$2,716.41	\$2,833.24	NOx	0.46	\$7,147.00	\$3,030.61	\$3,160.96
CO2	204.96	\$58.00	\$11,055.40	\$11,530.90	CO2	228.66	\$71.00	\$15,098.71	\$15,748.12
2027									
VOC	1.27	\$1,813.00	\$2,146.17	\$2,238.47					
NOx	0.41	\$7,147.00	\$2,743.57	\$2,861.58					
CO2	207.01	\$60.00	\$11,550.99	\$12,047.80					
							Total	\$344,841.88	\$359,673.79
	Total VOC	27							
	Total Nox	9							
	Total CO2	4355							

Crash Reduction Savings			
	Total Benefit	7% Discount	3% Discount
2017	\$899,308	\$836,356.44	\$872,328.76
2018	\$899,308	\$777,811.49	\$846,158.90
2019	\$899,308	\$723,364.68	\$820,774.13
2020	\$899,308	\$672,729.16	\$796,150.91
2021	\$899,308	\$625,638.12	\$772,266.38
2022	\$899,308	\$581,843.45	\$749,098.39
2023	\$899,308	\$541,114.41	\$726,625.44
2024	\$899,308	\$503,236.40	\$704,826.67
2025	\$899,308	\$468,009.85	\$683,681.87
2026	\$899,308	\$435,249.16	\$663,171.42
2027	\$899,308	\$404,781.72	\$643,276.27
2028	\$899,308	\$376,447.00	\$623,977.99
2029	\$899,308	\$350,095.71	\$605,258.65
2030	\$899,308	\$325,589.01	\$587,100.89
2031	\$899,308	\$302,797.78	\$569,487.86
2032	\$899,308	\$281,601.93	\$552,403.22
2033	\$899,308	\$261,889.80	\$535,831.13
2034	\$899,308	\$243,557.51	\$519,756.19
2035	\$899,308	\$226,508.49	\$504,163.51
2036	\$899,308	\$210,652.89	\$489,038.60
2037	\$899,308	\$195,907.19	\$474,367.44
Total		\$9,345,182.18	\$13,739,744.62

Column 1: Lifespan of project by year

Column 2: Total weighted crash cost per year

Column 3: Converting future present value based on 7% deduction per year

Column 4: Converting future present value based on 3% deduction per year

Crash Reduction Yearly Benefit		Crash Type		Crashes Per Year	Cost per Crash	Weighted Annual Crash Cost
Without 7th Avenue Corridor Improvements		Injury	50%	4.000	\$441,800	\$883,600
$N_{spf} = AADT \times L \times 365 \times 10^{-6} \times e^{(-0.312)}$		Property Damage	100%	4.000	\$3,927	\$15,708
$N_{spf} = 4260 \times 2.75 \times 365 \times 10^{-6} \times e^{(-0.312)} =$	13.96				Total	\$899,308
With 7th Avenue Corridor Improvements						
$N_{spf} = AADT \times L \times 365 \times 10^{-6} \times e^{(-0.312)}$						
$N_{spf} = 3834 \times 2.75 \times 365 \times 10^{-6} \times e^{(-0.312)} =$	10.65					
Total Yearly Crash Reduction	3.31					
Total Percentage Crash Reduction	31%					

Column 1: Safety performance functions for rural two-lane, two-way roadway (Source: Equation 10-6, Highway Safety Manual, Vol. 2, 2010)

Column 2: Predicted amount of crashes annually

Column 3: Type of crash

Column 4: Percentage of crash type of all crashes (Source: City of Moline Police Department, Crash totals 2015)

Column 5: Number of crashes (Source: City of Moline Police Department, 2015 totals)

Column 6: Comprehensive societal crash cost per crash type. (Source: Guidance on Treatment of the Economic Value of a Statistical Life in US Department of Transportation Analyses (2015) and The Economic and Societal Impact of Motor Vehicular Crashes, 2010)

Column 7: Weighted annual cost per crash type

Project Life Costs				
	Initial Cost	Operation and Maintenance Cost	7% Discount	3% Discount
2016		\$9,856	\$9,166.37	\$9,560.62
2017	\$250,000	\$9,856	\$241,666.37	\$252,060.62
2018	\$450,000	\$9,856	\$427,666.37	\$446,060.62
2019	\$2,000,000	\$9,856	\$1,869,166.37	\$1,949,560.62
2020	\$2,000,000	\$9,856	\$1,869,166.37	\$1,949,560.62
2021	\$2,000,000	\$9,856	\$1,869,166.37	\$1,949,560.62
2022		\$9,856	\$9,166.37	\$9,560.62
2023		\$9,856	\$9,166.37	\$9,560.62
2024		\$9,856	\$9,166.37	\$9,560.62
2025		\$9,856	\$9,166.37	\$9,560.62
2026		\$9,856	\$9,166.37	\$9,560.62
2027		\$9,856	\$9,166.37	\$9,560.62
2028		\$9,856	\$9,166.37	\$9,560.62
2029		\$9,856	\$9,166.37	\$9,560.62
2030		\$9,856	\$9,166.37	\$9,560.62
2031		\$9,856	\$9,166.37	\$9,560.62
2032		\$9,856	\$9,166.37	\$9,560.62
2033		\$9,856	\$9,166.37	\$9,560.62
2034		\$9,856	\$9,166.37	\$9,560.62
2035		\$9,856	\$9,166.37	\$9,560.62
2036		\$9,856	\$9,166.37	\$9,560.62
Total	\$6,700,000	206,982.49	\$6,423,493.72	\$6,699,773.02

Column 1: Lifespan of project by year

Column 2: Estimate of project construction cost

Column 3: Annual operation and maintenance costs assuming no major rehabilitation needed within the first 20 years

Column 4: Converting future present value based on 7% deduction per year

Column 5: Converting future present value based on 3% deduction per year

Annual Operational Costs						
Segment	Length (ft)	Length (miles)	Number of Lanes	Lane Miles	\$/year/ Lane Mile	\$/year
12th Street	1155	0.22	2	0.44	\$1,200	\$525.00
7th Avenue	4540	0.86	2	1.72	\$1,200	\$2,063.64
23rd Street	335	0.06	2	0.13	\$1,200	\$152.27
						\$2,740.91

Annual Operational Costs \$2,741

Annual Maintenance Costs \$7,115

Total Operation and Maintenance Cost \$9,856

Column 1: 12th Street from 4th Avenue to 7th Avenue, 7th Avenue from 12th Street to 23rd Street, 23rd Street to Highway 92

Column 2: 7th Avenue Corridor

Column 3: Segment Lengths converted to Miles

Column 4: Number of lanes in each segment

Column 5: Lane miles for each segment (Column J x Column K = Column L)

Column 6: Rate of \$1200/lane mile

Column 7: Cost per year for roadway operational activities.

Annual Maintenance Costs			
Segment	Paved Traffic Lanes (ft)	\$/ft/year	\$/year
All	6030	\$1.18	\$7,115.40
			\$7,115.40

Assumptions:

- The only significant annual maintenance cost will be sealing and patching.
- No major rehabilitation will be necessary for 20 year project life
- The roadway would require full reconstruction at the end of the 20 year life so no residual value remains.

Column 2: Total length of pavement marking placed per year

Column 3: Unit cost for pavement marking based on bid prices in the State of Iowa

Column 4: Annual cost for maintenance activities on 12th Street, 7th Avenue, and 23rd Street