Memorandum

SRF No. 12630.00

To: Jennifer Monson, AICP
City of St. Louis Park

From: Tom Sachi, PE, Associate
Zach Toberna, EIT

Date: September 6, 2019

Subject: Parkway Residences Development Traffic and Parking Study

Introduction

SRF has completed a traffic and parking study for the proposed residential development located in the southeast quadrant of the CSAH 25 and Inglewood Avenue intersection in St. Louis Park, MN (see Figure 1: Project Location). The main objectives of this study are to review existing operations within the study area, evaluate traffic and parking impacts to the adjacent roadway network, and recommend any necessary improvements to accommodate the proposed development. The following sections provide the assumptions, analysis, and study conclusions offered for consideration.

Existing Conditions

The existing conditions were reviewed to establish a baseline to identify any future impacts associated with the proposed development. The evaluation of existing conditions includes various data collection efforts and an intersection capacity analysis, which are outlined in the following sections.

Data Collection

Vehicle turning movement and pedestrian/bicyclist counts were collected by SRF during the a.m. and p.m. peak periods the week of April 4, 2019 at the following intersections:

- CSAH 25 and France Avenue
- CSAH 25 Frontage Road and France Avenue
- CSAH 25 Frontage Road and Glenhurst Avenue
- CSAH 25/CSAH 25 Frontage Road and Inglewood Avenue
- Glenhurst Avenue and West 31st Street
- Inglewood Avenue and West 31st Street

Observations were completed to identify are roadway characteristics (i.e. roadway geometry, speed limits, and traffic controls). Currently, CSAH 25 and Minnetonka Boulevard are four-lane divided roadways with a 35-mile per hour (mph) posted speed limit in the study area, while other area roadways are two-lane undivided facilities with 30-mph speed limits. Both CSAH 25 and Minnetonka Boulevard are functionally classified as minor arterials; France Avenue (north of CSAH 25) is functionally classified as a collector. Other study roadways are functionally classified as local streets. Existing geometrics, traffic controls, and volumes within the study area are shown in Figure 2.

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Project Location

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St Louis Park, MN

Figure 1

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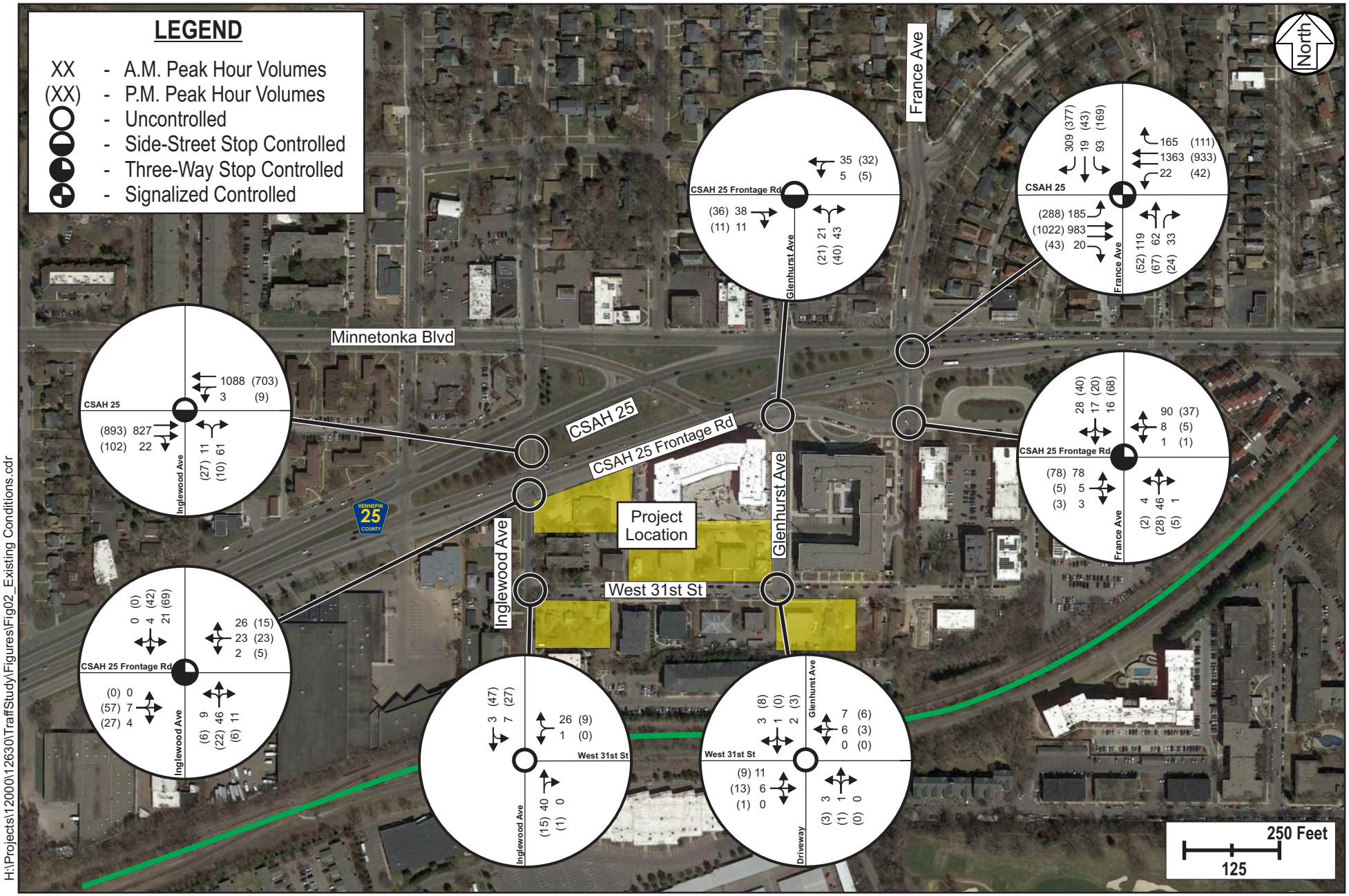

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Existing Conditions

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Figure 2

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Table 1 summarizes the existing traffic control at the study intersections.

Table 1. Existing Traffic Control

Intersection	Traffic Control
CSAH 25 and France Avenue	Traffic Signal
CSAH 25 Frontage Road and France Avenue	3-Way Stop Control (Southbound France Avenue is Uncontrolled)
CSAH 25 Frontage Road and Glenhurst Avenue	Side-Street Stop Control
CSAH 25 Frontage Road and Inglewood Avenue	3-Way Stop Control (Southbound Inglewood Avenue is Uncontrolled)
CSAH 25 and Inglewood Avenue	Side-Street Stop Control
Glenhurst Avenue and West 31st Street	Uncontrolled*
Inglewood Avenue and West 31st Street	Uncontrolled*

* Uncontrolled intersections were assumed to operate as all-way yield controlled.

Intersection Capacity Analysis

An existing intersection capacity analysis was completed using Synchro/SimTraffic software (V9.2) to establish a baseline condition to which future traffic operations could be compared. Capacity analysis results identify a Level of Service (LOS) which indicates how well an intersection is operating. Intersections are graded from LOS A through LOS F. The LOS results are based on average delay per vehicle, which correspond to the delay threshold values shown in Table 2. LOS A indicates the best traffic operation, while LOS F indicates an intersection where demand exceeds capacity. Overall intersection LOS A though LOS D is generally considered acceptable in the Twin Cities area.

Table 2. Level of Service Criteria for Signalized and Unsignalized Intersections

LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average Delay/Vehicle (seconds)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80	> 50

For side-street stop/yield-controlled intersections, special emphasis is given to providing an estimate for the level of service of the side-street approach. Traffic operations at an unsignalized intersection with side-street stop/yield control can be described in two ways. First, consideration is given to the overall intersection level of service. This takes into account the total number of vehicles entering the intersection and the capability of the intersection to support these volumes. Second, it is important to consider the delay on the minor approach. Since the mainline does not have to stop, the majority of delay is attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high-levels of delay (i.e. poor levels of service) on the side-street approaches, but an acceptable overall intersection level of service during peak hour conditions.

Results of the existing intersection capacity analysis shown in Table 3 indicate that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours. However, several queuing issues were observed at the CSAH 25/France Avenue signalized intersection. Eastbound queues along CSAH 25 were observed to extend through the adjacent signalized intersection at Minnetonka Boulevard approximately 15 to 20 percent of the p.m. peak hour. Queues on the northbound approach of the CSAH 25/France Avenue intersection regularly extended to the CSAH 25 Frontage Road during both peak hours. These northbound queues are a result of limited vehicular storage due to the closely spaced CSAH 25 Frontage Road rather than an intersection capacity issue. No other significant delay or queuing issues were observed in the field or traffic simulation at the study intersections.

Table 3. Existing Intersection Capacity Analysis

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay
CSAH 25 and France Avenue	C	26 sec.	C	31 sec.
CSAH 25 Frontage Road and France Avenue (1)	A/B	1 sec.	A/B	11 sec.
CSAH 25 Frontage Road and Glenhurst Avenue (1)	A/A	9 sec.	A/A	9 sec.
CSAH 25 and Inglewood Avenue (1)	A/C	16 sec.	A/B	14 sec.
CSAH 25 Frontage Road and Inglewood Avenue (1)	A/A	6 sec.	A/A	6 sec.
Glenhurst Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.
Inglewood Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.

(2) Uncontrolled intersection treated as a side-street yield control intersection for the purpose of the capacity analysis.

Proposed Developments

The proposed development is generally bounded by the CSAH 25 Frontage Road to the north, Inglewood Avenue to the west, West 31st Street to the south, and Glenhurst Avenue to the east. The proposed development has four distinct areas within the project site. Site 1 is currently occupied by three (3) single-family homes and three (3) 12-unit apartment complexes, which would be replaced by a 95-unit apartment building. Site 2 is currently occupied by two (2) single-family homes and would be replaced by six (6) townhomes. Site 3 is currently occupied by a veterinary clinic and would be replaced by an 11-story, 86-unit apartment building, while Site 4 is currently occupied by three (3) single-family homes and would be replaced by a 39-unit apartment building. As noted, all current land uses are planned to be replaced by the proposed development, which is illustrated in Figure 3. The proposed development was assumed to be fully-completed by the end of year 2024.

Access to the development is proposed at the following locations:

- Site 1 Access (1-Locations): Glenhurst Avenue, approximately 80 feet north of West 31st Street; shared-access with the Parkway 25 Apartments
- Site 2 Access (1-Location): Shared access with 3925 West 31st Street, opposite Glenhurst Avenue
- Site 3 Access (1-Location): CSAH 25 Frontage Road between Inglewood Avenue and Glenhurst Avenue
- Site 4 Access (1-Location): Inglewood Avenue, approximately 100 feet south of West 31st Street

Within the bounds of the proposed development, there would be a net decrease of six (6) driveways along West 31st Street and a net decrease of one (1) driveway along the CSAH 25 Frontage Road. Note that a Site 5 is shown on the site plan, however, these units are slated for renovation and no changes to unit/parking totals are expected.

Year 2025 No Build Condition

A no build condition was analyzed in order to understand how the study area is expected to operate, regardless of the proposed development. To help determine future operations, traffic forecasts were developed for the year 2025 no build condition, which takes into account general area background growth and other planned area developments. The evaluation of the year 2025 no build condition, which includes an intersection capacity analysis, is summarized in the following sections.

Traffic Forecasts

To account for general background growth in the area, an annual growth rate of one-half percent was applied to the existing peak hour traffic volumes to develop year 2025 background forecasts. This growth rate is consistent with historical growth in the study area (based on MnDOT AADT volumes), the *Parkway 25 Traffic Study* previously completed by SRF in 2016, and Southwest Light Rail Transit (SWLRT) forecasts. The resultant year 2025 no build condition traffic forecasts are shown in Figure 4.

1. PROPOSED 4 STORY APARTMENT BUILDING
   95 UNITS
   (68 UNITS PER ACRE)
   139 PARKING STALLS
2. PROPOSED TOWNHOME BUILDING
   6 UNITS
   NOAH REPLACEMENT
3. PROPOSED 11 STORY APARTMENT BUILDING
   86 UNITS
   (146 UNITS PER ACRE)
   110 COVERED PARKING
   36 OUTDOOR PARKING
4. PROPOSED 4 STORY APARTMENT BUILDING
   39 UNITS
   (72 UNITS PER ACRE)
   28 PARKING STALLS
5. EXISTING HOUSING TO REMAIN

- WEST CAMPUS
- NORTH CAMPUS
- EXISTING HOUSING TO REMAIN
- SOUTHWEST CAMPUS
- SOUTHEAST CAMPUS
- Access Driveway

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Site Plan

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Figure 3

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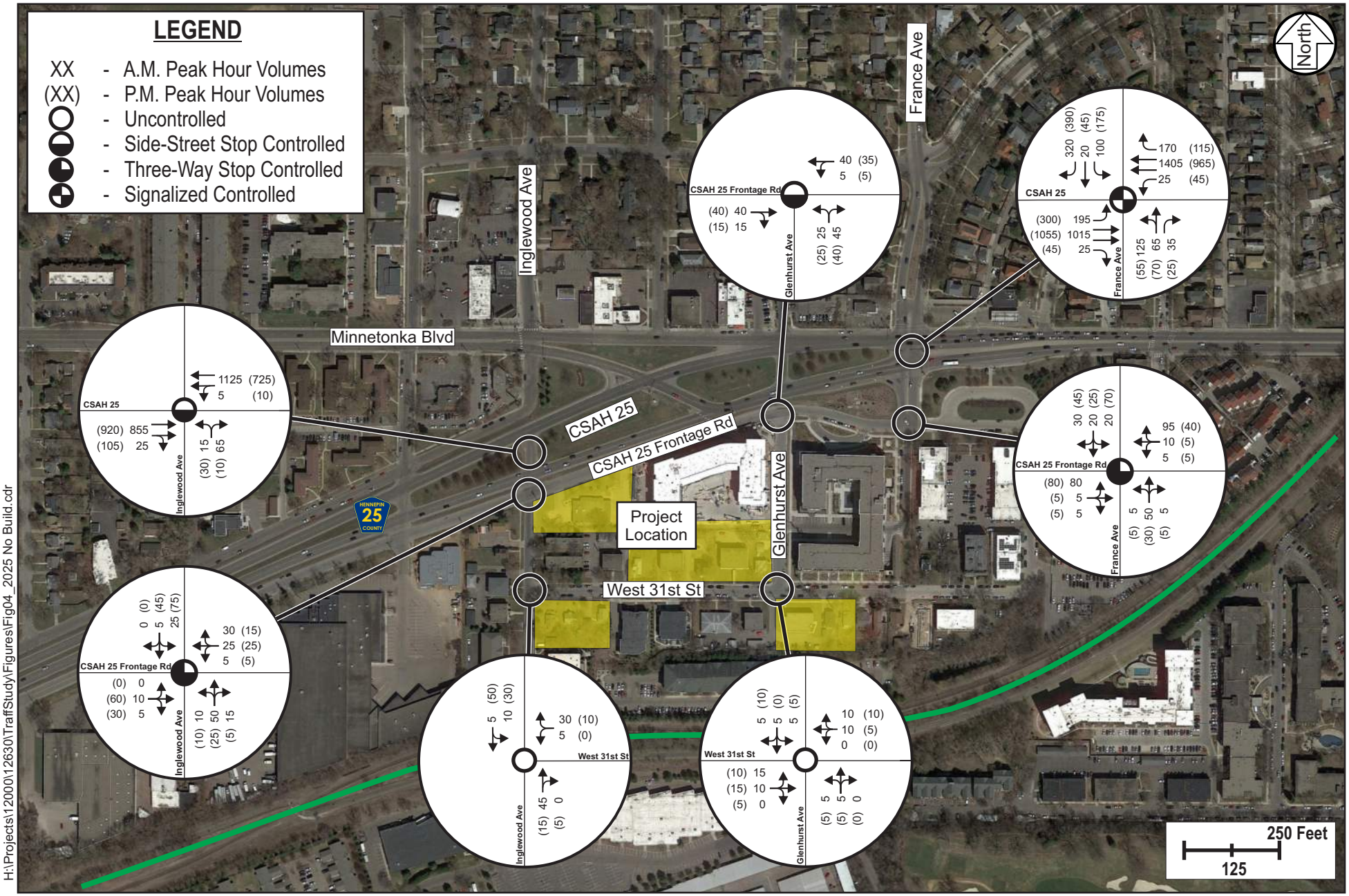

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Year 2025 No Build Conditions

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Figure 4

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Intersection Capacity Analysis

To determine how the adjacent roadway network will accommodate year 2025 background traffic forecasts, an intersection capacity analysis was completed using Synchro/SimTraffic software. Results of the year 2025 no build intersection capacity analysis shown in Table 4 indicates that all study intersections are expected to continue to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours. The existing queuing at the CSAH 25 and France Avenue intersection is expected to continue under year 2025 no build conditions. Additionally, westbound queues are expected to extend to the adjacent signalized intersection (at Drew Avenue) during the a.m. peak hour between five (5) and 10 percent of the peak hour.

Table 4. Year 2025 No Build Intersection Capacity Analysis

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay
CSAH 25 and France Avenue	C	29 sec.	C	32 sec.
CSAH 25 Frontage Road and France Avenue (1)	B/B	14 sec.	A/B	10 sec.
CSAH 25 Frontage Road and Glenhurst Avenue (1)	A/A	9 sec.	A/A	9 sec.
CSAH 25 and Inglewood Avenue (1)	A/C	17 sec.	A/B	16 sec.
CSAH 25 Frontage Road and Inglewood Avenue (1)	A/A	6 sec.	A/B	11 sec.
Glenhurst Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.
Inglewood Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.

(2) Uncontrolled intersection treated as a side-street yield control intersection for the purpose of the capacity analysis.

Year 2025 Build Conditions

To help determine impacts associated with the proposed developments, traffic forecasts were developed for year 2025 build conditions (i.e. one year after anticipated completion). The year 2025 condition accounts for general area background growth and traffic generated by the proposed development. The evaluation of the year 2025 build condition, which includes a trip generation estimate for the proposed development and intersection capacity analysis, is summarized in the following sections.

Traffic Forecasts

To help determine impacts associated with the proposed development, traffic forecasts were developed for year 2025 conditions (i.e. one year after anticipated completion). The year 2025 build condition incorporates the year 2025 no build traffic forecasts, in addition to traffic generated by the proposed development.

To account for traffic impacts associated with the proposed development, trip generation estimates for both the existing and proposed land uses were developed for the a.m. and p.m. peak hours and a daily basis. These estimates, shown in Table 5, were developed using the *ITE Trip Generation Manual, Tenth Edition*. Note that the existing trip generation estimates were developed to provide a comparison between existing and proposed land uses and to determine the approximate number of net new roadway system trips.

Table 5. Trip Generation Estimates

Land Use Type *(ITE Code)*	Size	A.M. Peak Hour Trips		P.M. Peak Hour Trips		Daily Trips
		In	Out	In	Out	
Existing Land Uses						
Site 1: Single-Family Housing *(210)*	3 DU	1	2	2	1	28
Site 1: Low-Rise Multifamily Housing *(220)*	36 DU	4	13	13	7	264
Site 2: Single-Family Housing *(210)*	2 DU	0	1	1	1	19
Site 3: Veterinary Clinic (640)	3,000 SF	7	4	4	6	65
Site 4: Single-Family Housing *(210)*	3 DU	1	2	2	1	28
Total Existing Site Trips		13	22	22	22	404
Proposed Land Uses						
Site 1: Mid-Rise Multifamily Housing *(221)*	95 DU	9	25	25	16	517
Site 2: Low-Rise Multifamily Housing *(220)*	6 DU	1	2	2	1	44
Site 3: High-Rise Multifamily Housing *(222)*	86 DU	6	20	19	12	383
Site 4: Mid-Rise Multifamily Housing *(221)*	39 DU	4	10	10	7	212
Subtotal Trips		20	57	56	36	1,156
Modal Reduction (10%)		*(-2)*	*(-6)*	*(-6)*	*(-4)*	*(-116)*
Total Site Trips		18	51	50	32	1,040
Existing Site Trip Reduction		*(-13)*	*(-22)*	*(-22)*	*(-22)*	*(-404)*
Net New Site Trips		**5**	**29**	**28**	**10**	**636**

Note that a 10 percent modal reduction was applied to the proposed development trip generation to account for available and planned transit options in the study area (Metro Transit Route 17 and future Green Line LRT). Accounting for the modal reductions, the proposed development is expected to generate a total of approximately 69 a.m. peak hour, 82 p.m. peak hour, and 1,040 daily trips.

To determine the approximate net change in overall roadway system trips, trips from the existing land uses were subtracted from the proposed development site trips. Taking into account the existing site trip reductions, the proposed development is expected to generate a total of approximately 34 a.m. peak hour, 38 p.m. peak hour, and 636 daily net new system trips.

These trips were distributed throughout the area based on the directional distribution shown in Figure 5, which was developed based on existing area travel patterns and engineering judgment. The resultant year 2025 build conditions traffic forecasts are shown in Figure 6.

Intersection Capacity Analysis

To determine how the adjacent roadway network will accommodate year 2025 traffic forecasts, an intersection capacity analysis was completed using Synchro/SimTraffic software. Results of the year 2025 build condition intersection capacity analysis shown in Table 6 indicate that all study intersections are expected to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours. The previously identified queuing issues are not expected to significantly change as a result of the proposed development. Queuing is expected to increase between one (1) and two (2) vehicles during the peak periods. Note that side-street delays at the CSAH 25 Frontage Road and Inglewood Road intersection are expected to decrease during the p.m. peak hour. Although vehicular volumes increase, this can be attributed to an increase in thru and right-turning vehicles, which have a lower delay, reducing the overall delay of the approach. No other significant delay or queuing issues are expected at the study intersections.

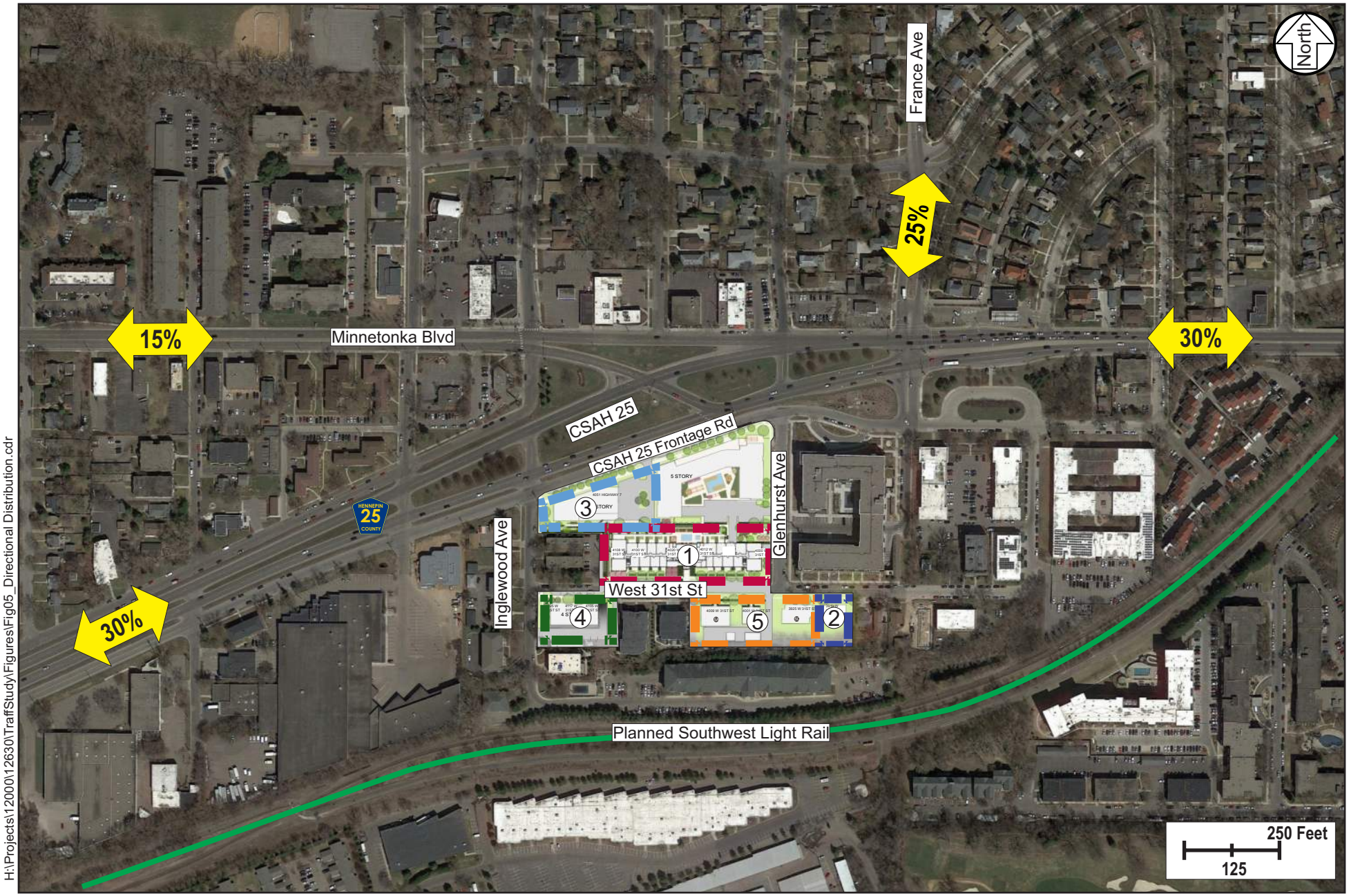
It should be noted that no capacity issues were identified in a qualitative review of the proposed driveways. Given the minimal anticipated impact of the proposed development on study area traffic operations, no roadway improvements are recommended from an intersection capacity perspective. Note that based on the results of the year 2025 build condition analysis, an extension of France Avenue to West 31st Street is not necessary to accommodate traffic forecasts in the area.

Table 6. Year 2025 Build Condition Intersection Capacity Analysis

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay
CSAH 25 and France Avenue	C	30 sec.	C	32 sec.
CSAH 25 Frontage Road and France Avenue (1)	B/C	17 sec.	A/B	10 sec.
CSAH 25 Frontage Road and Glenhurst Avenue (1)	A/A	9 sec.	A/A	9 sec.
CSAH 25 and Inglewood Avenue (1)	A/C	17 sec.	A/C	16 sec.
CSAH 25 Frontage Road and Inglewood Avenue (1)	A/A	6 sec.	A/A	7 sec.
Glenhurst Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.
Inglewood Avenue and West 31st Street (2)	A/A	3 sec.	A/A	3 sec.
CSAH 25 Frontage Road and Access (1)	A/A	3 sec.	A/A	3 sec.

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.

(2) Uncontrolled intersection treated as a side-street yield control intersection for the purpose of the capacity analysis.



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Project Location

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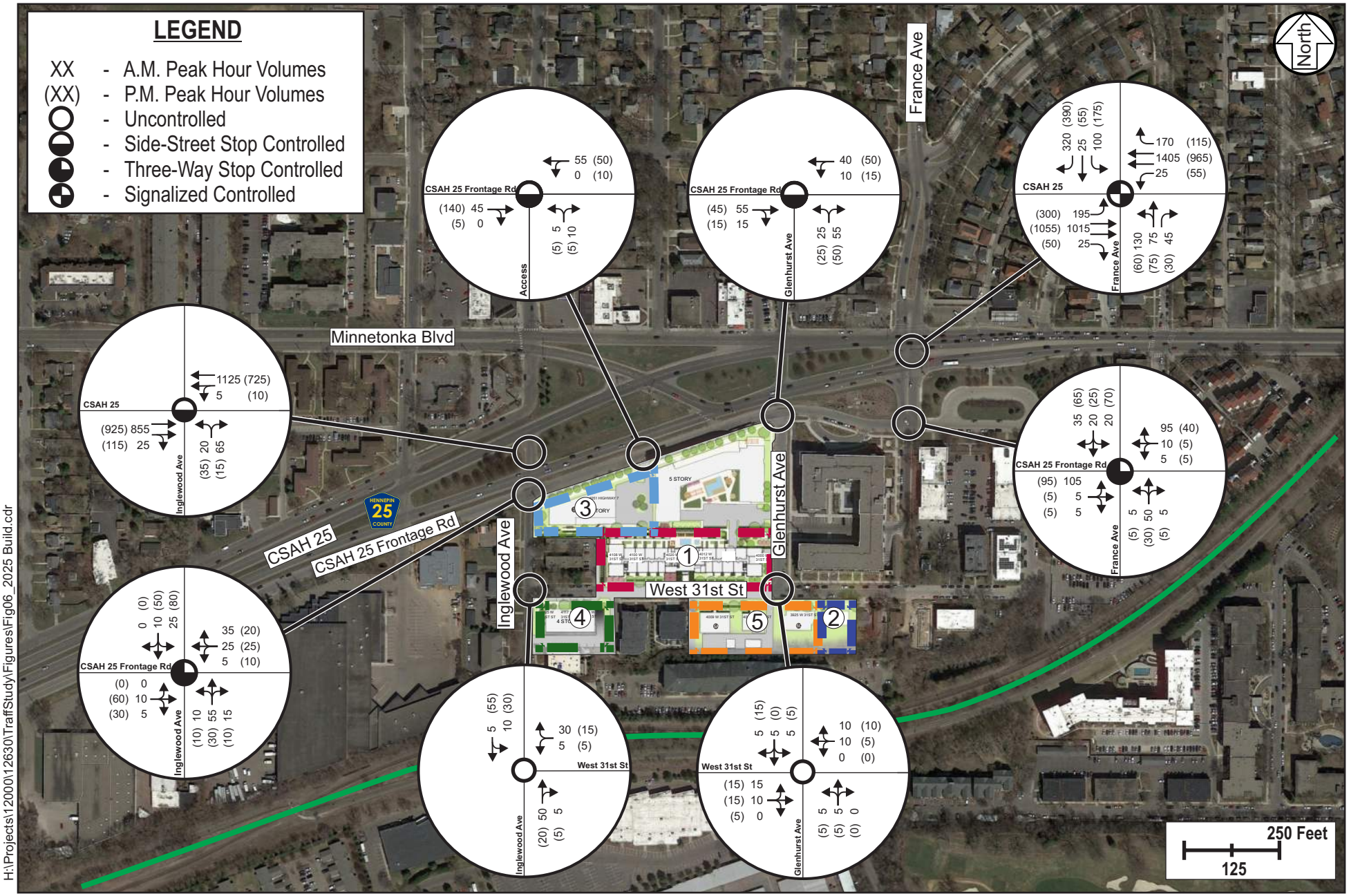
August 2019

Figure 1



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Year 2025 Build Conditions

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Figure 6

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Parking Review

The proposed development sites are expected to provide a total of 331 off-street parking spaces and 12 on-street spaces based on the information provided by the development team. A review of both City Code and ITE parking demand values was completed to determine if the proposed parking supply is sufficient to accommodate the proposed developments. The City Code was reviewed and determined to require one parking space per bedroom within multi-family residential developments. A parking analysis based on the City Code is presented within Table 7.

Table 7. Parking Demand Estimates

Land Use Type *(ITE Code)*	Units	Bedrooms	Supply	City Code Reqs	Surplus/ (Deficit)
Site 1: Mid-Rise Multifamily Housing *(221)*	95	111	139	111	+28
Site 2: Low-Rise Multifamily Housing *(220)*	6	12	12	12	0
Site 3: High-Rise Multifamily Housing *(222)*	86	107	146	107	+39
Site 4: Mid-Rise Multifamily Housing *(221)*	39	39	34	39	(-5)
Total	226	269	331	269	+62

Based on the City Code requirements, development sites 1,2, and 3 are expected to meet the City Code parking requirements for off-street parking. Site 4 is expected to have a deficit of five (5) spaces. However, the developer has noted that there are 12 off-street parking spaces around the site which may be used to alleviate this deficit, if necessary.

The estimate of the anticipated parking demand for the proposed development per dwelling unit was completed using the *ITE Parking Generation Manual, Fifth Edition* for the average and 85th percentile peak parking demand rates. Results of the parking analysis shown in Table 8 indicate that as whole, the development is expected to provide adequate parking to meet both the average and 85th percentile parking demands.

Table 8. Parking Demand Estimates

Land Use Type *(ITE Code)*	Units	Supply	ITE Parking Code			
			Average	Surplus/ (Deficit)	85th%	Surplus/ (Deficit)
Site 1: Mid-Rise Multifamily Housing *(221)*	95	139	124	+15	140	(-1)
Site 2: Low-Rise Multifamily Housing *(220)*	6	12	7	+5	9	+3
Site 3: High-Rise Multifamily Housing *(222)*	86	146	84	+62	102	+44
Site 4: Mid-Rise Multifamily Housing *(221)*	39	34	51	(-17)	57	(-23)
Total	226	331	266	+65	308	+23

Overall, there is expected to be between a 23 and 65 space surplus based on the ITE parking demand rates for the site as a whole. However, when the average and 85th percentile rates are reviewed for each individual site, there are expected to be deficits. The deficits are detailed in the following:

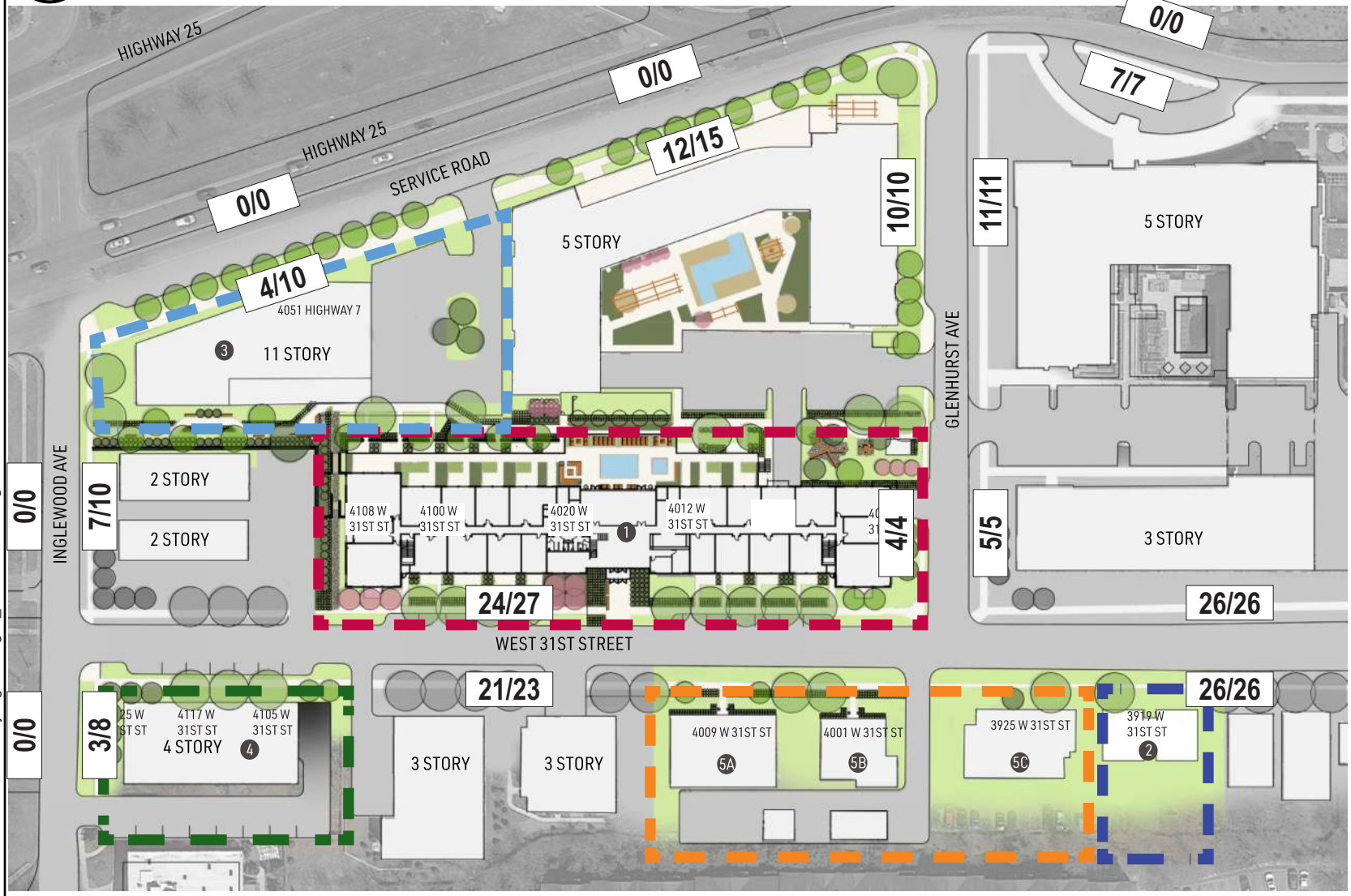
- It is expected that Site 4 will have a 17 space deficit based on the ITE average parking demand rate and a 23 space deficit based on the 85th percentile demand rate.
- It is expected that Site 1 will have a one (1) space deficit based on the ITE 85th percentile parking demand rate.

In order to alleviate the deficits for sites 1 and 4, a review of the existing on-street parking supply/demand was completed to determine if sufficient on-street parking capacity is available to accommodate the expected deficits. On-street parking was reviewed during three (3) overnight (i.e. peak residential parking) time periods the week of August 5, 2019. The peak demands are shown in Figure 7. Based on these parking utilization surveys, the following takeaways are noted:

- There is expected to be limited parking availability along both West 31st Street between Inglewood Avenue and Ewing Avenue and Glenhurst Avenue. These roadways were approximately 90 to 95 percent utilized during the peak periods, with approximately up to five (5) spaces available.
- Inglewood Avenue between south of West 31st Street and CSAH 25 Frontage Road is approximately 50 percent utilized, with approximately eight (8) spaces available.
- CSAH 25 Frontage Road between Inglewood Avenue and Glenhurst Avenue is approximately 65 percent utilized, with approximately nine (9) spaces available.

It is not expected that the on-street parking can accommodate all of the expected deficit between Sites 1 and 4 based on the 85th percentile parking demand, and therefore, these sites may need to identify other parking options, if necessary.

A potential option is to contract/identify an agreement with any available parking capacity at other sites, particularly Site 3, which is expected to have over 40 spaces of surplus capacity. Note that the distance between Sites 3 and 4 is approximately 200 feet. If this agreement was done, the available on-street parking could be utilized to accommodate guest parking if no specific guest parking is provided within the development parking lots. Another option would be to implement travel demand management strategies that encourage less vehicular dependence and ownership at Site 4. These could include unbundling parking from the rent, limit units to one (1) space per unit, providing multimodal accommodations via bicycle parking and repair stations or transit incentives, or potentially providing delivery services for grocery and other errand types.



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On-Street Peak Parking Demands

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Figure 7

0012630
August 2019

Site Plan Review

A review of the proposed site plan was completed to identify any issues and recommend potential improvements with regard to site access, traffic circulation, parking, and pedestrian connectivity. The following information summarizes the findings.

Site Access

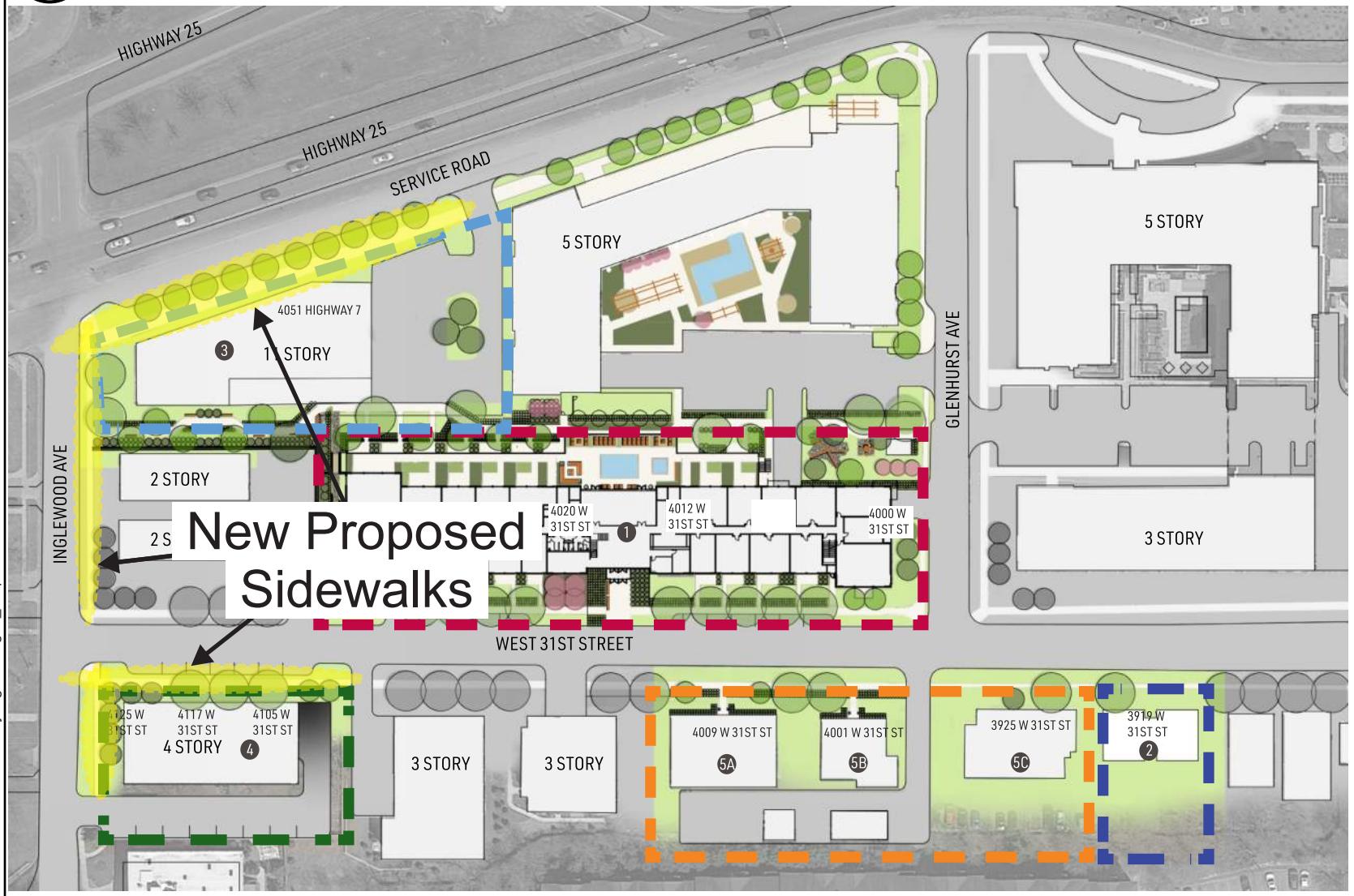
Since the proposed driveways are expected to operate adequately without any apparent safety issues and represent a net decrease in overall access for the proposed development area, the proposed driveways are considered appropriate.

Traffic Circulation

Truck turning movements should be reviewed to ensure that garbage/delivery trucks have adequate accommodations to negotiate internal parking lot aisles. The movement of general passenger vehicles within the parking lots is not expected to be an issue.

Pedestrian Connectivity

The proposed site plan includes sidewalks along the CSAH 25 Frontage Road, Glenhurst Avenue, and Inglewood Avenue. The sidewalks have appropriate connections to the development as well as to proposed parking lots. These sidewalk connections can help accommodate multimodal users, which can reduce vehicular impacts on area roadways. The new proposed pedestrian accommodations are shown in Figure 8. These sidewalk improvements will help provide connections for residents and guests to utilize transit or the extensive trail network. The available and planned multimodal options are shown in Figure 9.



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Proposed Sidewalk Improvements

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St Louis Park, MN

Figure 8

0012630
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Multimodal Options

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St Louis Park, MN

01912630
August 2019

Figure 9

Summary and Conclusions

The following study summary and conclusions are offered for your consideration:

1) Results of the existing intersection capacity analysis indicate that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours. However, several queuing issues were observed at the CSAH 25/France Avenue signalized intersection:
   a) Eastbound queues along CSAH 25 extended through the adjacent signalized intersection at Minnetonka Boulevard during the p.m. peak hour approximately 15 to 20 percent of the p.m. peak hour.
   b) Northbound France Avenue queues regularly extended to the CSAH 25 Frontage Road during both peak hours. These northbound queues are a result of limited vehicular storage due to the closely spaced CSAH 25 Frontage Road rather than an intersection capacity issue.
2) The proposed developments are generally bound by the CSAH 25 Frontage Road to the north, Inglewood Avenue to the west, West 31st Street to the south, and Glenhurst Avenue to the east, which are currently occupied by eight (8) single family homes, three (3) 12-unit apartments, and a veterinary clinic. Construction of the proposed development was assumed to be complete by the end of the year 2024. Access to the developments are proposed at the following locations:
   a) Site 1: Glenhurst Avenue about 80 feet north of West 31st Street and shared access with Parkway 25 Apartments
   b) Site 2: Via 3925 West 31st Street, opposite Glenhurst Avenue
   c) Site 3: CSAH 25 Frontage Road, between Inglewood Avenue and Glenhurst Avenue
   d) Site 4: Inglewood Avenue approximately 100 feet south of West 31st Street
3) To account for general background growth in the area, an annual growth rate of one-half percent was applied to the existing peak hour traffic volumes to develop year 2025 (i.e. one year after construction) background forecasts.
4) The proposed developments are expected to generate a total of approximately 69 a.m. peak hour, 82 p.m. peak hour, and 1,040 daily trips.
   a) Accounting for vehicles already generated by the existing land uses that are proposed to be removed, the development is expected to generate a total of approximately 34 a.m. peak hour, 38 p.m. peak hour, and 636 daily net new system trips.
5) Results of the year 2025 no build intersection capacity analysis indicate that all study intersections are expected to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours.
   a) Previously documented queuing issues at the intersection of CSAH 25 and France Avenue remain similar for year 2025 conditions, with westbound queues occasionally reaching the adjacent signalized intersection at Drew Avenue five (5) to 10 percent of the a.m. peak hour.

6) Results of the year 2025 no build intersection capacity analysis indicate that all study intersections are expected to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours.
   a) Minimal increases in queueing are expected (i.e. between one (1) and two (2) vehicles).
   b) No other significant delay or queuing issues are expected at the study intersections.
   c) No capacity issues were identified in a qualitative review of the proposed access locations.
7) Given the minimal anticipated impact caused by the adjacent and proposed developments on study area traffic operations, no roadway improvements are needed from an intersection capacity perspective.
8) Based on the City Code requirements, development sites 1,2, and 3 are expected to meet the City Code parking requirements for off-street parking. Site 4 is expected to have a deficit of five (5) spaces.
9) It is expected that Site 4 will have a 17 space deficit based on the ITE average parking demand rate and a 23 space deficit based on the 85th percentile demand rate.
10) It is expected that Site 1 will have a one (1) space deficit based on the ITE 85th percentile parking demand rate.
11) Overall, there is expected to be between a 23 and 65 space surplus based on the ITE parking demand rates for the site as a whole.
12) There is expected to be parking availability along the following roadways
   a) West 31st Street between Inglewood Avenue and Ewing Avenue and Glenhurst Avenue. These roadways were approximately 90 to 95 percent utilized during the peak periods, with approximately up to five (5) spaces available.
   b) Inglewood Avenue between south of West 31st Street and CSAH 25 Frontage Road is approximately 50 percent utilized, with approximately eight (8) spaces available.
   c) CSAH 25 Frontage Road between Inglewood Avenue and Glenhurst Avenue is approximately 65 percent utilized, with approximately nine (9) spaces available.
13) It is not expected that the on-street parking can accommodate all of the expected deficit between Sites 1 and 4 based on the 85th percentile parking demand, and therefore, these sites may need to identify other parking options, if necessary.
14) These options including entering into a shared parking agreement with an adjacent building or implementing travel demand management strategies to reduce vehicle ownership to meet the expected demand.
15) A review of the proposed site plan was completed to identify any issues and recommend potential improvements with regard to site access, traffic circulation, parking, and pedestrian connectivity. The following information summarizes the findings:
   a) The proposed driveways are considered appropriate.

b) Truck turning movements should be reviewed to ensure that garbage/delivery trucks have adequate accommodations to negotiate internal parking lot aisles.

c) Sidewalks are proposed along both the CSAH 25 Frontage Road, Glenhurst Avenue, and Inglewood Avenue. The sidewalks have appropriate connections to the developments as well as to proposed parking lots.