

Memorandum

South 2nd Street Tune Lane Warrants

ISG

To: City of Mankato

From: Corona Woychik, PE, PTOE

Date: May 19, 2025

Subject: South 2nd Street Trip Generation and Turn Lane Warrants

The following is a Trip Generation Memorandum for the proposed Mankato Post Office Hotel to be located along 2nd Street in Mankato, Minnesota. This memorandum has been prepared to assess the trip generation potential for the hotel, restaurant, and office spaces located at 401 S 2nd Street, Suite 130, in Mankato. Additionally, turn lane warrants are reviewed.

TRIP GENERATION

The proposed development is assumed to consist of a 126 room Hotel, 8,000 sf of Restaurant and 26,000 sf of office space for the hotel. Vehicular access to the proposed development along S 2nd Street will be provided via S. Broad Street. Refer to the attachments for a copy of the preliminary site plan. Average daily, AM peak hour, and PM peak hour trips for the proposed development land use options were estimated using the ITE Trip Generation Manual, 11th Edition. **Table 1** provides a summary of the trip generation potential for the proposed wrestling facility.

TABLE 1 TRIP GENERATION

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Hotel (310)	126 Rooms	942	17	39	45	20
Fine Dining Restaurant (931)	8,000 sf	671	5	1	35	28
General Office Building (710)	26,000 sf	426	27	11	12	28

Using the ITE Trip Generation Manual, 11th Edition, for a Hotel in a Dense Multi-Use Urban area (moderate size urban area downtowns), the site is anticipated to generate up to 168 trips during the PM peak hour of the adjacent street traffic. All proposed trips are anticipated to be new trips. The site initially served as a post office which, based on the ITE Trip Generation Manual, 11th Edition, was anticipated to generate 327 vehicles during the PM peak hour.

TRIP DISTRIBUTION

The trip distribution used in assigning the site traffic for the proposed development was estimated based on a combination of existing traffic patterns, population centers in the vicinity of the study area, and engineering judgement.

Memorandum

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It was assumed that the site trips will be regionally distributed along S 2nd Street as follows:

- 50% to/from the north via S 2nd Street
- 50% to/from the south via S 2nd Street

The site traffic along S 2nd Street is expected to utilize E Cherry Street, E Jackson Street, and S Broad Street to access the proposed development. The trip distribution was applied to the anticipated trip generation to assign trips to the network. Refer to the attachments for an illustration of the site's trip assignment.

TURN LANE WARRANT ANALYSIS

Per NCHRP 457 Figure 2-6 (determining the need for a major-road right-turn lane at a two-way stop-controlled intersection), a right-turn lane is not warranted, using the anticipated generated trips and assuming the following:

- speed limit of 30 MPH
- daily existing traffic volume of 5,200 vehicles per day (draft 2023 AADT is 5,191 per MnDOT Traffic Mapping Application),
- 55% of traffic is traveling NE during AM or PM peak hour of traffic
- 10% of daily traffic occurs during the peak hours

Refer to the attachments for a visual of anticipated traffic numbers plotted on Figure 2-6.

Additionally, MnDOT's turn lane policy at urban intersections is that turn lanes should be considered whenever construction is economically feasible, taking into account amount of right-of-way needed, type of terrain, and environmentally or culturally sensitive areas. Constrained right-of-way limits space for turn lanes and right-of-way acquisition would be required to construct a right-turn lane, assuming the existing sidewalk widths and neutral offset left-turn lanes are maintained. MnDOT also provides turn lane warrants for undivided roadways, several of which are not applicable to low-speed roadways (less than 45 MPH). Of those that are applicable to S 2nd Street, adverse road grades, limited sight distance, and nearby railroad crossings are not present to warrant a right-turn lane.

Therefore, turn lanes are not warranted for the development due to the low (30 MPH) travel speeds and low proposed volumes (46 vehicles, one-way, during peak hour) on S 2nd Street.

CONCLUSION

The proposed Mankato Post Office Hotel development was reviewed to determine the trip generation potential and the potential traffic impacts from the proposed development. Based on the low trip generation potential and alternative routes provided to access the site, it is expected that the development will have minimal impacts to the surrounding roadway network. Although minimal impacts from the proposed development are anticipated, a more in-depth traffic study would be necessary to determine if the proposed development would introduce any need for intersection geometry or traffic control improvements.

Attachments: Preliminary Site Plan
Site Trip Assignment Figure
Right-Turn Lane Warrant Figure

Memorandum

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The logo for ISG, consisting of the letters "ISG" in a white, sans-serif font, centered within a dark gray square.

I HEREBY CERTIFY THAT THESE CALCULATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

A handwritten signature in black ink, appearing to read "C. Woychik", written over a horizontal line.

Corona Woychik, **PE, PTOE**

Project Engineer

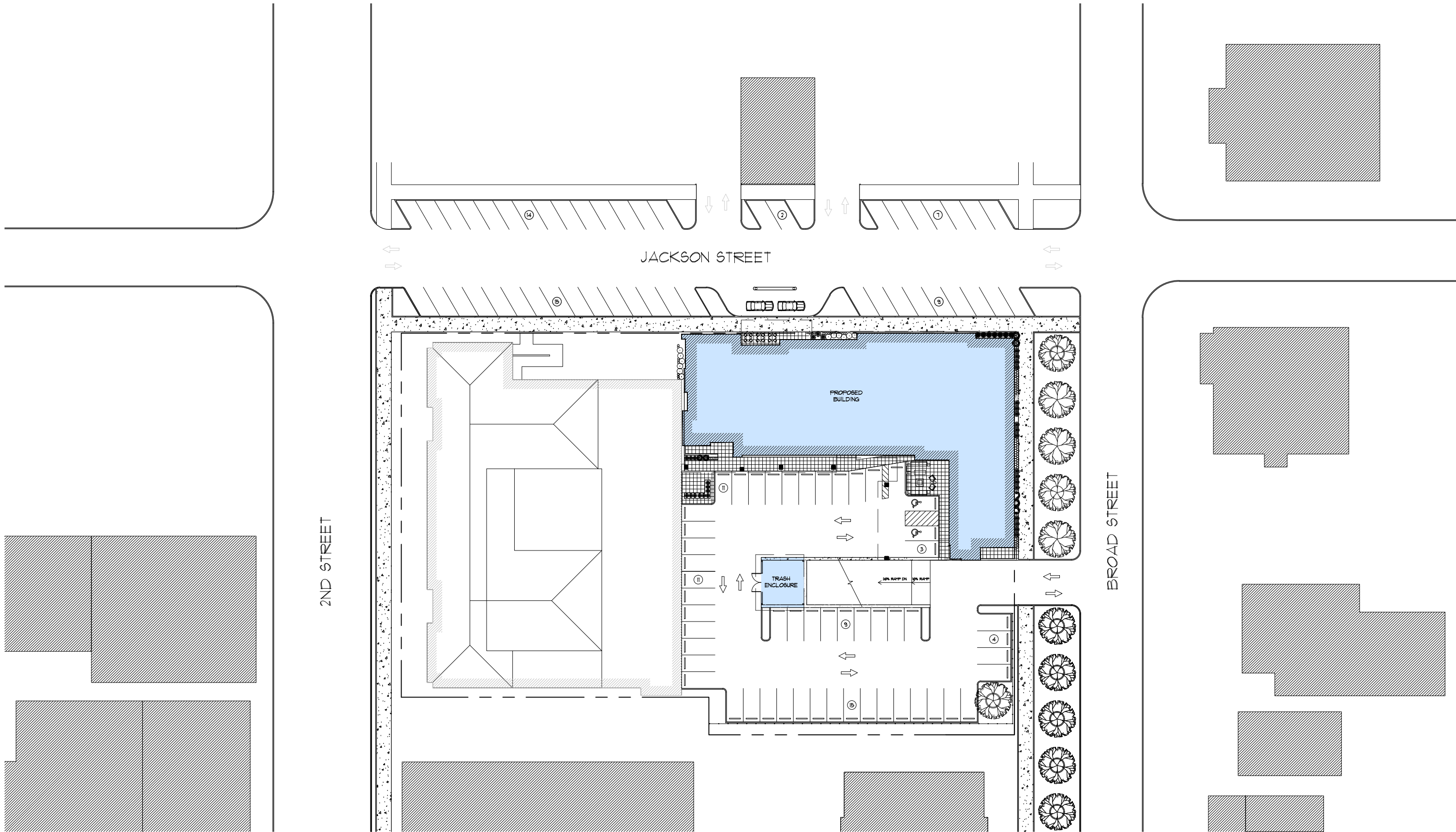
License No. 59049

South 2nd Street Trip Generation and Turn Lane Warrants Memo

Mankato, Minnesota

Engineer's Project Number: 25-32514

Dated this 19th day of May, 2025



PROPOSED SITE PLAN

1" = 50'-0"



MANKATO POST OFFICE HOTEL

MANKATO, Minnesota



TRIP ASSIGNMENT

ISG

Architecture + Engineering + Environmental + Planning
ISGInc.com

Mankato Post Office Hotel
MANKATO, MINNESOTA - 05/19/2025
ISG PROJECT NO. 25-32514

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	30
Major-road volume (one direction), veh/h:	286
Right-turn volume, veh/h:	46

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	8141
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

