

I. Executive Summary

Corridor Context

The Mankato/North Mankato Area Planning Organization (MAPO) and the City of Mankato, in partnership with Blue Earth County and the Minnesota Department of Transportation (MnDOT), completed this study to identify a long-term vision for multimodal improvements on Riverfront Drive in Mankato. The study extent includes Riverfront Drive from Woodland Avenue on the south to Trunk Highway (TH) 14 on the north (**Figure A.1**).

Riverfront Drive serves an important role in providing access and connectivity to downtown Mankato and providing primary connections to other parts of Mankato, North Mankato and the surrounding region, including US Highways 14 and 169. The corridor also serves multiple transportation modes including automobiles, freight, transit, pedestrians and bicyclists. Because of the role Riverfront Drive plays in the local and regional transportation network, it was identified as a priority study corridor in the MAPO 2045 Long Range Transportation Plan. The study was then requested by the City of Mankato and funded through MAPO.



Riverfront Drive looking southwest from Marshall Street during AM peak hour traffic.

Study Partners

The Riverfront Drive Corridor Study was a joint effort between:

- City of Mankato
- MAPO
- MnDOT
- Blue Earth County

Study Objectives

The study partners desired to define a comprehensive vision for Riverfront Drive to continue their momentum in City Center reinvestment while also serving continued growth and local/regional mobility needs over the next 25 years. The study included:

- Defining the issues and potential opportunities along the corridor
- Establishing the corridor vision and goals
- Developing and evaluating potential multimodal infrastructure improvement alternatives
- Developing a short- and long-term implementation plan that identifies potential projects and cost estimates

Key Transportation Issues

The corridor study process included a review of existing land use, safety and traffic conditions. Future traffic and redevelopment



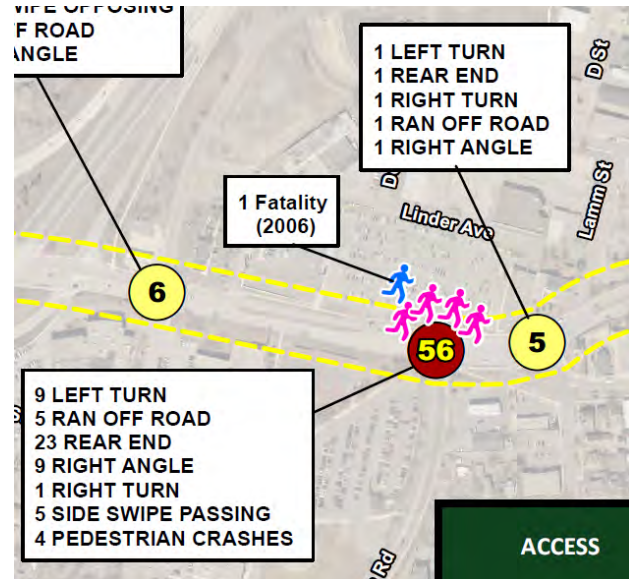
AM peak hour Traffic backups at the Trunk Highway 14 westbound ramp intersection with Riverfront Drive.

opportunities were also considered. This analysis was supported by public, agency and stakeholder input. The following key transportation issues were identified through this process:

- **Mobility and Safety** – Riverfront Drive is an important minor arterial roadway that serves both regional and local traffic. Maintaining mobility on Riverfront Drive while also providing adequate access to businesses, freight users, neighborhoods, pedestrians and bicyclists requires a fine balance. There are a handful of intersections along Riverfront Drive that experience peak hour operational issues today and this is anticipated to worsen as traffic volumes increase.

Over a five-year period from 2010-2014, there were 244 crashes within the 3.4 miles of the study corridor. Two intersections were identified as having crash rates above the state average.

- **Traffic Speeds** – Vehicles traveling above the posted speed are prevalent along the entire corridor study area. Roadway segments exhibiting the highest traffic speeds are between Cherry Street and Plum Street and Adams Street to Good Counsel Drive. Vehicles in these locations were observed travelling greater than 10 mph over the speed limit. The majority of the remainder of the study area observed vehicles traveling between 5-9 mph over the posted speed limit. Speeding traffic is a safety concern and degrades the pedestrian environment.



56 Crashes at the Stoltzman Road/Riverfront Drive intersection from 2010 to 2014 including several pedestrian crashes and one fatality (2006). Source: MNCMAT.

- **Access** - Overall there are 109 private access locations (32.4/Mile) along the 3.4 mile study corridor. This is especially prevalent in study Segment 4 from Madison Avenue to Good Counsel Drive where there are several areas of conflicting left turns due to closely spaced access locations. Several of the properties with access to the corridor also have access to a side street. High concentrations of access are typically associated with safety and operational problems.
- **Pedestrian and Bicycle Accommodations** - There is a need to complete gaps in the pedestrian network along Riverfront Drive and an overall desire to make it more comfortable to walk along and across Riverfront Drive. Safer crossings are a priority in the following locations:
 - Mankato West High School to Stoltzman Road (CSAH 16)
 - Throughout the downtown areas from Warren Street to Rock Street
 - To Franklin Elementary School
 - From Good Counsel Drive to the trails on the west side of Riverfront Drive near TH 14

Corridor Goals

Following the identification of issues and needs along Riverfront Drive, study partners developed the following Corridor Study goals:

- Provide efficient vehicle and freight mobility and access
- Safely accommodate all users (vehicles, freight, transit, pedestrians, bicycles)

- Support an inviting and safe pedestrian environment both along and across Riverfront Drive
- Support bicycle connections across Riverfront Drive to designated parallel bike routes and regional trails
- Support future land use and redevelopment plans
- Provide infrastructure improvements compatible with the historic and natural environment
- Enhance community identity

These goals were used to identify and evaluate the trade-offs between improvement options.

Improvement Options and Implementation Plan

Multiple improvement alternatives were identified and evaluated based on the existing conditions analysis and issues and needs identified through public, agency and stakeholder involvement. The improvement options were presented to the public and stakeholders for review and prioritization. Meetings were held with the Mankato City Council, Blue Earth County Board of Commissioners, MnDOT D7 staff and key stakeholders along the corridor including Mankato School District, Mankato YMCA, Cub Foods, Hy-Vee, the Old Town District and Coughlan Quarry representatives. At the final public open house, attendees were asked to help prioritize improvements into implementation timeframes. Attendees were given the opportunity to identify their top three priorities for each of the following implementation timeframes:

- Short-Term (0-5 years) – These improvements are typically smaller, spot improvements that have a lower cost but yet high benefit in terms of addressing existing issues on Riverfront Drive. Because of their smaller size, these improvements could be implemented within the next five years and serve the corridor well for many years into the future.
- Mid-Term (6-15 years) - Projects in this category tend to be larger in size than the short-term projects and may be more feasible to implement in conjunction with a comprehensive infrastructure improvement project such as a street reconstruction project.
- Opportunity/Development/Safety Driven – Projects in this category were identified for the long-term. These are areas that may not have an immediate need for an improvement today but could become problematic over the longer term if 20-year traffic forecasts are realized or safety problems arise. Not all of these improvements are feasible today with the existing land uses along the corridor. They would only be considered if land uses change or opportunities arise that make these options more feasible.

The table on the following page documents the study recommendations into implementation timeframes based on input from study partners, corridor stakeholders, the public and elected officials.

Next Steps

Additional design, studies and public input will be needed for each of the recommended improvement options to move forward. The purpose of the Riverfront Drive Corridor Study was to develop a long-term plan for improvements to Riverfront Drive. The concepts developed as part of this study are high-level and will need additional refinement through preliminary and final design. Environmental review and permitting will also be required with exact requirements based on the scope of the project and the funding source.

The improvement options identified within this study and the projects prioritized as part of the implementation plan will help the City of Mankato continue to maintain a functioning yet safe minor arterial roadway.

Study partners must continue to work together to further plan, obtain funding, design, and

Riverfront Drive Implementation Plan

Priority*	Segment/ Project #	Project Description	Estimated Cost**	Comments	
Short-Term 0 to 5 Years	1A OR 1B	Triple Lefts at TH 169 South Ramp, Add Right Turn Lane on Riverfront to YMCA/School, Two-Stage Pedestrian Crossing (School to Cub Foods), Add Right Turn Lane on Stoltzman Double Lefts at TH 169 South Ramp, 3/4 at Poplar Street with Median, Add Right Turn Lane on Stoltzman	\$700,000 - \$1.0M	Could choose Either 1A OR 1B. Need to further investigate the feasibility of adding a 3rd lane under the TH 169 bridge with Option 1A. Requires coordination with MnDOT and Blue Earth County. MnDOT has a TH 169 bridge rehab project programmed for 2024.	
	Cub Foods New Public Street	Establish a public street connection from Riverfront Drive to Linder Ave through the Cub Foods parking lot drive lane	\$175,000	Requires close coordination with property owner.	
	2	Lane alignment modifications to the Riverfront Drive intersections with Warren Street and Cherry Street	\$40,000	Opportunity to study needs at the Warren/Poplar St intersection with Riverfront Drive further during the 2017-2018 Warren Street studies.	
	2	Installation of protected lefts on Warren Street/Popular Street and Southbound Riverfront Drive at Cherry Street	\$35,500	Opportunity to study needs at the Warren/Poplar St intersection with Riverfront Drive further during the 2017-2018 Warren Street studies.	
	2, 3	Test a 3-Lane on Riverfront Drive from Cherry Street to Vine Street Test 2nd Street enhancements (bump-outs, marked crosswalks, etc.) at same time as Riverfront Drive	\$55,000 - \$65,000	Estimated cost is to test a 3-lane. The lower cost represents using paint and the upper range is for using removable tape striping. Testing 2nd St enhancements would be an additional cost of \$900 per bump-out and \$900 per crosswalk.	
	3	Add wayfinding for public parking locations and public spaces.	\$6,000	\$500 per sign	
	5	Construct roundabout at TH 14 North Ramp	\$750,000	Requires coordination with MnDOT and Blue Earth County.	
			<i>Subtotal</i>	<i>\$2.0 - \$2.5M</i>	
	Mid-term 6 to 15 Years	2-1A OR 2-2	4-Lane narrow median to add sidewalk on east side of Riverfront Drive 3-lanes to add sidewalk on east side of Riverfront Drive.	\$1.2M OR \$450,000	3-lane in Segment 2 would need to be paired with 3-lane in Segment 3. Both options maintain full access at Civic Center Plaza/back parking lot to Hy-Vee. A major rehab/reconstruction of Riverfront Drive in this segment is anticipated in the 2021-2030 timeframe.
All Segment 3 Options		Remove free-right at Plum Street	\$60,000	A major rehab/reconstruction of Riverfront Drive in this segment is anticipated in the 2021-2030 timeframe.	
3-1 OR 3-2, 3-2B, 3-3, 3-4		4-Lane with Pedestrian Flasher (RRFB) at Rock St or Elm St (wherever traffic signal is not present) One of 3-Lane Options (if comfortable after 3-Lane test period)	\$300,000 - \$800,000	These costs include removing the free right at Plum. Consider an overhead RRFB system if a 4-lane is maintained on Riverfront Drive. A ground mounted RRFB system could be considered with a 3-lane. A major rehab/reconstruction of Riverfront Drive in this segment is anticipated in the 2021-2030 timeframe.	
		<i>Subtotal</i>	<i>\$750,000 - \$2.0M</i>		
Opportunity / Development / Safety Driven		All Segment 1 Options	Extend a public street the proposed Cub Food public street extension at Linder Ave to Sibley Parkway	\$300,000	Development driven with former City Public Works site
	All Segment 1 Options	Grade Separated Trail Crossing near Poplar Street	\$1- \$1.5M	Reevaluate need after short-term improvements to Segment 1 of Riverfront Drive are implemented.	
	1-2A	Roundabouts at TH 169 Ramp intersections with Riverfront Drive and Stoltzman Road.	\$5M	Will require right-of-way acquisition and coordination with adjacent property owners. A major rehab/reconstruction project on Riverfront Drive in this segment is anticipated in the 2031-2045 timeframe.	
	1-2B	Roundabout at TH 169 South Ramp and Stoltzman Road. Six-legged roundabout with 169 North Ramp and Poplar Street.	\$6.5M	Not supported by YMCA or School	
	1-3A	Diverging Diamond at TH 169; right-in/right-out at Poplar St/YMCA and School access	\$4.5M	Not supported by YMCA or School	
	1-3B	Add a loop ramp to the TH 169 interchange; raise Riverfront Drive to accommodate.	\$4.5M	Will require additional city street network enhancements. A major rehab/reconstruction project on Riverfront Drive in this segment is anticipated in the 2031-2045 timeframe.	
	2-1B	4-Lane Shift West	\$2.2M	Feasible only if Hy-Vee decides to expand on a new building footprint. Allows wide center median to remain.	
	4	Median on Riverfront Drive at Adams Street with trail extension to 3rd Avenue	TBD	Trail extension addresses need identified in Safe Routes to School Plan.	
	4	3rd Avenue/Madison - 3rd Avenue Realignment to 4th Leg of Madison Ave/Riverfront Dr intersection	TBD	Development driven in conjunction with Coughlan Mine redevelopment	
	4	3rd Avenue/Madison - 3rd Avenue T-intersection at extended Madison Ave	TBD	Development driven in conjunction with Coughlan Mine redevelopment	
	4	3rd Avenue/Madison - 3rd Avenue T-intersection to Adams Street extension	TBD	Development driven in conjunction with Coughlan Mine redevelopment. This option not supported by Blue Earth County.	
	4	3rd Avenue/Madison - Median at 3rd Avenue	TBD	Development driven in conjunction with Coughlan Mine redevelopment. This option not supported by Blue Earth County.	
	4	Madison Ave to Good Counsel Drive: Reevaluate - with of the street, number of lanes, access to Riverfront, and primary intersection locations	TBD	Consider when infrastructure improvements are needed, land use changes or as opportunities arise with individual business/property owners. A major rehab/reconstruction of Riverfront Drive in this segment is anticipated in the 2021-2030 timeframe.	
5	Construct roundabout at TH 14 South Ramp	\$750,000	Consider when operational and/or safety need is present or construct at same time as TH 14 North Ramp roundabout for consistency in driver expectations.		

*Timing of all projects dependent upon funding availability.

** All estimated costs are for individual improvements only. Costs do not account for any reconstruction needs of Riverfront Drive.

implement the recommended improvement projects. All partners have an active role in implementing these improvements. All competitive funding sources should be considered. Agencies should also update their comprehensive and transportation plans to include these findings to better leverage funding sources.