


COUNCIL COMMUNICATION

	Number:	20-166	Meeting:	April 20, 2020
	Agenda Item:	9	Roll Call:	20-610
	Submitted by:	Steven L. Naber, P.E., City Engineer Chris Johansen, Community Development Director		

AGENDA HEADING:

Approving of the draft proposal for Douglas Avenue (U.S. Highway 6) Lane Reduction Pilot Project and direct City staff to submit the proposal to the Iowa Department of Transportation (IDOT) for review and approval.

SYNOPSIS:

This Pilot Project is in response to the corridor plan prepared by the Douglas Avenue Coalition, which proposes Douglas Avenue from Merle Hay Road to Lower Beaver Road be converted to a 3-lane cross-section with the goals of improving vehicle and pedestrian safety by calming traffic and generating additional economic development along the corridor.

While City Engineering staff have concerns for some of the traffic queuing along the corridor and potential diversion of traffic on the side streets, the Pilot Project provides an opportunity to evaluate the results of the roadway reconfiguration without constructing permanent improvements; additionally, the existing intersection geometry at Merle Hay Road, Beaver Avenue, and Lower Beaver Road will remain the same through the Pilot Project and into the future, resulting in those major intersections operating like the existing conditions.

FISCAL IMPACT:

Amount:

- Preliminary (high-level budgetary) estimated costs include: Fiscal Years (FY) 2021 and 2022: \$600,000 (includes paint markings, signal modifications, crossing improvement)
- FY 2023 through 2024: \$50,000 per year (includes pavement markings)
- FY 2025 through 2026: \$10,000,000 (includes roadway improvements, new curbs and gutters, sidewalks, traffic signals)

Funding Source: To be determined, if approved by the IDOT this project will be reviewed by the City's Budget Review Committee during the development of the FY 2021-2022 Capital Improvement Program for City Council consideration.

ADDITIONAL INFORMATION:

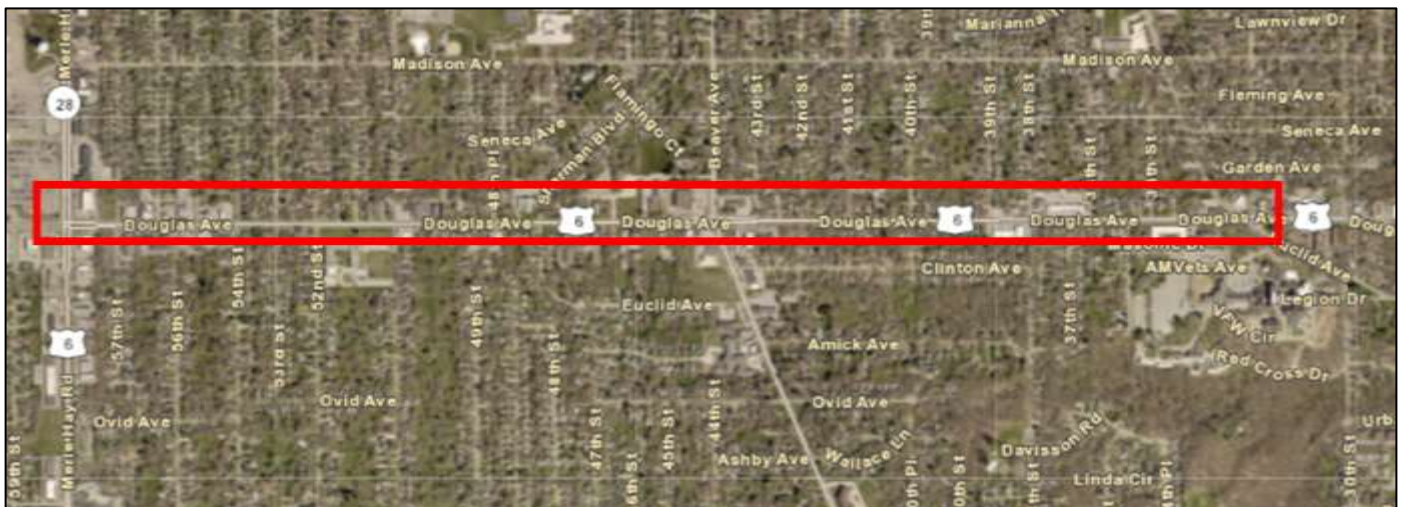
- Douglas Avenue between Merle Hay Road and Lower Beaver Road is currently a 4-lane cross-section (two {2} westbound lanes and two {2} eastbound lanes). Douglas Avenue includes left-turn lanes at the intersections of Merle Hay Road, Beaver Avenue, and Lower Beaver Road.
- The Douglas Avenue Coalition completed a corridor plan in February 2020. The goal of the corridor plan was to create a vision for the Douglas Avenue corridor from Merle Hay Road to Martin Luther King Jr. Parkway. The corridor plan proposes Douglas Avenue from Merle Hay Road to Lower Beaver Road be converted to a 3-lane cross-section with the goals of improving vehicle and pedestrian safety by calming traffic and generating additional economic development along the corridor.
- A traffic study, completed by a traffic engineering consultant as part of the corridor plan, identified the crash rate over the past five (5) years for the corridor from Merle Hay Road to Lower Beaver Road to be over three (3) times the statewide average for similar corridors.
- The traffic study indicated that overall level of service and delay at the signalized intersections would remain similar between the existing geometry and the 3-lane Pilot Project with existing traffic volumes. Because the existing intersection geometry at Merle Hay Road, Beaver Avenue, and Lower Beaver Road will remain the same through the pilot and into the future, these intersections are projected to operate like the existing conditions.
- The signalized intersections of 38th Street and 50th Street will be converted from a 4-lane cross-section (with no exclusive left turn lanes) to a 3-lane cross-section (with exclusive left-turn lanes). With existing traffic volumes, there is expected to be increased queuing at these intersections in the peak hours; however, the level-of-service at these intersections is expected to remain at an acceptable level. The below graphics show the average maximum queue lengths during the peak hour (blue = existing 4-lane, red = 3-lane).





- Based on 2040 projected traffic volumes, traffic operations are anticipated to degrade along the corridor regardless if the corridor remains four (4) lanes or if it is converted to three (3) lanes. With the anticipated future reduction in level of service along Douglas Avenue, traffic diversion to parallel routes, particularly Madison Avenue, may occur during peak times.
- In response to the completed corridor study and the request of the Douglas Avenue Coalition, City staff prepared a Proposal for a Pilot Project, which converts Douglas Avenue from Merle Hay Road to Lower Beaver Road to a 3-lane cross-section (one {1} westbound lane, one {1} eastbound lane, and a center continuous two-way left-turn lane). The existing geometry at the intersections of Merle Hay Road, Beaver Avenue, and Lower Beaver Road includes a 5-lane cross-section and will remain as currently configured. The Pilot Project improvements would be accomplished with pavement markings and signage as part of a planned resurfacing project by the (IDOT).
- During initial meetings with the IDOT staff about the Pilot Project, IDOT staff requested the City provide Pilot Project Evaluation Criteria to determine if the Pilot Project is a success (and permanent improvements should be future considered) or not (and Douglas Avenue should be restored to the existing cross-section).
- The proposed Pilot Project Evaluation Criteria include:
 1. Crashes on Douglas Avenue – comparison of crash rate during the 1-year period of the Pilot Project to the crash rate from the previous 5-year period. Considered effective if the crash rate and injuries are reduced.
 2. Traffic Volumes of Other Potential Diversion Streets – comparison of traffic volumes on roadways with a high potential for diverted traffic with the proposed configuration versus existing configuration. Considered effective if traffic volumes do not increase on the following streets by more than 15% during peak hours:
 - a. Madison Avenue between Merle Hay Road and Lower Beaver Road
 - b. Aurora Avenue between Merle Hay Road and Beaver Avenue
 - c. Beaver Avenue between Aurora Avenue and Douglas Avenue
 - d. Lower Beaver Road between Madison Avenue and Douglas Avenue

3. Speed on Douglas Avenue – comparison of existing vehicle speeds on Douglas Avenue with speeds collected one (1) year after the implementation of the Pilot Project. The posted speed limit is 35 miles per hour (mph). The measured 85th-percentile speed is 41-mph. Considered effective if the 85th percentile speed is reduced by 3-mph or more.
 4. Speed on Madison Avenue – comparison of existing vehicle speeds on Madison Avenue with speeds collected one (1) year after the implementation of the Pilot Project. Considered effective if speed is within 3-mph.
 5. Travel time on Douglas Avenue – comparison of travel time through the project area before and after the Pilot Project is implemented. Considered effective if travel times increase by no more than 15% during peak hours.
- Should the Pilot Project not be considered effective as defined above, the City will reevaluate the project and consider revisions to the project and/or re-striping Douglas Avenue to its cross-section prior to the Pilot Project.
 - Should all five (5) of the Pilot Project Evaluation Criteria be considered effective as defined above, the City will begin design of permanent improvements for the corridor. The design of the permanent improvements would be submitted to the IDOT for review and approval prior to anticipated construction in 2025 or 2026.
 - After the evaluation period, City staff will report back to the neighborhood associations, City’s Transportation Safety Committee, City Council, and IDOT with collected post-project data and comparison with criteria and determine next course of action.
 - The anticipated schedule for the Pilot Project includes:
 - Fall 2020/Winter 2020-2021 – assist IDOT with Preparation of Construction Bid documents for planned FY2022 rehabilitation project. The Pilot Project striping would be implemented in conjunction with the rehabilitation project.
 - Spring 2021 – collect “before” traffic data prior to November 2021. Rehabilitation and Pilot Project installation complete.
 - 2022-2023 – Pilot Project evaluation (minimum 1-year evaluation)



PREVIOUS COUNCIL ACTION(S): NONE

BOARD/COMMISSION ACTION(S):

Board: Plan & Zoning Commission

Date: February 6, 2020

Resolution Number: 21-2020-4.03

Action: Emily Webb made a motion to recommend that Plan DSM Creating Our Tomorrow be amended to incorporate the Douglas Avenue Corridor Plan as an element. Approved 11:0.

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

Actions related to construction of the Pilot Project including agreements with IDOT and potentially Polk County, ordering construction and hearing(s) for any public improvements completed by the City. Future funding commitments for the permanent implementation of the Pilot Project or changing the cross-section back to the existing configuration based on the results of the Pilot Project.

For more information on this and other agenda items, please call the City Clerk's Office at 515-283-4209 or visit the Clerk's Office on the first floor of City Hall, 400 Robert D Ray Drive. Council agendas are available to the public at the City Clerk's Office on Thursday afternoon preceding Monday's Council meeting. Citizens can also request to receive meeting notices and agendas by email by calling the Clerk's Office or sending their request via email to cityclerk@dmgov.org.