

To: Jonathan Donovan, PE
Loucks, Inc.

From: Matt Pacyna, PE, Principal
Transportation Collaborative & Consultants, LLC

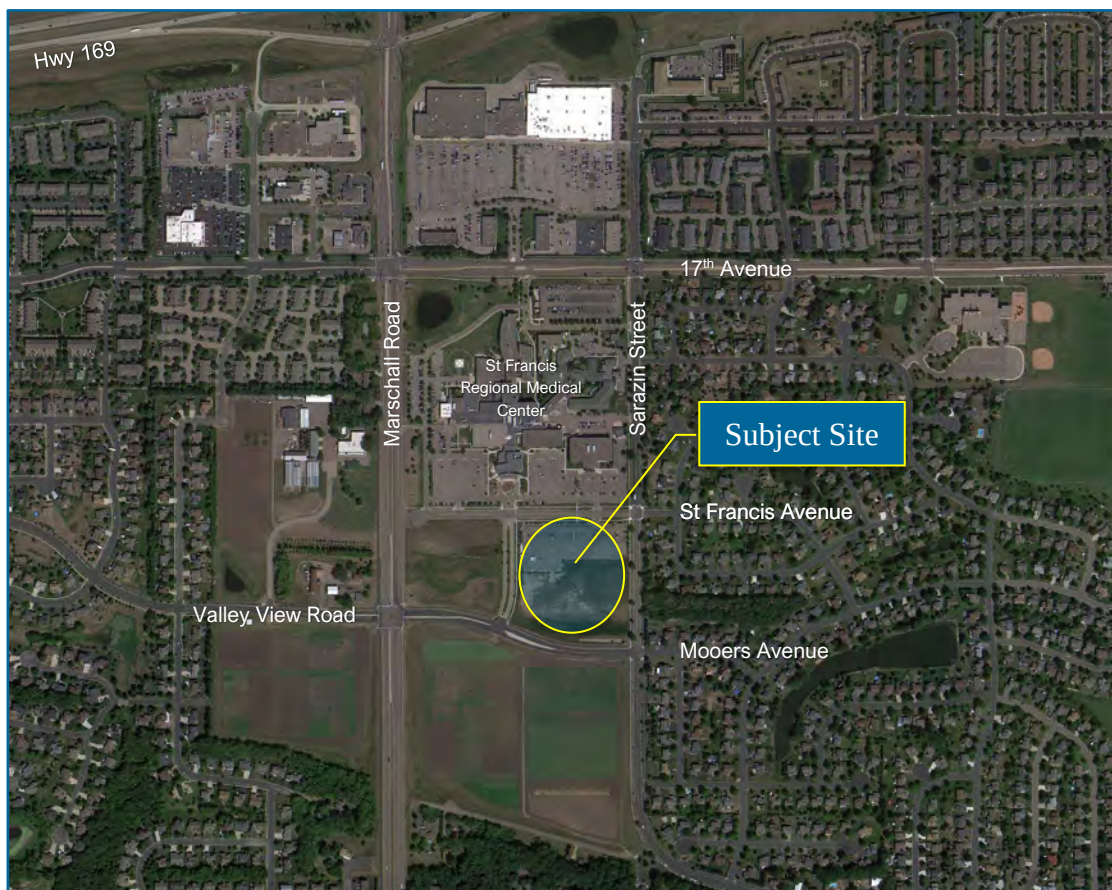
Date: March 1, 2023

Subject: St. Francis Ambulatory Surgery Center (ASC) Traffic Study

INTRODUCTION

TC2 has completed a traffic study for the proposed St. Francis Ambulatory Surgery Center (ASC) in the City of Shakopee. The subject site, shown in [Figure 1](#), is associated with the St. Francis Regional Medical Center and generally bounded by Valley View Road to the south, Sarazin Street to the east, and St Francis Avenue to the north. The main objectives of the study are to quantify the expected trip generation for the ASC facility, identify traffic volume impacts to adjacent roadways, and recommend potential infrastructure improvements to support the proposed development, if necessary. The following information provides a summary of the study approach and findings offered for consideration.

Figure 1 Subject Site

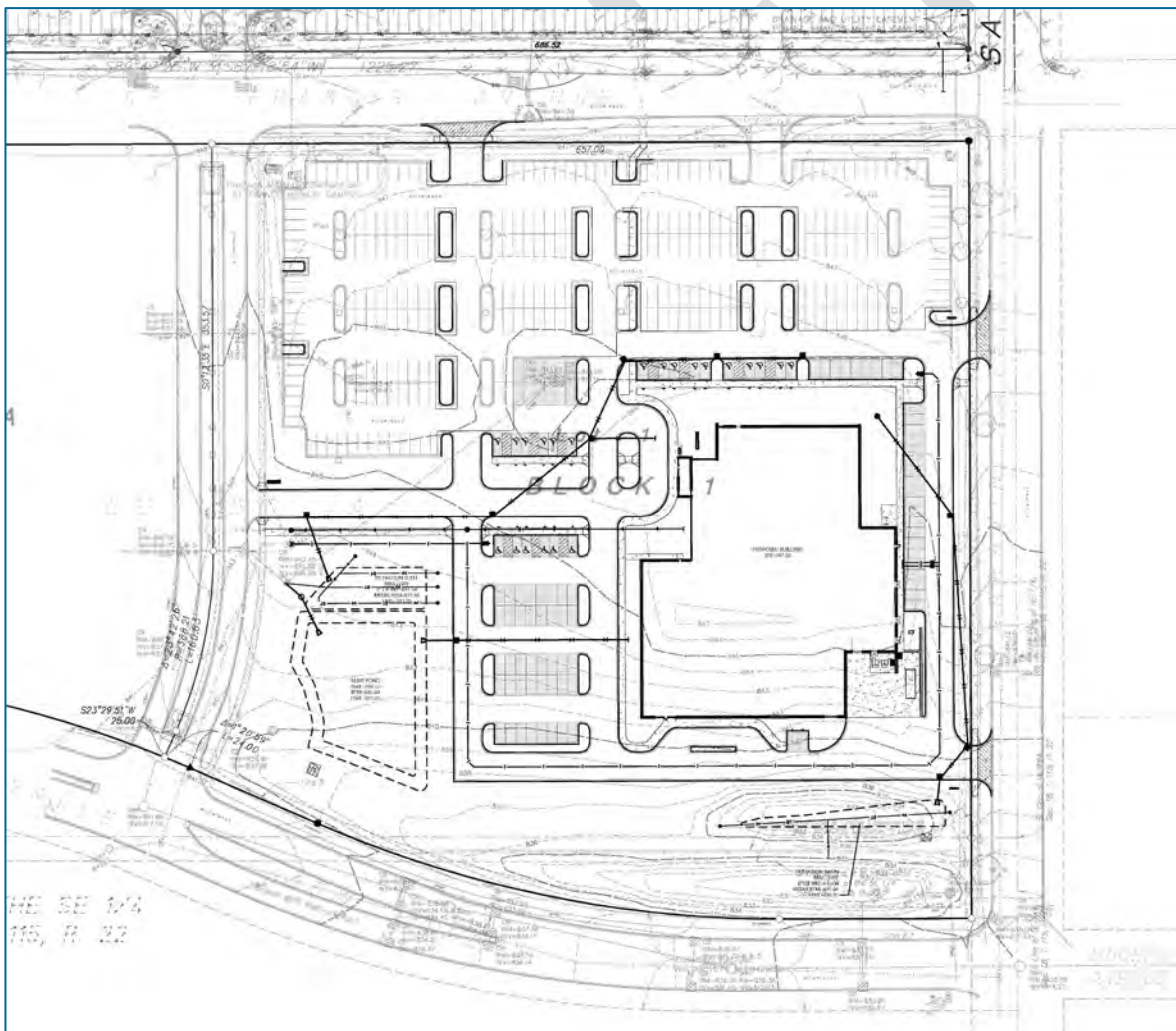


PROPOSED DEVELOPMENT

The proposed development is associated with the existing St. Francis Regional Medical Center and located in the northwest quadrant of the Valley View Road and Sarazin Street intersection. The project is a new 43,600 square foot ambulatory surgery center/clinic, which primarily includes outpatient surgery, rehabilitation, and physical therapy services. The site currently has an employee parking lot with approximately 380 parking spaces served by one (1) access along St Francis Avenue. No buildings are currently on the project site.

The proposed development site plan is shown in [Figure 2](#). A total of five (5) driveways are proposed, one (1) of which is the existing access along St Francis Avenue. One (1) driveway is proposed along the West Campus Access, while two (2) driveways are proposed along both St Francis Avenue and Sarazin Street. There are multiple loading areas for patient operations, as well as a truck area located in the southeast portion of the proposed building. Sidewalks are proposed within the site and connect with existing facilities surrounding the site.

Figure 2 Proposed Site Plan



TRIP GENERATION

A trip generation estimate for the proposed development was established using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition*. A summary of the trip generation is provided in [Table 1](#). The proposed development is estimated to generate 120 a.m. peak hour, 161 p.m. peak hour, and 1,640 daily vehicular trips. Note that this level of trip generation is similar to other related land use categories (i.e., 720 - *Medical-Dental Office Building*), but slightly higher. Therefore, the “Clinic” land use category was used to provide a more conservative assessment of traffic changes to area roadways.

Table 1 Trip Generation Summary

Land Use (ITE Code)	Size	A.M. Peak Hour		P.M. Peak Hour		Daily
		In	Out	In	Out	
Ambulator Surgery Center (Clinic - 630)	43,600 SF	97	23	48	113	1,640

TRAFFIC ROUTING

To illustrate the traffic volume impact to area roadways associated with the proposed development, the trips generated were routed to the adjacent roadway network as illustrated in [Figure 3](#). The routing is based on the directional distribution shown, which was developed using a combination of existing average daily traffic (ADT) volumes, observed travel patterns, and engineering judgement.

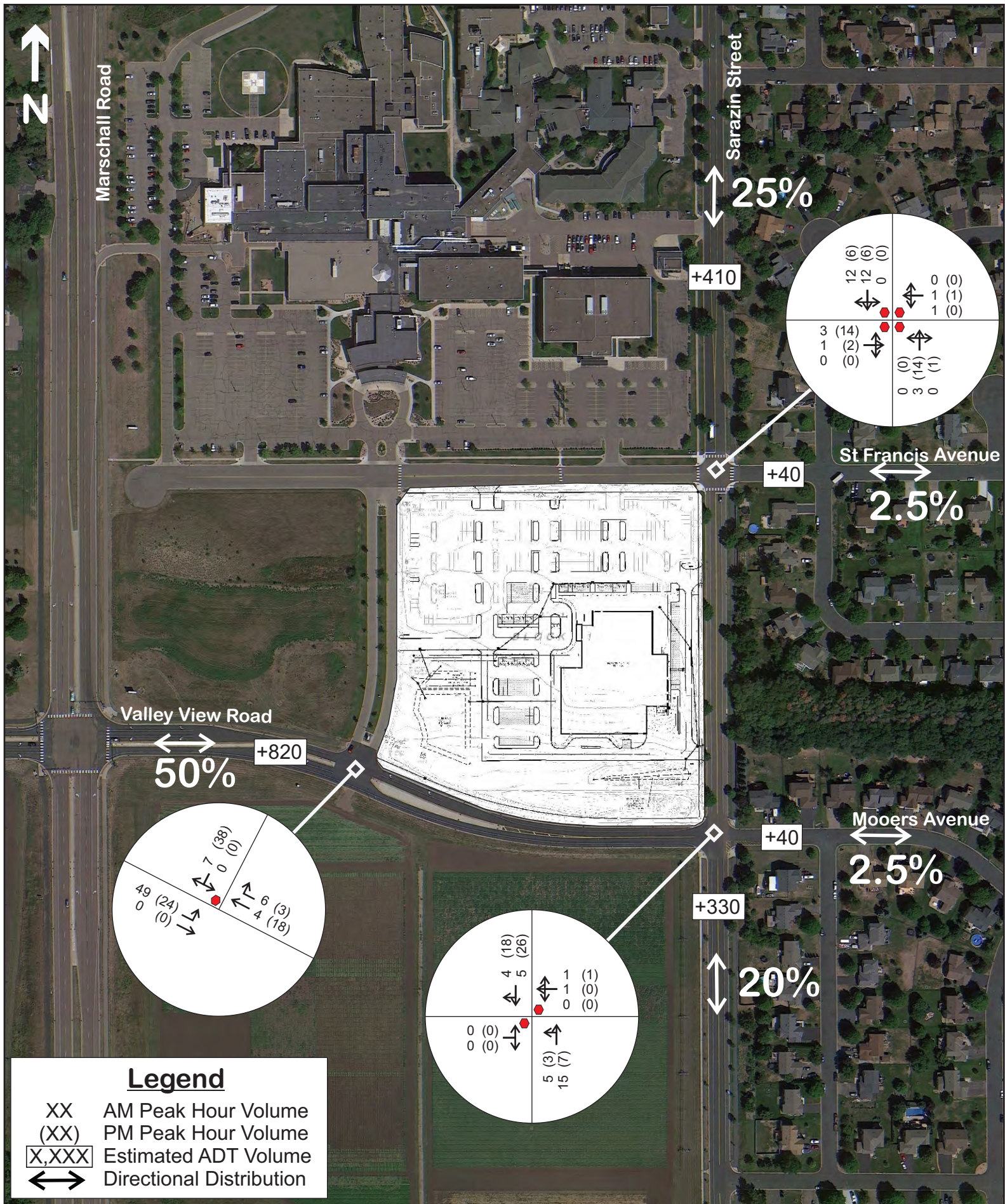
TRAFFIC OPERATIONS

To illustrate the expected traffic volume changes on adjacent roadways and potential impacts to operations, a summary of existing and future ADT volumes on area roadways is provided in [Table 2](#). This information includes a review of planning-level roadway capacity thresholds from the Highway Capacity Manual. For purposes of this assessment, existing area roadways were assumed to have a 2-lane roadway capacity of 8,000 vehicles per day. When comparing the future volume relative to the planning-level roadway capacity (i.e., the volume-to-capacity ratio), each roadway is expected to continue to have a significant amount of excess capacity. Thus, the change in intersection and/or roadway operations because of the proposed development is expected to be minimal and no infrastructure improvements are needed from a capacity perspective. Note that a V/C ratio of 1.0 represents a roadway at capacity, while a ratio between 0.85 and 1.0 represents a roadway approaching capacity.

Table 2 Adjacent Roadway ADT Volume Summary

Roadway / Location	Existing	Change	Future Volume	Roadway Capacity	Future V/C Ratio
Sarazin Street (north of St Francis Avenue)	2,700	+410	3,110	8,000	0.39
Sarazin Street (south of Valley View Road)	3,150	+330	3,480	8,000	0.44
Valley View Road (east of Marschall Road)	4,700	+820	5,520	8,000	0.69
St Francis Avenue (east of Sarazin Street)	950	+40	990	8,000	0.13
Mooers Avenue (east of Sarazin Street)	300	+40	340	4,000*	0.09

* Represents 50% of a 2-lane roadway capacity given the one-way configuration.



CONSIDERATIONS

A cursory review of the proposed site plan was completed. The following items, also illustrated in Figure 4, are offered for consideration and/or further discussion with the project team.

- 1) Relocate the western driveway to approximately midway between Valley View Road and St Francis Avenue; consider modification of the median to allow full access to improve circulation
- 2) Remove the western driveway along St Francis Avenue to reduce potential conflicts and increase parking opportunities; removal of the corresponding driveway aisle would increase on-site parking without significant impacts to site circulation
- 3) Relocate the eastern access along St Francis Avenue to improve internal circulation and increase on-site parking
- 4) Consider additional parking opportunities as available
- 5) Locate signage and landscaping to avoid creating any sight distance issues; provide appropriate wayfinding signage and internal traffic controls to improve circulation within the site
- 6) Review loading areas and garbage procedures to ensure maneuverability to minimize or eliminate any conflicts with adjacent roadways and internal driveways

CONCLUSIONS

The proposed development is estimated to generate 120 a.m. peak hour, 161 p.m. peak hour, and 1,640 daily vehicular trips. Given the existing traffic volumes and excess roadway capacity, the change in intersection and/or roadway operations because of the proposed development is expected to be minimal and no infrastructure improvements are needed from a capacity perspective. However, several site plan considerations are offered to reduce conflicts and improve safety for motorists, which should be discussed further with project staff and incorporated as appropriate.

2) Remove access to reduce potential conflicts along St Francis Avenue and increase parking opportunities

3) Relocate the eastern access along St Francis Avenue to improve internal circulation and increase on-site parking

