

SCOTT COUNTY ENGINEER'S OFFICE

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MEMO

TO: Mahesh Sharma
County Administrator

FROM: Angie Kersten, P.E.
County Engineer

SUBJ: Stop Sign Installation on Valley Dr at Spencer Rd – 1st Reading

DATE: October 18, 2021

Our department received a request for the installation of a multi-way stop at the intersection of Valley Drive and Spencer Road. Valley Drive is an Urban Collector that runs east-west through the intersection. Spencer Road is a short cut-off road to Hwy 67 at the south leg and leads to a residential neighborhood at the north leg. The intersection is two-way stop controlled with stop signs on Spencer Road. There have been nine crashes at this intersection over the past ten years. Seven of those crashes were reported as left-turn conflict or failure to yield the right-of-way from the stop controlled approaches at the intersection.

Over the past few months, our office conducted an engineering study for safety improvements at this intersection. The analysis included calculating the crash rate, evaluating the warrants listed in the Manual on Uniform Traffic Control Devices (MUTCD) for a multi-way stop and traffic signal, and performing a benefit-to-cost analysis.

The results of the engineering study indicate that the intersection meets a warrant for a multi-way stop due to obstruction of sight distance. Parallel parking and diagonal parking are allowed on both sides of Valley Drive along the west leg. Cars parallel parked near the intersection on the north side of the west leg, impede sight distance for traffic turning left onto Valley Drive from the north leg of Spencer Road or traveling through. During the evaluation, a delivery truck parked in a parallel position along the south side of the west leg and impeded sight distance for traffic turning left onto Valley Drive from the south leg of Spencer Road or traveling through. There are businesses located at both the south and north sides of the west leg and at the southeast leg. Restricting parking could have a detrimental impact on those businesses.

One tool that can be used to determine whether or not an improvement is economically feasible is a benefit-to-cost (B/C) analysis. A B/C analysis was performed to convert the intersection into a multi-way stop. The B/C analysis resulted in a 1.56:1 ratio. Most studies indicate that an improvement with a B/C ratio of 1:1 or greater is considered beneficial and less than 1:1 is not. Iowa DOT Instructional Memorandum 3.250, Economic Analysis

(Benefit-to-Cost Ratio), states that for a B/C Ratio greater than 1.2:1 the improvement is probably cost effective and should be accomplished as part of a proposed project or for work programmed in the near future.

A less restrictive measure would require eliminating parking along the west leg of the intersection and possibly in a portion of the Post Office parking lot at the southeast corner. I do not recommend eliminating the on-street parking that businesses are presently utilizing. This is a unique location along Valley Drive that allows parking within the right-of-way. This section of Valley Drive is urban in nature and has a speed limit of 35 mph. Traffic is more accustomed to stopping periodically on through streets in urban areas especially in areas with adjacent businesses. The nearest stop on Valley Drive to the east is at Woodland Drive, approximately 2.6 miles away. The nearest stop on Valley Drive to the west is at Hwy 67 (State Street), approximately 2.7 miles away.

I recommend installing a multi-way stop at this intersection for safety purposes. The intersection meets the stop control warrant for locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless cross traffic is also required to stop. This will be the first of three readings of the ordinance to place stop signs on Valley Drive at the intersection with Spencer Road. Included with this memo is a location map.



Proposed Stop Sign

Proposed Stop Sign

SPENCER RD

24TH AVE

Business

VALLEY DR

Post Office

Business

Business

SPENCER RD

67

GREAT RIVER RD

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SCOTT COUNTY ORDINANCE NO 21-_____

AN ORDINANCE TO AMEND CHAPTER 13, SEC. 13-47A-11L OF THE SCOTT COUNTY CODE RELATIVE TO PLACEMENT OF STOP SIGNS ON SCOTT COUNTY SECONDARY ROADS.

BE IT ENACTED BY THE BOARD OF SUPERVISORS OF SCOTT COUNTY, IOWA:

SECTION 1.

Under Sec. 13-47A-11L - to read: From the East and West entrances at the intersection of Valley Drive and Spencer Road.

SECTION 2.

The County Auditor is directed to keep and maintain a copy of the Ordinance in the County Auditor's office.

SECTION 3. SEVERABILITY CLAUSE

If any of the provisions of the Ordinance are for any reason illegal or void, then the lawful provisions of this Ordinance shall be and remain in full force and effect, the same as if the Ordinance contained no illegal or void provisions.

SECTION 4. REPEALER

All Ordinances or parts of Ordinances in conflict with the provisions of this Ordinance are hereby repealed.

SECTION 5. EFFECTIVE DATE

This Ordinance shall be in full force and effect after its final passage and publication as by law provided.

APPROVED this 23rd day of November, 2021.

Ken Beck, Chairperson
Scott County Board of Supervisors

ATTESTED BY:

Kerri Tompkins
Scott County Auditor