

MCORE – TRANSFORMING THE CORE OF THE COMMUNITY

Executive Summary

The Champaign-Urbana Mass Transit District, with the support of the City of Champaign, City of Urbana, and the University of Illinois, applied for and received a \$15.7 million Transportation Investment Generating Income Recovery (TIGER) Grant for construction of the Multimodal Corridor Enhancement (MCORE) Project within the University District. The overarching goal of the project was to improve mobility choices, increase public safety, and provide increased access to jobs, healthcare, and services in street corridors that connect the downtown centers of Champaign and Urbana with the University of Illinois.

The Multimodal Corridor Enhancement (MCORE) Project consisted of five individual projects:

- Project 1 - Green Street (Wright Street to Busey Avenue)
- Project 2 - Green Street (Neil Street to Fourth Street)
- Project 3 - White Street (Second Street to Wright Street) and Wright Street (Springfield Avenue to White Street)
- Project 4 - Armory Avenue (Fourth Street to Wright Street) and Wright Street (Springfield Avenue to Armory Avenue)
- Project 5 - Green Street (Busey Avenue to Race Street)

Projects 1, 2, and 3 of the Multimodal Corridor Enhancement program were completed in 2019, while projects 4 and 5 were completed in 2021.

Each street underwent either full reconstruction or major rehabilitation to rebuild the streets into multi-modal complete street corridors to accommodate all modes of travel (bus, pedestrian, bike, and vehicle). In addition to the pavement improvements, other project benefits include improved bus capacity and frequency on these key bus routes, improved sidewalks, new street lighting, and addition of on-street bicycle lanes.



Photo: Courtesy Clark Dietz

Campustown Gateway - The final design included several one-of-a-kind specialty items for streetscape and signage as seen in this Gateway rendering for Green Street just east of Neil Street. By repurposing the façade of a railroad viaduct, an inviting gateway to the University of Illinois campus was created.

Project challenges included complying to an aggressive completion schedule, incorporating complete street components within existing public right-of-way, and targeted public involvement. Extensive coordination with client partners, regulatory/review agencies, and affected utilities was achieved throughout the MCORE projects, with planning and environmental approvals completed at an expedited pace.

CLARK DIETZ AND HANSON PROFESSIONAL SERVICES - PRIME CONSULTANTS

In accordance with a competitive Qualifications Selection Based (QBS) procurement, the Clark Dietz team was selected to provide Phase I (planning/environmental), Phase II (design), and Phase III (construction) services for all five projects. The design team executed Phase II design services so that MCORE Projects 4 and 5 were completed seamlessly with the previously completed MCORE Projects 1, 2, and 3.

Under the terms of the agreements, Clark Dietz served as the prime consultant responsible for the overall contract administration, project management and Phase II design engineering lead for MCORE Projects 2 through 4. Hanson Professional Services served as the prime consultant responsible for the overall contract administration, project management, and Phase I design engineering services lead for MCORE Projects 1 & 5. Clark Dietz was the Prime Consultant for Phase III Construction Engineering Services for all of the MCORE projects.

The success of the MCORE project was the result of a true team effort. The Clark Dietz/Hanson team is proud to recognize our subconsultants and the important role that each played in the MCORE project.

SUBCONSULTANTS

T.Y. Lin International Group provided valuable service for transit studies, transit design, complete street design, and bicycle transportation.

Site Design Group, Ltd. provided landscape architecture services with emphasis on streetscape design and plantings.

Third Coast Design Studio was responsible for urban planning and context sensitive designs.

Engineering & Research International, Inc. provided geotechnical engineering and material testing services.

Millennia Professional Services performed topographic and boundary surveying services and assisted with construction observation.

PROJECT DESCRIPTION

The Multimodal Corridor Enhancement (MCOE) Project had the overarching goal to improve mobility choices, increase public safety, and provide increased access to jobs, healthcare, and services in the corridors that connect the downtown centers of Champaign and Urbana with the University of Illinois campus. MCOE was a unified effort of the City of Champaign, City of Urbana, Champaign-Urbana Mass Transit District (CUMTD), and University of Illinois at Urbana-Champaign to create transformative infrastructure that will support and enhance access and promote quality of life. This effort resulted in receiving a \$15.7 million Transportation Investment Generating Recovery (TIGER) Grant to advance the project.

MCOE included the reconstruction/major rehabilitation of critical street corridors to achieve safe, efficient, and economical transportation for pedestrians, bicyclists, buses, and motor vehicles. A “Complete Streets” approach was implemented for the planning, design, and construction sensitive corridors located in the University District. The design team implemented innovative solutions that addressed the multimodal hierarchy of each of the five street corridors of MCOE.

Completion of these projects enhanced connectivity in the corridor to the area’s major employers, health, and social service organizations. The MCOE project serves as a conduit to major employers connecting the downtowns of Champaign and Urbana, representing over 80 percent of the jobs in the area. An innovative project approach was executed that encouraged modern urban redevelopment designs and created a transportation network that is safe, efficient, and equitable for all modes of travel (pedestrian, bike, bus, and vehicles) within limited public right-of-way. Each street underwent reconstruction and/or major rehabilitation to incorporate reduced width vehicle lanes, bicycle lanes, bus lanes, Americans with Disabilities Act (ADA) accessible curb ramps, enhanced bus stops, traffic signal modernization, curb bump outs, streetscape elements, and street lighting.



Photo: Courtesy Clark Dietz

Transit Islands: Not Your Typical Bus Stop - CUMTD operates 19 weekday daytime campus routes to which University of Illinois students, faculty, and staff have unlimited access. Improving the safety and efficiency of high frequency routes was critical for MCOE. Level boarding transit islands were implemented for the first time which improves operational efficiency and improves safety by rerouting bicycles behind the bus stops.

Construction challenges were encountered by the team on an ongoing basis. A key requirement during construction was to ensure the public could safely move through the area. Continual coordination was needed during the MCORE project to create temporary pedestrian traffic paths through the busy corridor and keeping the buses serving the area on schedule.



Photo: Courtesy Clark Dietz

Improving Safety at Armory and Wright - This corner was a perfect representation of the multi-discipline coordination needed to accommodate multimodal transportation safely and efficiently.

Complicating the construction schedule, the COVID-19 Pandemic started as the project was entering into the second year of Project 4 and just beginning Project 5, resulting in the potential for a state-wide shutdown. For MCORE Project 4, construction crews were at the critical crossing of Green Street, which had special provisions for the project outlining the specific restrictions for closures at the intersection of Wright and Green streets. These restrictions required the contractor to maintain very specific traffic patterns through the intersection throughout any construction. This meant traffic patterns were designed around rotational closures, with one special full closure approved for a one-week period to accommodate underground utility work. Immediately after the contractor had closed the intersection and removed the pavement, a potential statewide shutdown of all activity was announced. An emergency effort to temporarily restore the pavement throughout the intersection was implemented and further construction activity was halted awaiting the governor’s announcement. Upon confirmation that work could continue, the contractor removed the temporary pavement, completed the necessary work, and poured permanent pavement, all while accommodating traffic. After the initial determination that road work was included in the exemption as listed by the governor in the initial shutdown, contractors were required to provide and follow a comprehensive prevention and mitigation plan for work during the COVID pandemic. This included sanitation and masking/distancing practices on jobsites, as well as contact tracing and mitigation for any instances that did occur. These practices included coordinating crews working in trenches, a culvert/bridge structure, and distancing with adjacent construction and pedestrians. The contractors managed to accommodate all of these measures, and still held to their schedule and completion dates.

INNOVATION

The Champaign-Urbana community has a history of bus transit, bicycle, and pedestrian travel. Additionally, the University of Illinois campus has been accessible to people with disabilities long before federal legislation required public buildings and spaces to comply with the ADA. A “Complete Streets” approach to improving mobility within the University District was chosen. The collaboration of different travel modes resulted in some innovative recommendations for the street corridors of MCORE.

First, the project development process was almost turned upside down. Modal hierarchies were established along street corridors to select the proper design elements which deviated from the original grant application. Pedestrian connections, bicycle safety, and transit operations became main drivers for the MCORE improvements. Many of the creative solutions expanded upon typical road diet concepts where vehicular travel lanes were reduced to provide valuable right-of-way for pedestrian, bicycle and bus accommodations.



Photo: Courtesy Clark Dietz

With the extra space, the Clark Dietz/Hanson team was able to implement raised bike lanes and bus-only lanes with level loading platforms between the bike lane and travel way. The level loading platforms provide efficient boarding and alighting for all users, including the disabled.

There was also creativity with traffic signals in high pedestrian areas. At those intersections, signal timings were designed to provide leading pedestrian intervals; that is pedestrians were permitted to walk and clear the intersection while all vehicles were stopped. Similarly, where pedestrian usage was observed to be high, uncontrolled mid-block crossings were improved.

The last, finest example of design innovation was in the segment of Green Street directly in front of the Illini Union at the center of the University District. It was felt that the proposed improvement did not go far enough to address multi-modal concerns. High levels of pedestrian, bicycle, and bus usage all converge at this location. An amoeba-shaped island was designed in response to these unique needs. It was determined the most efficient design would be a bus-only lane and transit island within the median while accommodating all through traffic around the transit operations. The island was sized to accommodate the peak number of riders that may be boarding or alighting at any one time. Another benefit of the design was that the geometric curvature of the amoeba island causes drivers to slow down on Green Street, providing a safer environment for all users.



Photo: Courtesy Clark Dietz

Prioritizing Pedestrian Safety - As a part of the MCore projects, improvements to intersection safety were performed to promote pedestrian, bicycle, mass transit, and vehicular travel with the upgrade of the existing street infrastructure.



Photo: Courtesy Clark Dietz

Complete Street: Small Details, Big Impact -

The design of Green Street at the Illini Union required special attention for every mode while striking a balance between safety, mobility, and efficiency. This was achieved by implementing significant changes to the street segment that included bus-only lanes, level boarding transit islands, raised bike lanes, bike-bus separation and high visibility pedestrian crossings.

VALUE TO ENGINEERING AND PUBLIC PERCEPTION

The project approach and lessons learned from the complete streets process are easily transferred to other urban improvements. The Clark Dietz/Hanson team and client have already been active speakers at trade association events to share benefits of complete streets planning and design. To date, the users have embraced the opportunity to choose between different travel modes, all provided safely, with acceptable levels of service.

SOCIAL, ECONOMIC, AND SUSTAINABLE DESIGN

The MCORE improvements enhance safe and economical travel choices, particularly for non-drivers, people with disabilities, senior citizens, and those who may be economically disadvantaged. Every trip made by bus, bike, or on foot helps to improve air quality, reduce dependency on foreign oil, and improve the quality of life.

PLANNING COMPLEXITY

Any urban street reconstruction has a certain level of complexity that is always unique to its location. MCORE also presented the added issue of an aggressive schedule. The Clark Dietz/Hanson team was able to navigate through federally funded Phase I engineering and environmental clearances within 10 months and complete Phase II design concurrently in 12 months to have contract documents ready for bidding in accordance with federal obligation deadlines. To meet the scheduled goal for the MCORE program required a coordinated effort among the team and shareholders, including the client, project team, and funding, review, and regulatory agencies. A well thought out project work plan provided the road map, but it took everyone committing to a common goal to make it happen. All five MCORE projects were completed within the TIGER grant schedule.



Photo: Courtesy Clark Dietz

Thinking Outside the Box: Bicycle Safety Improvement - MCORE introduced two-stage bike boxes. The design eliminates the need to cross multiple lanes of traffic to make a left turn while reducing vehicle and bike conflicts.

EXCEEDING OWNER NEEDS

The client has openly expressed its satisfaction with the effort of the Clark Dietz/Hanson team to make the MCORE project a reality. The Champaign City Council Report stated, “The (Clark Dietz/Hanson) Team accomplished a monumental task in completing the preliminary and final design phases in a very short period of time for a federally funded project. During the process there were many challenges presented and the (Clark Dietz/Hanson) Team, in conjunction with staff and agency representatives, met each one.”

CLOSING SUMMARY

MCORE is an infrastructure investment that will pay dividends to the Champaign-Urbana community for years to come. Completion of these projects enhanced connectivity in the corridor for students and citizens of the communities to the area’s major employers, health, and social service organizations.

Public outreach was a key to the project success. Public and stakeholder meetings, dedicated project website, public service announcements, social media engagements, and mailings were just some of the techniques employed to inform the public and build a consensus for the project improvements. In the end, the public supported the targeted investment in these key urban corridors of the Champaign-Urbana community. All stakeholders felt confident the improvements would have a positive impact on access, mobility, economic development, and the overall quality of life.

The project presented challenges, including complying with an aggressive completion schedule, incorporating complete street components within existing public right-of-way, and targeted public involvement— all during an ongoing pandemic that affected project personnel and the public. Its on time completion, provides travelers with safe, economical choices and increased access to jobs, healthcare, education, and services while enhancing the communities’ quality of life. It is an example of how a transformative improvement came to life through collaboration of local, state, and federal partners. The project approach and lessons learned from the complete streets process will be used in future urban improvements.