

Project Description

Overview

The City of Windsor Heights, Iowa is a suburban community with a population of 5,252 located within the Greater Des Moines Area. While relatively smaller than the communities surrounding it, thousands of residents from surrounding communities rely on it for daily access to amenities, goods, and jobs. Windsor Heights also provides access to wider regional transportation networks via I-235, public transit pick-ups and drop-offs, and regional trail access.

73rd Street is a minor arterial road that bridges the cities of West Des Moines to the South and Clive to the North through Windsor Heights. The proposed 73rd Street Multimodal Connector Project in this grant application is located within the jurisdiction of Windsor Heights, Iowa and includes a half-mile segment of 73rd Street that extends from University Avenue to the north down south to Center Street at the boundary between Windsor Heights and West Des Moines. To the east of 73rd Street and across Walnut Creek, the Clive Greenbelt Trail is accessible north of I-235.

Currently, pedestrians lack dedicated facilities along this segment of 73rd Street and are forced to walk along a narrow stretch of grass and dirt between the busy road and the Norfolk Southern/Iowa Interstate rail line. This trek culminates in the choice between crossing 73rd Street with no crossing aid, or navigating along the east side of 73rd Street and hiking across a precarious rail bridge that crosses Walnut Creek. Either choice presents a health and safety hazard that is only exacerbated by poor nighttime lighting on the northbound side of the road, a deteriorating roadway surface, rail line crossings providing inadequate warning for drivers and pedestrians along 73rd Street, and a roadway designed for significantly slower traffic than the posted speed limit.

The City is applying for FY25 Better Utilizing Investments to Leverage Deployment (BUILD) grant funds to address these concerns and ensure considerably safer networks for all road users in the area. The proposed Project reconfigures the road from Center Street to University Avenue and enhances signalization at key intersections throughout this corridor. The Project introduces crucial pedestrian facilities along the roadway with concrete barriers. The Project will also include the installation of a pedestrian bridge across Walnut Creek accessible via Center Street which will enable convenient carless access to the regional trail network, nearby amenities and jobs, and provide an alternative means to safely cross I-235 in the area.

Design Elements

Roadway space underneath the I-235 bridge is fully utilized by 73rd Street, and no room exists to add a sidewalk today. Bridge reconstruction to create space for a sidewalk would be incredibly costly and would cause substantial impacts to the busiest road in Iowa (I-235 in this area has an AADT of 116,000). The owners of the adjacent railroad have been approached about providing space for a

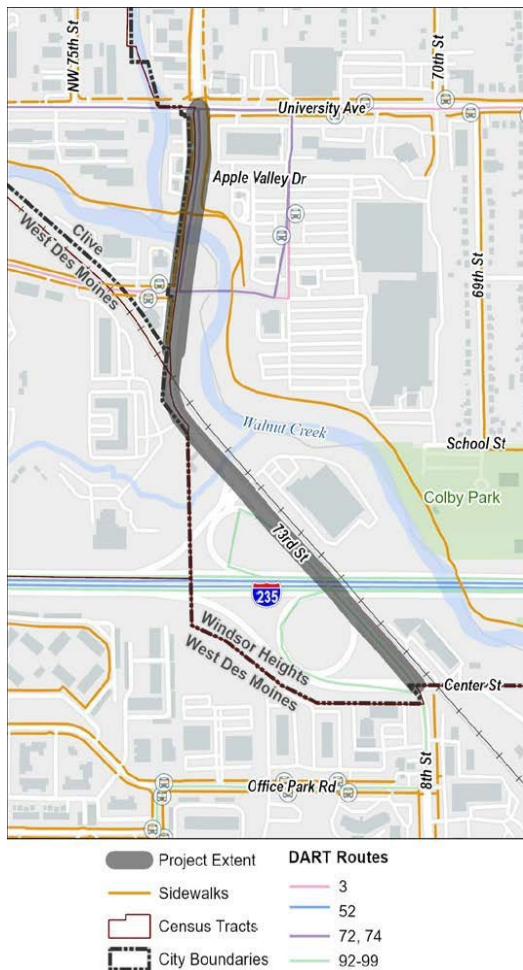


Figure 1 Project Location for 73rd Street reconstruction

sidewalk but have been unwilling to do so. The City proposes including pedestrian infrastructure within the existing footprint of the roadway (**Figure 1**) as the best primary means to solve these challenges within the Project area.

The 73rd Street Multimodal Connector presents an innovative approach to reallocate roadway space to include this critical pedestrian facility and is the only viable way to provide this connection proposed to date. At the interchange with I-235, the loop ramp connecting 73rd Street southbound to the I-235 eastbound on-ramp would be realigned closer to the intersection of 73rd Street and Center Street. This ramp/lane realignment is consistent with Iowa DOT’s Des Moines Metropolitan Area Integrated Corridor Management (ICM) which includes future ramp metering in this area. The existing westbound off-ramp loop will be removed, so vehicles accessing 73rd Street southbound will navigate the existing loop and turn at the existing signal instead of being channeled into a weaving lane.

The space currently occupied by this weaving lane will instead be utilized by a new eight-foot sidewalk and a concrete barrier to ensure pedestrian safety as shown in **Figure 2**. High visibility pedestrian crosswalk markings will be implemented at all intersections to provide a safer crossing environment and warn drivers that pedestrians could be in the area.

Currently, the intersection of 73rd Street and the Norfolk Southern/Iowa Interstate railroad has substandard horizontal curvature and poor protection at the rail crossing. At present, the roadway “squeezes in” at the crossing, quickly dropping the median and narrowing travel lanes. This transition also uses substandard roadway curves with a 25mph design speed on the southbound lanes. This Project will correct this curvature and install a raised median between the two directions of travel. Additionally, crossing arms will include warning lights to signal oncoming trains. With the installation of a raised median, one gate arm will be placed on the shoulder of the road and the other will be placed within the median. Currently, the overhead warning lights on the east side of the road (used to signal northbound vehicles on 73rd Street) are missing due to recent damage. This creates a dangerous situation where travelers in the inner northbound travel lane cannot see the warning lights when a larger vehicle blocks them and may erroneously attempt to cross the railroad while

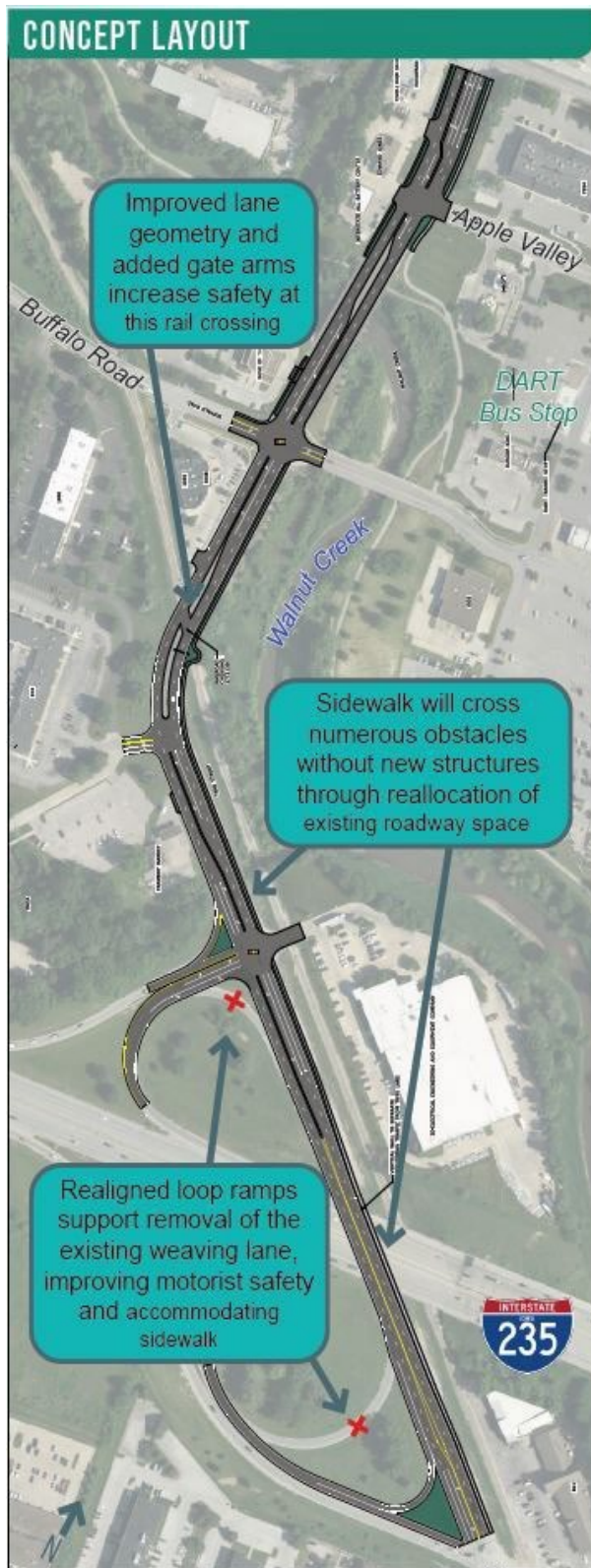


Figure 2 Conceptual Layout of the New Roadway Design

a train is on approach. The overhead light assembly is difficult to replace due to non-standard size. Gate arms will provide standardized, improved safety at this location for all roadway users.

Once the sidewalk reaches Buffalo Road, pedestrians can presently can either travel east on an existing sidewalk along Buffalo Road to directly access the Clive Greenbelt Trail or can cross 73rd Street to continue north on an existing sidewalk on the west side of 73rd Street. By creating safe access for pedestrians crossing I-235 and the Norfolk Southern/Iowa Interstate railroad, they will be able to safely access transit, recreation, retail, employment, and other amenities.

In addition, the Project will include the construction of a pedestrian bridge across Walnut Creek on the south side of I-235 (**Figure 3**). The City of Windsor Heights previously hired a consultant in 2019 to perform a hydrological study of Walnut Creek in this area to determine the best location for a pedestrian bridge to connect pedestrian access along Center Street to the existing trail network on the east side of the creek with a bridge crossing the waterway. The pedestrian bridge will be engineered such that there are minimal impacts on the rise of Walnut Creek. The City anticipates that the pedestrian bridge will allow for redundancy in terms of pedestrian access across I-235. This will provide added safety and reduce the risk of conflict between pedestrians and cyclists navigating the area.

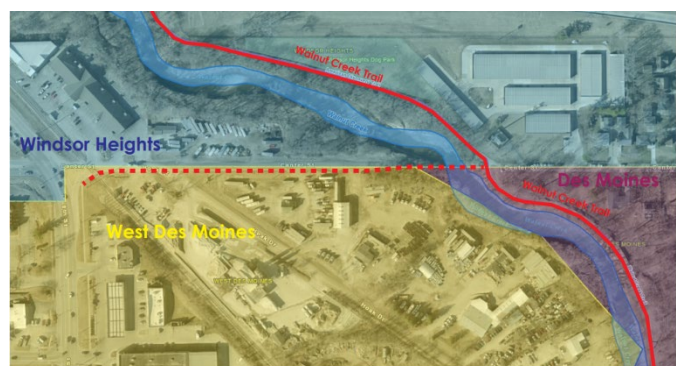


Figure 3 Connection to Trail Network via Center Street Across Walnut Creek

Demographic

The population of Windsor Heights is made up of eighty-eight percent of residents who identified as White, six percent as Hispanic or Latino, two percent as Asian, and one percent as Black or African American based on the Climate and Economic Justice Screening Tool (CEJST). Per the 2020 Census, almost nine percent of the 18-64 age group lives below the poverty line and twenty-seven percent of all residents are renters.

The northwest portion of the project shares a border with a Historically Disadvantaged Community (CEJST Tract number 19153011205). No Areas of Persistent Poverty will be affected by this project. According to the USDOT's classification, these areas are highlighted in the US EPA's Environmental Justice Screening tool as having a low-income population in the 80th to 90th percentile (see **Figure 4**).

The project is located within 2010 and 2020 Census Tract 112.01. The northern section of the project is along the edge of a historically disadvantaged community in tract 111.12. The largest commercial center in Windsor Heights is adjacent to the corridor, I-235 and 73rd Street. This center has Sam's Club and Walmart as anchor stores with many businesses occupying spaces along University Avenue and portions of 73rd Street. According to data acquired from the Greater Des Moines Partnership, the anchor stores alone attracted a combined total of 4.8 million visitors from November 1, 2023 through October 31, 2024, millions of which reside in the greater Des Moines area, underscoring the area's regional importance as a retail hub.

The commercial center's parking lot houses a Des Moines Area Regional Transit (DART) bus stop that currently serves three fixed routes: route 3, route 74, and route 96. This stop is one of the busiest in the entire system with 120 average boardings per day according to DART. This area also has access to the Clive Greenbelt Trail which connects two popular trail systems, the Bill Riley Trail and Great Western Trail.

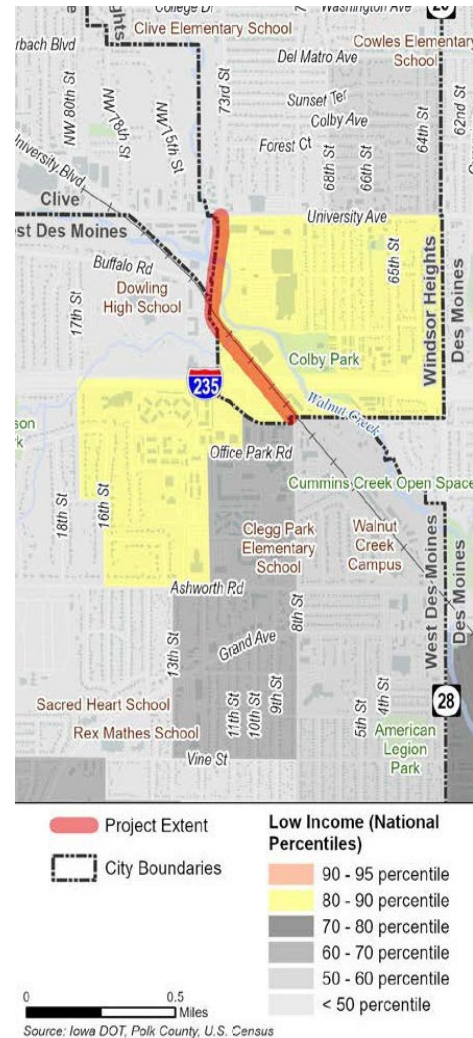


Figure 4 Low Income Tracts Surrounding Project Area

Corridor Challenges

Challenge 1: Lack of safe connections for nonmotorists between the North and South side of I-235

- Safety issues for pedestrians, including a gap in connections on the segment, discourage walking and biking.
- This corridor connects various residential communities to commercial centers. Well-connected sidewalk networks exist on either side of I-235 but are not connected to each other.
- Most intersections do not have any pedestrian crosswalk markings.

Challenge 2: Roadway is not designed to handle the current traffic volumes and speeds the roadway is experiencing

- The radius of the curve near the intersection with Center Street on the segment presents unsafe conditions for motorists.
- 73rd Street and the Norfolk Southern Railway crossing does not have safety arms although it is a four-lane street.
- While the roadway has a posted speed limit of 35mph, in some areas, the current roadway is designed to support 25mph or 30mph travel.

Challenge 3: Existing I-235 bridge constrains new roadway designs

- Underpass space is limited as traffic lanes, utilities, and the railroad share space.
- Large volumes of traffic necessitate multiple lanes.
- Existing auxiliary lane between ramps is substandard.

Eligibility

This project meets all eligibility criteria. The points below address the eligibility criteria of this application:

Eligible Applicants: As a unit of local government, the City of Windsor Heights is an eligible applicant for the BUILD capital grant opportunity. The City of Windsor Heights is the lead applicant and will manage and deliver the entirety of the project.

Minimum Funding Request for Capital Projects: The project is located in an urban area and is requesting more than the minimum request of \$5 million.

Application Limit: All project components included in this application are related, and this is the only grant application submitted by this applicant.

Cost Sharing: The location for the project is Urban and is neither considered Rural, Area of Persistent Poverty, nor Historically Disadvantaged Community. The project is requesting an 80% Federal Funding match of \$16,156,000 out of a total project cost of \$21,070,000. Windsor Heights is resolved to provide a 20% non-Federal match of \$4,214,000 and the City acknowledges responsibility for addressing any funding shortfalls and maintaining the level of non-Federal funding stated in this application.