

ITEM#: 18  
DATE: 08-10-21

**COUNCIL ACTION FORM**

**SUBJECT: INTERSECTION OF 190TH STREET AND HYDE AVENUE**

**BACKGROUND:**

The intersection of 190<sup>th</sup> Street and Hyde Avenue consists of through traffic from east and west on 190<sup>th</sup>, with stop signs for north and south traffic on Hyde Avenue. While the intersection lies mostly within the City's corporate boundary, a portion of the northern half (westbound lane) of the intersection is under Story County jurisdiction. Story County officials previously expressed safety concerns with the current operation of the intersection and had requested an all-way stop be installed.

In response to these concerns, City staff planned an all-way stop condition and installed it on August 1, 2017. Within two hours of this installation, Story County staff requested that the intersection be returned to only the 2-way stops on Hyde Ave due to traffic on 190<sup>th</sup> Street failing to stop for the new signs.

The need for future improvements at this intersection has recently been identified in the Forward 2045 (Long Range Transportation) Plan short-term time frame, which is fiscal years 2025-2029 (the project did not appear in the 2040 Long Range plan). **A corridor study of 190th Street from GW Carver Ave. to Grand Ave. has been approved in the City's FY 2022/23 Traffic System Capacity Improvements to identify the improvements that need to be programmed in the future Capital Improvement Plan (CIP).**

The City Council has received more recent concerns from Story County officials regarding the operation and safety of the 190th St/Hyde Ave intersection, which resulted in the City Council making a staff referral on June 22, 2021 to see if the study and planned improvements can be accelerated. The funding for the FY 2021/22 Traffic System Capacity Improvements is focused on the Grand Avenue Corridor; staff is in the process of hiring the consulting team to perform this corridor study.

Realizing that Story County is concerned that the study and intersection improvements are not programmed in the immediate future, staff has developed two temporary intersection control options to address a traffic volume issue that occurs only during a short period of time during weekday mornings from approximately 7:00 a.m. to 8:00 a.m. By proceeding with one of these two options, staff believes that the corridor study can remain in FY 2022/23, as planned.

### **OPTION 1 - INSTALL A TEMPORARY TRAFFIC SIGNAL AT 190<sup>TH</sup> & HYDE:**

Staff received a quote from Iowa Signal for a temporary signal. The cost of labor, materials, and equipment to install and remove the traffic signal equipment for this option is \$38,200. Additionally, there is a rental fee of \$3,000/year while it is in operation. Therefore, the first-year cost totals \$41,200. The equipment vendor could install the temporary signal beginning shortly after September 15<sup>th</sup>.

Funding for this option could come from \$40,000 of projected savings from the S. Duff and S. 5<sup>th</sup> Street Traffic Signal project which is substantially complete. The remaining funding could come from the unobligated balance of the Accessibility Enhancement Program. The ongoing cost of \$3,000/year would then be budgeted in the City's Traffic Maintenance Operating Budget (Road Use Tax Funds).

### **OPTION 2 - INSTALL A TEMPORARY ENHANCED ALL-WAY STOP CONDITION AT 190<sup>TH</sup> AND HYDE:**

This option includes stop signs in all directions with an overhead red-flashing light beacon mounted using wood poles and span wire. The installation would also have advanced warning signs identifying the stop condition ahead and temporary rumble strips on 190<sup>th</sup> Street to be utilized through the fall to help traffic normalize to the new all-way stop condition. **The cost of these improvements is estimated to be \$10,000 - \$15,000 and the equipment is estimated to take 30-60 days for delivery and installation.** Funding for this option could come from \$40,000 of projected savings from the S. Duff and S. 5<sup>th</sup> Street Traffic Signal project which is substantially complete.

**It should be noted that if significant safety issues occur with this enhanced all-way stop, the intersection could be reconfigured with a temporary signal.**

Staff analyzed peak-hour turning movement counts and modeled the intersection with an all-way stop condition. Using Highway Capacity Manual methodology, the existing two-way stop condition in the AM Peak Hour has an unacceptable Level of Service (LOS). **Should an all-way stop installed, the intersection is expected to experience significant delay along 190<sup>th</sup> Street during the 7:00 a.m. to 8:00 a.m. weekday peak hour. However, the operational efficiency is not the main consideration in this case, it is for the safety of the intersection during this short-term congested period.**

The main concern with an all-way stop is the queueing of vehicles back to the railroad tracks. Traffic models typically assume "well-behaved" and orderly drivers. However, the reality is that distracted driving and any confusion of right-of-way at the all-way stop will exacerbate the delays and queues. In the AM Peak hour, the model expects the average queue for Eastbound traffic to be approximately 950 feet with a delay of 248 seconds (> four minutes). Other approaches may also experience these issues, and if intersection operation failure occurs, the City should consider converting the intersection to signalized control.

## **PROPOSED SPEED LIMIT CHANGES ALONG 190<sup>TH</sup> STREET:**

Public Works staff consulted with the Legal Department regarding the sections of 190<sup>th</sup> Street under City jurisdiction. Specifically, the southern half of 190<sup>th</sup> Street (eastbound lane only) from the City's corporate limits starting at a point 1,320' west of Hyde Avenue, extending east for 4,869 feet. Under Iowa Code this section of 190<sup>th</sup> Street can be designated at 45 MPH. Because of this a Council resolution, not a City ordinance, is required to post the Speed Limit at 45 MPH.

City staff worked with the Story County Engineering staff to coordinate the speed limit changes with sections of 190<sup>th</sup> Street under Story County's jurisdiction. Story County developed the attached ordinance. Also attached is an overview map of all the proposed speed limit changes.

## **ALTERNATIVES:**

1. Direct staff to:
  - a. Install a temporary traffic signal at the intersection of 190<sup>th</sup> Street and Hyde Avenue.
  - b. Request that Story County cover the cost for one-half of the project.
  - c. Reduce the speed limit along the City's portion of 190<sup>th</sup> Street to 45 MPH in coordination with Story County staff.
2. Direct staff to:
  - a. Install a temporary enhanced all-way stop condition at the intersection of 190<sup>th</sup> Street and Hyde Avenue.
  - b. Request that Story County cover the cost for one-half of the project.
  - c. Reduce the speed limit along the City's portion of 190<sup>th</sup> Street to 45 MPH in coordination with Story County staff.
3. Direct staff to install either a temporary traffic signal or all-way stop at the intersection of 190<sup>th</sup> and Hyde Avenue, but do not seek funding from Story County.
4. Direct staff to maintain the existing configuration of the intersection.

This alternative remains viable since staff believes that based upon recent crash history, the intersection could remain as a two-way stop controlled condition.

**CITY MANAGER’S RECOMMENDED ACTION:**

Story County officials have continued to express concerns about the safety of this intersection if it remains a two-way stop on Hyde Ave with uncontrolled through traffic along 190<sup>th</sup> St., and have asked that the City accelerate our plans to install improvements at this intersection. The least expensive alternative to deal with this short-term traffic issue on weekdays would be to install an all-way stop at the intersection. However, this approach would create significant operational concerns. Therefore, installing a temporary traffic signal would help address their safety concerns and provide for more efficient traffic operations.

Given the concerns raised by Story County officials, their desire to accelerate improvements to this intersection, and the fact that the County has partial jurisdictional control of the intersection, it would seem appropriate that Story County cover the costs for one-half of the recommended temporary solution to this traffic issue.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 a-c, as noted above.

**The Installation of a temporary traffic signal at the intersection of 190<sup>th</sup> and Hyde Avenue should alleviate the immediate safety concerns at this intersection and allow the City and County to continue working on the permanent improvements as currently programmed in the CIP.**

# Proposed Speed Limit Changes: 190th Street

1 inch = 700 feet



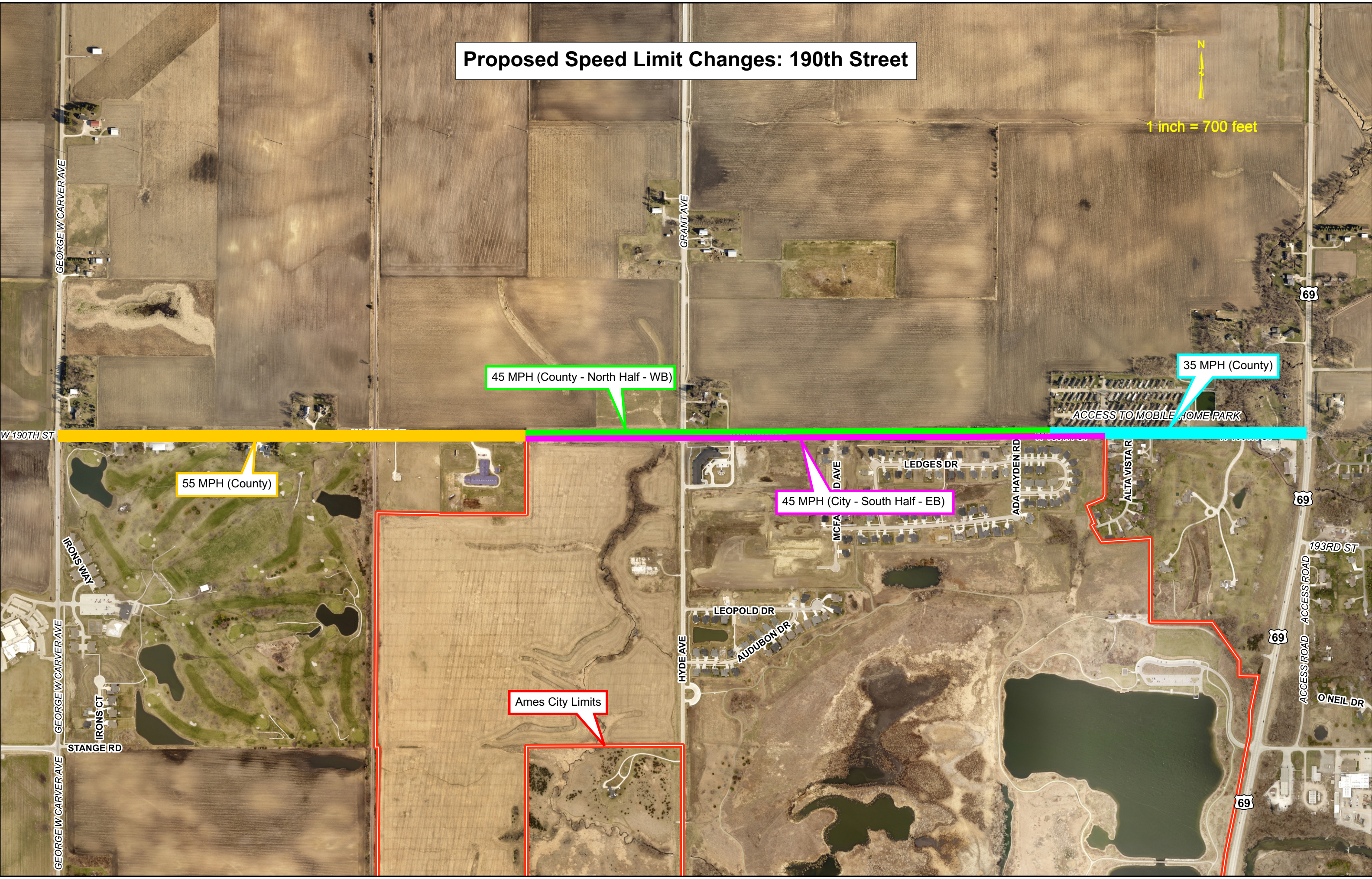
45 MPH (County - North Half - WB)

35 MPH (County)

55 MPH (County)

45 MPH (City - South Half - EB)

Ames City Limits



Prepared by and return to: The Story County Engineer's Office, 837 N Ave, Nevada, Iowa 50201 Phone 515-382-7355

**RESOLUTION #21-xx**

**WHEREAS:** The Board of Supervisors is empowered under authority of Sections 321.255 and 321.285 Subsection 4 of the 2019 Code of Iowa to determine, upon the basis of an engineering and traffic investigation, that the speed limit on any secondary road is greater than is reasonable and proper under the conditions existing, and may determine and declare a reasonable and proper speed limit, and

**WHEREAS:** Such investigation has been completed in accordance with Manual on Uniform Traffic Control Devices, Section 2B-13, by the Story County Engineer.

**NOW THEREFORE, BE IT RESOLVED** by the Story County Board of Supervisors that a speed limit be established and appropriate signs be erected at the location described as follows:

- 1) On Secondary Road W 190<sup>th</sup> St., beginning 1320 feet west of Grant Ave. in Section 9-84-24 and then running east to a point 2156 feet west of the northeast corner of Section 22-84-24 where the current 35 mile per hour speed limit begins, shall be established at 45 miles per hour for the west bound lane. (Story County currently has jurisdiction of the north half of W 190<sup>th</sup> Street. The City of Ames will be taking action to establish the same 45 mile per hour speed limit on the south half of W 190<sup>th</sup> Street)

This resolution supersedes and voids all previous resolutions establishing speed limit on the road section above described. Speed Limit to be effective upon erection of signs.

Adopted this 10th day of August, 2021

Moved by: \_\_\_\_\_

Seconded by: \_\_\_\_\_

Voting aye: \_\_\_\_\_

Voting nay: \_\_\_\_\_

Absent: \_\_\_\_\_

Not voting: \_\_\_\_\_

Recommended Approval by:

\_\_\_\_\_  
 Darren R. Moon, P.E.                      Date  
 County Engineer

\_\_\_\_\_  
 Lisa Heddens, Chairperson  
 Board of Supervisors

ATTEST: \_\_\_\_\_  
 Lucy Martin  
 County Auditor